UNIVERSITY OF GHANA

SOCIAL MARKETING CAMPAIGNS ON WASTE DISPOSAL BEHAVIOUR: EVIDENCE FROM GHANA

BY

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THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA BUSINESS SCHOOL, UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY IN BUSINESS ADMINISTRATION (MARKETING OPTION) DEGREE

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DECLARATION

I do hereby declare that this thesis is the result of my own research and has not been presented by anyone for any academic award in this or any other University. I bear sole responsibility for any shortcomings. All references used in the work have been fully acknowledged.

This thesis has been arranged according to the guidelines for postgraduate study by the University.

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CERTIFICATION

I hereby certify that this thesis was supervised in accordance with procedures laid down by the University of Ghana, Legon.

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DEDICATION

"I've come thus far by faith, leaning on the Lord; trusting in His Holy name, for He's never failed me yet …"

This thesis is dedicated unto Him who is able to do far more than the human mind can imagine; to the One who remembers me in my low estate. To God Almighty alone be the Glory; may His name be praised forever. Amen.

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LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

AB	-	Actual Behaviour
AFCON	-	African Cup of Nations
AGFI	-	Adjusted Goodness-of-Fit Index
AIC	-	Akaike Information Criterion
AMA	-	Accra Metropolitan Assembly
APF	-	Advanced Process Fee
AT	-	Attitude
AVE	-	Average Variance Extracted
BCC	-	Brown-Cudeck Criterion.
BCONTROL	-	Perceived Behavioural Control
BI	-	Behavioural Intention
CA	-	Cronbach Alpha
CFA	-	Confirmatory Factor Analysis
CFI	-	Comparative Fit Index
CONIWAS	-	Coalition of NGOs in Water and Sanitation
CR	-	Composite Reliability
df.	-	Degree of Freedom
DFID	-	Department for International Development
EFA	-	Exploratory Factor Analysis
GFI	-	Goodness-of-Fit Index
GH.	-	Ghana
GHS	-	Ghana Health Service
GIBA	-	Ghana Independent Broadcasters' Association
GTV	-	Ghana Television Netork
HBM	-	Health Belief Model
IFI	-	Incremental Fit Index
JHS	-	Junior High School
KMO	-	Kaiser-Meyer-Olkin
M	-	Mean
MDG	-	Millennium Development Goal
MoH	-	Ministry of Health
MPHD	-	Metropolitan Public Health Department

MSW	-	Municipal Solid Waste
MSW	-	Municipal Solid Waste
NAWABIN	-	National Waste Bin Distribution Programme
NESCON	-	National Environmental Sanitation Conference
NESSAP	-	National Environmental Sanitation Strategy Action Plan
NFI	-	Normed Fit Index
NGO	-	Non Governmental Organisation
NSD	-	National Sanitation Day
NSMC	-	National Social Marketing Centre
PBC	-	perceived behavioural control
PBC	-	Perceived Behavioural Control
PGFI	-	Parsimonious Goodness of Fit index
PNFI	-	Parsimonious Normed Fit Index
PPP	-	Public Private Partnerships
RFI	-	Relative Fit Index
RMR	-	Root-mean-square Residual
RMSEA	-	Root-Mean-Square-Error of Approximation
RNI	-	Relative Non-Centrality Index
SB	-	Subjective norm
SD	-	Standard Deviation
SDG	-	Sustainable Development Goal
SEM	-	Structural Equation Modelling
SHS	-	Senior High School
Sig.	-	Significance
SPSS	-	Statistical Package for Social Science
Std.	-	Standard
SUBNORM	-	Subjective Norm
TLI	-	Tucker-Lewis Index
TPB	-	Theory of Planned Behaviour
TPD	-	tons per day
TV	-	Television
UK	-	United Kingdom
UN	-	United Nations
UNDP	-	United Nations Development Programme

UNICEF	-	United Nations' International Children Emergency Fund
USAID	-	United States Agency for International Development
WASH	-	Water Sanitation and Hygiene
WHO	-	World Health Organisation
WMD	-	Waste Management Department

SYMBOLS

β	-	Beta
¢	-	Cedis
χ^2	-	Chi-square
$	-	dollar
>	-	Greater than
<	-	Less than
λ	-	Standardised factor loadings
Σ	-	Sum (Sigma)

ABSTRACT

The purpose of this study was to use the Theory of Planned Behaviour in social marketing to examine the behavioural intentions and actual waste disposal behaviour of Ghanaians. This developing country context study into waste disposal is focused on the use of a social marketing theory to assess the factors affecting the adoption of waste disposal behaviour as a means of resolving the country's waste problems. The study, therefore, sought to assess the effect of individual attitudes, perceived behavioural control, and subjective norms on the intentions by individuals to dispose of waste, and the consequent impact on the actual adoption of waste disposal behaviour. This study also acknowledges the importance of demographic variables such as age, gender, education, and income level in social marketing studies and therefore was also assessed to find out how they affect waste disposal behaviour. The study adopted the use of a quantitative approach using survey questionnaires as the source of data collection from 310 respondents. The respondents were selected using convenient sampling technique. A structural equation modelling was used to analyse the relationship between the variables. This study found that apart from subjective norms, individuals' attitudes, and perceived behaviour control has a statistical and significant relationship with behavioural intentions to dispose of waste. This implies that the subjective norms contrary to other studies could not affect the intentions of respondents to dispose of waste. The intentions of the respondents were found to have a significant relationship with actual waste disposal. The study, therefore, concludes that social marketing interventions on waste disposal should ensure the formative studies; such that identifying the intentions to adopt the behaviour is understood. The demographic variables used were found not to affect the differences in the adoption of waste disposal behaviour. This study concludes that the age, education, income, and gender of individuals do not lead to differences in waste disposal behaviour. The findings of this study contribute to the literature on the use of social marketing principles to develop social marketing interventions in a developing country context.

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF THE STUDY

In recent times, the attitudes of individuals' responsibility towards unwholesome practices have received much attention in various jurisdictions including water, hygiene and sanitation. The global attention being given to basic sanitation as a social issue has become one of the important goals to reduce sanitation health-related problems and to close the inequality gaps between developed and developing countries (Sustainable Development Goal – SDG, 2015). In considering wholesome sanitation practices, it may be worth examining the phenomenon (of good sanitation) through the lenses of peoples' attitudes towards waste disposal behaviours or waste management practices. This is because human activities have always resulted in the generation of waste (Giusti, 2009). Waste is generally described as the unwanted or unusable material that is disposed of by its users (Elsaid & Aghezzaf, 2015a). Arguably, the issue of waste disposal was not a major problem until there was urbanisation and large conurbations (Giusti, 2009). Waste disposal behaviours and management is perhaps, major challenge countries are facing in modern cities (Adu-Boahen, Atampugre, Antwi, & Osman, Osei, 2014).

Over the years, governments have adopted mechanisms to control waste in communities especially, using technology which have proven ineffective (Adu-Boahen et al., 2014). However, Elsaid and Aghezzaf (2015a; 2015b), iterate that waste management must be an integral and important part of the environmental management system. This involves all responsibilities, practices, procedures, processes and resources for establishing a system that ensures the effective management of waste and compliance to environmental regulation. In

this regard, the individual's responsibility towards proper waste disposal behaviours as well as management practices is necessary.

Health-wise, good sanitation is an establishment for wellbeing that bears insurance from an extensive variety of contaminations and diseases that lead to deaths (Jenkins & Scott, 2007). In support of this postulation, organisations and scholars have argued that health problems such as cholera, diarrhoea, dysentery, hepatitis A, and typhoid are predominantly induced by improper sanitation most especially, in sub-Saharan Africa including Ghana (World Health Organisation [WHO], 2014; 2015; United Nations International Children's Emergency Fund [UNICEF], 2014; 2015; Oteng-Ababio, 2012; Oteng-Ababioo, Aguello & Gabby, 2013; 2010b; Ali, Lopez, You, Kim, Sah, Maskery & Clemens, 2012; Pehr, 2010; Thompson, 2010; Gaffga, Tauxe & Mintz, 2007). For example, as of 24th May, 2015, a total of 591 cholera cases with 5 deaths were reported. In this regard, the WHO (2015) further described the Greater Accra region as the epicentre for cholera outbreak and thus recommended the need to intensify multi-sectorial response interventions, especially, in the area of water, sanitation and hygiene to curb the problem. However, not many are aware of the linkage between improper waste disposal or poor sanitation and human health (Adu-Boahene et al., 2014). This perhaps, explains that the Ghanaian context has not featured prominently to enable one appreciate the phenomenon being investigated.

According to the USAID (usaid.gov/pdf docs), social marketing campaigns in waste management had contributed significantly in the attainment of specific objectives. The use of social marketing campaign by the EcoGov2 in their solid waste management project made certain key social marketing campaign issues paramount: conduct situational analysis, select target audience, set objectives and goals, analyse target audience, develop marketing strategies, develop a plan for evaluating the programme, determine budget and funding, and complete the implementation (usaid.gov/pdf docs).

Despite much efforts through campaigns, sanitation and waste management issues remain a major social problem (Oteng-Ababioo et al., 2013; Owusu, 2010) and continue to have health implications in both developed and developing world (Bartram & Caincross, 2010). According to Adu-Boahen et al. (2014), there is a physical evidence to demonstrate that Ghana faces a waste management problem. Truthfully, visits to some cities and towns reveal heaps of uncontrolled rubbish, polythene bags and overflowing dumping sites. Notwithstanding, economic activities to an extent, have been connected to generating some waste – in that, it is being realised that as nations populously urbanise and end up noticeably wealthier, their utilisation of inorganic materials (e.g. plastics, papers, glasses, aluminum) also increase (World Bank, 2015). It is, therefore, imperative to facilitate solid waste management with a more coordinated approach. For example, to incorporate environmental and monetary or economic ideas for handling waste, such as "source separation; recovery of waste; legitimisation of the informal systems; partial privatisation and public participation" (Glawe, Visvanathan & Alamgir, 2005). Hence, by considering all the activities required to handle or manage waste from its inception to its final disposal, successful and effective waste administration procedures in developing world requires the significant inclusion of the concerned partners (Alamgir, Bidlingmaier & Cossu, 2012).

Kelessidis and Stasinakis (2012) identified cultural orientation and strict regulations as some of the differences between developed and developing countries because more stringent legislations have been adopted for waste disposal and management (such as treatment technologies and solid waste segregation) in developed countries. Meanwhile, sanitation and improper liquid or solid waste disposal and management behaviours in developing countries could be attributed to cultural orientation, behavioural attitudes, lack of knowledge about the effect of poor sanitation, poverty and lack of education amongst individuals (Adu-

Boahen et al., 2014; Monney, 2014; Owusu, 2010). Nevertheless, this seemingly poor orientation and attitudes have social implications.

According to Kotler and Lee (2008; 2011), social and health issues have behavioural causes that need behavioural change towards prevention. Therefore, using social marketing (SM) as an important tool to change or modify human behaviour in social and public health problems is commendable. Also, scholars are of the view that social marketing helps to understand reasons for the individual's action so as to positively influence their behaviour for societal good (Tapp, Pressley, Baugh & White, 2013; Kotler & Lee, 2008; Gordon, MacDermott, Stead & Angus., 2006; Andreasen, 2002; Kotler, Roberto & Lee, 2002). In this regard, social marketing approach is deemed fit for social and public health issues such as waste disposal behaviours and waste management practices.

Social marketing is defined as "the systematic application of marketing concepts alongside other concepts and techniques to achieve specific behavioural goals for a social good" (French, Blair-Stevens, McVey & Merrit, 2010). Scholars such as Charles and Ryan (2011) have argued that strategies may have failed due to the absence of behaviour change theories as a tool since behaviour change could not be effective without the use of a theory (Andreasen, 2002). Furthermore, French et al. (2010), emphasise that it is valuable to have an understanding of a theory as it can reinforce and boost the success of social marketing interventions (Tweneboah-Koduah, 2014). Consequently, behaviour change interventions adopt frameworks based on the assumption that individual attitudes play a vibrant role or part in the formation of intentions to perform a behaviour (Aung & Arias, 2006).

1.1 PROBLEM STATEMENT

Waste management has become a major problem due to urbanisation which has led to public health challenges (Giusti, 2009). In Ghana, like other developing countries or economies,

the situation is very critical as ineffective waste management has implications on sanitation and public health (Jenkins & Scott, 2007). It is, therefore, not surprising to see the increase in the number of research dedicated to the management of waste especially, in the area of solid waste (Skekdar, 2009; Gidarakos, Havas, & Ntzamilis, 2006; Rathi, 2006; Bai & Sutanto, 2002). Similarly, construction waste (Solis-Guzman, Marrero, Montes-Delgadao & Ramírez-de-Arellano, 2009); and industrial and medical waste are discussed by Patil and Pokhrel (2005), Tsakona, Anagnostoulou and Gidarakos (2007) as well as Abd El-Salam (2010). Meanwhile, works on household waste (Barr, 2007; Tucker & Speirs, 2003; Barr, Gilg & Ford, 2005; Choe & Fraser, 1999) and electronic waste are also well publicised by several authors (Kiddee, Naidu, Wong, 2013; Nnorom, & Osibanjo, 2008; Liu, Tanaka, & Matsui, 2006). However, these studies have concentrated on the role of private and public institutions, technology, urban and town planning designs, waste management challenges, and waste management practices with little emphasis on behaviour change of individuals which is the core of social marketing. This challenge, therefore, called for studies on how social marketing could be used to promote desirable behaviour relating to waste disposal/management in society.

On the use of social marketing to promote proper waste management, some have advocated for the adoption of strategies to change the behaviour of individuals in waste management as well as health and sanitation issues (Adu-Boahene et al., 2014; Mariwah, 2012; Mara, Lane, Scott & Trouba, 2010; Jenkins & Scott, 2007). Despite the multiplicity of social marketing interventions and theories that have been applied to promote and study health issues such as: driving safety (Smith, 2006; Tapp, Pressley, Baugh, & White, 2013); smoking (Sowden & Arblaster, 1998); malaria prevention (Tweneboah-Koduah, Braimah & Otuo, 2012); HIV/AIDS (Tweneboah-Koduah, 2014; Tetteh, 2014; Manu & Siriam, 1999; condom usage (Tweneboah-Koduah & Owusu-Frimpong, 2013); and cervical cancer

screening (Abotchie & Shokar, 2009), nonetheless, not many studies have relatively been done on waste disposal and management behaviours (Mariwah, 2012).

A major challenge to researchers is on how to design behavioural models and frameworks for behaviour change campaigns (Dreibelbis, Winch, Leontsini, Hulland, Ram, Unicomb, & Luby, 2013; Aung & Arias, 2006; Mee, Clewes, Phillips & Read, 2004). Apart from social marketing theories and models such as Social Learning Theory, Social Cognitive Theory, and Health Believe Model (Dreibelbis et al., 2013), one of the behavioural models that has widely been replicated in behaviour studies is the Theory of Planned Behaviour (Armitage & Conner, 2001). According to Hargreaves (2011), and Mancha and Yoder (2015), the theory of planned behaviour is probably the most used behavioural theory within the environment psychology research. Streams of research relating to waste management that have used the theory of planned behaviour are in the areas of recycling (Ramayah, Lee & Lim, 2012; Bezzina & Dimich, 2011; Mahmud & Osman, 2010; Mannetti, Pierro, Livi, 2004; Tonglet, Phillips & Read, 2004; Taylor & Todd, 1995); pollution reduction (Cordano & Frieze, 2000); and green marketing (Kalafatis, Pollard, East & Tsogas, 1999). This theory has also been applied to waste management behaviour including waste reduction, reuse, and recycling (Barr, 2007); household waste behaviour (Pakpour, Zeidi, Emamjomeh, Asefzadeh & Pearson, 2014) as well as to reduce plastic consumption (Hasan, Harun & Hock, 2015). Despite the abundance of social marketing research using the Theory of Planned Behaviour, research using same theory especially, with regards to proper waste disposal practices has been seemingly lacking in Ghana. It is expected that the use of the theory of planned behaviour will help appreciate the individuals' intentions to perform proper waste disposal behaviour. There is, therefore, the need to commence social marketing studies directed at the considerate readiness of targets to perform the new behaviour. It

could be argued that a lot of studies on social marketing had failed to assess the intentions of individuals to perform desirable behaviours.

Again, waste management studies in Ghana have concentrated on health impact of waste (Boadi & Kuitunen, 2005); waste characterisation (Miezah, Obiri-Danso, Kádár, Fei-Baffoe & Mensah, 2015); sustainable e-waste management (Oteng-Ababio, 2010a; Prakash, Manhart, & Amoyaw-Osei, 2010); private sector involvement in waste management (Oteng-Ababio, 2009; Post, 1999); and problems of waste management (Post, 1999) amongst others. This calls for research to assess how social marketing campaigns and or interventions influence behavioural intentions to adopt proper waste disposal behaviour. Social marketing campaigns are interventions that focus on influencing behaviour which attempts to create some benefits for families, communities, and societies at large rather than benefiting the organisation that produces the campaign (Prestin & Pearce, 2010). Some of the principles regarding social marketing campaigns which need research attention are the identification of barriers impeding the behaviour, designing materials to overcome the challenges, and evaluating the campaign (Prestin & Pearce, 2010).

It is also important to consider the use of the social marketing framework which advocates for the use of formative research to understand the target audience and their perceptions towards the behaviour regarding its barriers and benefits (Prestin & Pearce, 2010). This has led to the use of social marketing theories and models to conduct this formative studies. Some of these studies had used: the health belief model (Airhihenbuwa & Obregon, 2000; Deshpande, Basil, & Basil, 2009); the stages of change/transtheoretical model (Tweneboah-Kodua & Owusu-Frimpong, 2013; Luga & Suggs, 2013; Lefebvre, 2011); and social cognitive theory (Bandura, 1998; Bandura, 2001). Apart from these models that have received wide application in social marketing, the theory of planned behaviour is regarded

as one of the most widely used in social marketing research (Hardeman, Johnston, Johnston, Bonetti, Wareham & Kinmonth 2002; Kalafatis, Pollard, East & Tsogas, 1999). From the available research, there seems to be relatively little research using the theory of planned behaviour in the area of behavioural change in waste disposal in Ghana. Meanwhile, waste management requires an environmental behaviour change of individuals (Hargreaves, 2011; Tucker, & Speirs, 2003) and social marketing campaign principles could be used to change waste disposal behaviours in communities (Shrum, Lowrey, & McCarty, 1995).

This study, therefore, seeks to assess how social marketing campaigns influence behaviour change towards waste disposal behaviour in Greater Accra – Ghana. Thus, the research objectives are considered.

1.2 OBJECTIVES

The aim of this study is to assess the effectiveness of social marketing interventions in promoting the individual's responsibility or attitude towards adopting proper waste disposal intentions. The specific objectives, in line with this general aim, are as follows:

1. To examine individual's attitude towards waste disposal behaviour in Ghana.
2. To examine the effect of subjective norms on individual waste disposal behaviour in Ghana.
3. To examine the effect of perceived behavioural control of an individual on waste disposal behaviour in Ghana.
4. To examine the moderating effect of demographic variables of age, gender, income and educational level on the relationship between predictors and waste disposal behaviour in Ghana.

1.3 SIGNIFICANCE OF THE STUDY

The relevance of the study can be viewed from three perspectives: research, practice and policy. To research, this study would add to the seemingly scanty literature on the subject area within the Ghanaian context. It would also contribute towards ensuring environmental sustainability with respect to change or modify behaviours towards refuse disposal (i.e. engaging in good sanitation practices) and having access to sanitation services in the Accra Municipality of the Greater Accra Region of Ghana. The research findings would offer valuable insight to marketing practitioners on the existing social marketing campaigns or interventions and the impact that these interventions have on the actual progress towards achieving the Sustainable Development Goal (SDG) in Ghana. This study seeks to establish that before social marketers introduce social marketing campaigns relating to waste disposal, there is the need to examine the factors which are likely to affect the adoption of the behaviour. This study would help in assessing whether Ghanaians have a positive attitude towards waste disposal. The study also seeks to understand whether the subjective norms of the community and influence from individuals help in affecting the waste disposal of individuals. Furthermore, the study would also be of immense value towards understanding the social problems associated with wrongful refuse disposal and access to improved sanitation. Thus, its outcome could serve as a basis for policy change in implementing sanitation programmes and solid waste management practices as well as improve upon stakeholder engagements to ensure a sustainable healthy environment.

1.4 SCOPE OF STUDY

According to a United Nation's Organisation (see, UN-Habitat, 2002), slum dwellers have inadequate water, sanitation and other infrastructure; these characteristics are largely quantifiable and can be used to measure progress toward the sustainable development Goals

(SDG). Slums are described to be highly engulfed with filth and susceptible to an outbreak of diseases (UN-Habitat, 2003). In Accra, areas such as Nima-Mamobi, Sabon Zongo, Old Fadama, Chorkor, and James Town have been classified as slums (Owusu, Agyei-Mensah & Lund, 2008). The study was conducted in a slum area of the Greater Accra region. This area is also considered because it has a busy market that host many people and these people in their respective business activities also generate lots of waste. Furthermore, Accra city is among the ten administrative regions in the country that is most densely populated and has daily records of highest tonnes of solid waste generated (Annepu & Themelis, 2013; AMA, 2006).

1.5 THESIS DISPOSITION

In this study, the work is sequentially organised into six parts or sections. The first part is the introductory chapter (1); it encapsulates the general background, including research problem, objectives, relevance and scope of the study. Secondly, the contextual background is presented in Chapter 2. It gives an overview of the background and the sanitation issues that are confronted with Ghana. It reports on the key stakeholders and various institutional structures put in place for sanitation concerns as well as examines transitions of sanitation campaign designed and experienced in Ghana. This chapter also enumerates some sanitation campaigns in a decade and how such campaigns had influenced waste disposal behaviour in Ghana.

Following the contextual background is the reviewed literature in chapter three (3). It includes the presentation on sanitation, with much focus on waste management practices concepts and theories of behaviour change and acknowledges researchers in the research area and then a conceptual framework for the purpose of the study is explained. Sequentially, the research methodology is presented in chapter four (4). It presents the

applied scientific approach describing the scientific methods and approaches used in order to provide the scientific value of the presented results. It comprehensively discusses the approach employed for the research. The philosophical foundation surrounding the research; the processes for gathering data; the population, sample frame and size, data collection instrument and technique are provided in details. The choice of a software package for analysing data is also explained.

The methodology is followed by the presentation of findings from the provided data analysed and further discussed. Thus, the chapter five (5) describes results from the collected data. These are analysed and further discussed in relation to the research area in order to gain further understanding. Finally, chapter six (6) is the closing chapter of the thesis. It draws information from previous chapters to provide key findings that summarised and matched with the objectives of the study. Thus, leading to conclusions and appropriate recommendations as well as offers contributions to the concept of social intervention and campaigns on behaviour change. The chapter also presents implications for future studies as well as managerial implications of the research findings.

1.6 CHAPTER SUMMARY

Chapter one presents an overall foundation or background to the whole investigation. This is trailed by a description of the research problem motivating the study. The chapter then centres on giving introductory bits of knowledge on the theoretical gap by using the TPB in assessing the individuals' intentions to perform proper waste disposal behaviour. These theoretical fields and other social marketing models are briefly mentioned to provide a snapshot and delimit the limit or confines of the study. Based on the foregoing, a statement of the research problem in the early piece of the section provides the premise to listing the

key research objectives that drive the entire thesis. The chapter also highlights the import of the study and ends by indicating how the entire thesis is organised in terms of disposition.

CHAPTER TWO

CONTEXT OF THE STUDY

2.0 INTRODUCTION

The context background of the study helps the reader to understand the particular context in which the study was carried out. This chapter presents the general background of sanitation issues particularly, waste disposal behaviours and or management/practices in the capital city of Ghana. It reports on the sanitation situation and how waste management practices is structurally handled in the various institutions. It further enumerates some transitions of social marketing campaigns and or interventions designed and experienced in Ghana, within a decade.

2.1 SUSTAINABLE DEVELOPMENT GOAL (SDG) AND WASTE DISPOSAL

It is essential in today's world to encourage reasonable advancement. The call to support sustainable development is a vision summarised in the new sustainable development agenda which aims to protect the environment in addition to promoting the well-being of people (United Nations Development Programme [UNDP], 2015). The Sustainable Development Goals (SDGs), in like manner called 'Global Goals', are extensive invitation to take action to end deprivation, secure the environment and ensure that every person recognises peace and accomplishment by the year 2030 (UNDP, 2015). The 2015 expiration date of the Millennium Development Goals (MDGs) initiated a process to establish the Post-2015 Development Agenda (i.e. Sustainable Development Goals). Some of the MDG initiatives were expanded and notably amongst them are the new goals related to water and sanitation, energy, climate change and inequality. In spite of the way the MDGs simply associated with nations in the emerging world, interestingly, the SDGs evenly applies to every nation, in both the creating (emerging) and created (advanced) worlds (www.undp.org, 2015).

Thus, Ghana and the entire world would be held responsible for their development efforts and progress, come the year 2030.

In Ghana, the goal to meet the Millennium Development Goal (MDG, Target 7c) on access to water was met (in 2010) ahead of time. However, same could not be said of sanitation as the indicators for sanitation targets closely follow that of the global numbers. According to the World Bank Report (2014), Ghana is second to Southern Sudan on open defecation. Furthermore, the Joint Monitoring Programme's (JMP's) progress reports on sanitation and drinking water revealed that Ghana's sanitation performance fell the from 10^{th} worst performing country in 2014, to become the world's 7th worst performing country (UNICEF & WHO, 2015; WHO & UNICEF, 2015). Statistically, Ghana's sanitation coverage stands at 15 percent while countries like Syria and Afghanistan have coverages of 96 percent and 32 percent respectively. Thus, to change Ghana's status as one of the world's worst performing countries with regards to sanitation issue that are detrimental to the environment, there is a consolidated call for action to accelerate sanitation progress (UNICEF and WHO , 2013; 2015) and close the sanitation gap (SDG, Target 6).

Furthermore, an international development agency such as the United Nations Development Programme (UNDP), published that accomplishing the SDGs necessitates the association of governments, civil society, the private sector, as well as all residents alike to ensure superior planet for future generations (www.undp.org, 2015). In the bid to respond to the universal call to action, it is imperative to contextualise the sustainable development goal (SDG) in the Ghanaian environment in order to better improve on the environmental sanitation problems. Hence, the following sections take a cursory look at the nation Ghana, its sanitation issues and the efforts towards cleaner environments.

2.2 GEOGRAPHICAL AND PHYSICAL SETTING OF GHANA

Geographically located on Africa's West Coast is a country called The Republic Ghana. The country's neighbours on the west are La Cote d'Ivoire, on the east is Togo, on the north is Burkina Faso and on the south is bordered by the Gulf of Guinea (Atlantic Ocean). In 1957, Ghana turned into the main sub-Saharan nation to pick up freedom from the British. Ghana has ten (10) administrative regions, namely, Greater Accra, Eastern, Ashanti, Central, Volta, Western, Brong- Ahafo, Northern, Upper East, and Upper West. Amongst the 10 regions, issues of sanitation, which is largely attributed to urban migration (Owusu, 2010), is predominant in the Greater Accra region, especially in the capital city, Accra. In this regard, the next section discusses Ghana's sanitation history and further emphasises on Accra's sanitation challenges. Figure 2.1 below, depicts the map of Ghana with its focus on Accra, the smallest amongst the regions.

Figure 2.1: Map of Ghana focusing on the location of Accra

Source: http://www.mapsopensource.com (2017)

2.3 HISTORY OF SANITATION IN GHANA

Ghana's sanitation reforms have been a pressing concern long before independence. During the twentieth century, the then British colony passed the Sanitary Legislative Ordinances

(1910) that was effective until the first half of the century (the 1950s). The ordinance outlined basic sanitary practices which laid the foundation for sanitation progress during that time period (Addae, 1996).

In time past, sanitation campaign through Town Council Officials (locally referred as 'tankas'), as well as communal labour in various forms, were accepted by Ghanaians as some of the best home-grown social intervention to ensure environmental sanitation and help curb unsanitary practices in the country. This relatively provided a comprehensive benefits package to prevent diseases as well other vices associated with insanitary behaviours (Addae, 1996; Anaman, 2006). During the town council intervention, sanitary inspectors or officials inspected sanitation in and around houses to ensure proper sanitary practices. These inspectors could summon sanitary offenders, and fine them, and also send them to court if they refuse to pay the fine. This earned them (inspectors) the accolade known as 'samansamam' (i.e. one who summons). Furthermore, the mobilisation of the citizenry for clean-up exercise in communities was common (Anaman, 2006). However, the military takeover in 1966 reduced the State's provision of social services which included sanitation services and thus, communal labour activities declined. Structurally, Ghana has several institutions that are regarded as key stakeholders in the management of waste. This is considered for discussion in the next section.

2.4 KEY STAKEHOLDERS IN WASTE MANAGEMENT

Institutional roles in sanitation and waste management cannot be overemphasised. In Ghana, there are numerous institutions that play different, yet synergistic roles to ensure clean and sustainable environment with regards to sanitary practices. However, it is established that major cities in Ghana are still grappling with waste management issues even though Ghana government has in place most of the Agencies, institutions and policies for

managing waste (Mariwah, 2012). The author further explains that for these institutions to maximise the effectiveness of their core mandate and be efficient, it is essential for institutions to link up with each other in order to respond to the many forms of waste management problems. This implies that institutional capacity coupled with good stakeholder coordination may translate into effective waste management service delivery in the Accra metropolis (Mariwah, 2012). The key stakeholders or representatives include National authorities of local authorities in Ghana, such as Environmental Protection Agency (EPA), Ministry of Local Government and Rural Development (MLGRD), Accra Metropolitan Assembly (AMA) as well as other stakeholders or private sectors in liquid and solid waste management. In this regard, it is necessary to identify the roles of institutions in sanitation and waste management. The next sections discuss the institutions and Agencies involved in waste management in Ghana.

2.4.1 The Environmental Protection Agency (EPA)

The EPA is the authoritative body accountable for guaranteeing and enhancing the Ghanaian environment. The Environmental Protection Agency Act, 1994 was passed by Parliament for such core mandate. They must ensure that air, land, and water are legitimately taken care of by everybody in the present society, with the goal that tomorrow's eras acquire cleaner and more beneficial world. This office has existed for over 30 years and has workplaces crosswise over Ghana and implementing policies as well as completing government tasks. For example, investigating and managing organisations, and responding when there is a crisis, such as contamination occurrence. The organisation/agency is likewise responsible for decongestion exercises.

2.4.2 Ministry of Local Government and Rural Development (MLGRD)

In Ghana, the general waste administration is the duty of the Ministry of Local Government and Rural Development (MLGRD). The service coordinates and directs the decentralised Metropolitan, Municipal and District Assemblies (MMDAs), in charge of the gathering and last transfer of solid waste through their Waste Management Departments (WMDs) and their Environmental Health and Sanitation Departments (EHSD). Be that as it may, the administrative expert is vested in the Environmental Protection Agency (EPA) under the sponsorship of the Ministry of Environment, Science and Technology and Innovation. In 2011 and 2012, the Ministry of Local Government and Rural Development with the support of some development partners organised the first and second National Environmental Sanitation Conference (NESCON). This provided the platform for sector professionals and research bodies to showcase cutting-edge technologies and strategies to deal with the sanitation problems in the country but, the effort has been curtailed for lack of funds (Monney, 2014).

2.4.3 Accra Metropolitan Assembly (AMA)

The Accra metropolitan agency (first Accra municipal council) was established in 1898 under the provision of the Town Council Ordinance of 1894 to give municipal or civil administrations to the community (Acquah, 1958). These administrations or services incorporated the arrangement of road lighting by paraffin lights, the development of channels, foundation of burial grounds, end of trash from avenues, and the arrangement of clean drinking water (Dickson, 1969). After freedom in 1957, the arrangement of urban metropolitan administrations kept on being the obligation of the Accra City Council and waste administration went under the control of the Chief Medical Officer and the Mechanical Engineering Department of the Accra City Council. In 1985, because of heightening waste administration emergency in Accra, the waste administration division

(WMD) was made with help from the German government to oversee waste in Accra (Boadi and Kuitunen, 2003; Asomani-Boateng and Haight, 1998). To do this, it is given the command to raise and hold incomes through direct client charges.

The local government Act 883 (Act462) and its legislative instrument, 1994 (LI1589) in 1993 set up the AMC as the managerial locale called the Accra Metropolitan Assembly, AMA (ISSER, 2000). The regulatory locales are additionally subdivided into domains or areas of distinctive Metropolitan, Municipal and District Assemblies (MMDAs). The Accra metropolitan Assembly (AMA) is among the sixteen (16) metropolitan, municipal and district of the Greater Accra Region of Ghana (www.ghanadistrict.com, 2017). It is presently the highest political and authoritative organ in Accra and has administrative, deliberative and official elements of government. AMA's functions include providing sound sanitary and healthy environment; arranging and controlling improvement of every infrastructure (for instance, markets, lorry parks, et cetera) inside the city; and providing public safety. In order for the Assembly to effectively and efficiently perform its tasks, it is upheld by various functional Departments. These departments include: Waste Management Department; Metropolitan Public Health Department; Metropolitan Education Department; and Town and Country Planning Department. Nonetheless, for the relevance of this study, the waste management and metropolitan public health departments are discussed in brief.

i) Wastes Management Department

The waste management department (WMD) regulates and screens the exercises of private temporary workers connected with the Assembly in solid and fluid waste transfer. It is likewise in charge of purging of lanes and channels or drains, open places, and weeding of grass on roadsides and open spots. It participates in the instruction of

the general populace on waste management and the arrangement of sanitation facilities in homes.

ii) Metropolitan Public Health Department

The Department of Public Health (MPHD) of the AMA was set up to advance and shield general well-being of the citizenry. It is engaged with surveying, remedying and keeping those elements in the condition that can possibly influence the soundness of present and future eras in a negative manner. These natural components might be physical, organic, social or psychosocial. Therefore, the division speaks to the viewing of the considerable number of administrations or services required to advance in an environmental situation that will enable occupants to flourish well physically, rationally and socially. The MPHD functions include food hygiene and market sanitation premises; survey for control of environmental health risks; enforcement of sanitation bye-laws of the Assembly; disease, vector and pest control; and environmental health guidelines.

Irrespective of the various institutions and their several roles, it is observed that various institutional difficulties emerge when urban communities outgrow the municipal area. Notable amongst these challenges is the issue of waste management behaviours. For instance in Accra, municipal waste generated in the city keeps rising as the urban landscape is filled with uncollected rubbish especially, in the ill-served poorer quarters (slum areas) (Oteng-Ababio et al., 2013; Owusu, 2010; Asomani-Boateng & Haight, 1998).

The Accra Metropolitan Assembly is grouped under the ten (10) sub-metropolitan districts of Ablekuman - South, North, and Central; Ayawaso – South, East, and Central; Ashiedu Keteke; Okaikkwei - North and South; Asiedu-Keteke (ama.gov.gh, 2017). With the existence of all these service providers, Accra is engulfed in filth. Hence, the subsequent

sections describe the state of sanitation in Accra and its suburbs and the engagements/activities of waste delivery services in the nation's capital, Accra.

2.5 SANITATION SITUATION IN GREATER ACCRA REGION

Greater Accra Region (GRA) is the door to Ghana and home of a dynamic capital city, Accra. Although it is the smallest of ten administrative regions (see, figure 2.1), it is the most heavily populated district. The region boasts of the two magnificent metropolitan spaces of Accra and Tema, the Country's major manufacturing and commercial/ business centres. As the capital of Ghana, the Accra city is one of the quickest developing urban communities in West Africa. In 2000, the city had an expected populace of 1.7 million with a populace development rate of around 3.4% every year (Ghana Statistical Service [GSS], 2002). Notwithstanding, urban population estimation measure in the Greater Accra region has ascended to about 4.5 million of the total population (GSS, 2012; GSS, 2015). Yankson, Kofie, and Moller-Jensen (2004) reveal that the estimated physical extension of urban Accra was 25 km^2 consistently for the period 1991-2002. In any case, the official (and now to a great extent obsolete) city boundaries of the bordering areas of Ga and Tema are developing at speedier rates; 6.4 and 9.2% respectively and thus prompting urban sprawl and uncontrolled physical extension past the common limit of Accra Metropolitan Area (Twum-Baah, 2002; Benneh, Songsore, Nabila, Amuzu, Tutu, Yangyuoru & McGranahan, 1993). These seemingly trickle-down effects of uncontrolled expansion has given rise to sanitation problems in the urban space (Boadi & Kuitunen, 2003; Owusu, 2010).

At the moment, the status of environmental sanitation in Accra misses the mark and fails to impress anyone in view of the various health-related issues it poses. In the Accra metropolis, piles of spilt-over (overfull) refuse containers are seen all through the urban centres particularly, near squatter settlements and markets as rodents have their filled day in

such dirty environments. The unpredictable transfer of waste particularly, in conduits and seepage channels have regularly offered to ascend to flooding as a persistent phenomenon in the city (Ghana Meteorological Service GMS, 1995; AMA, 2006; Quartey-Ankrah, 2011). As indicated by Boadi et al. (2004), under 40% of urban occupants are served by a solid waste collection service and just around 10% of solid waste produced are appropriately arranged or disposed of (Ofori-Boateng, Lee & Mensah, 2013). Consequently, the obstruction of free flow of drains is as a result of the ineffectively managed wastes and poor waste disposal behaviours which have frequently affected many lives. A typified example is the June 3rd, 2015 'double disaster' characterised by water and fire.

In affirmation to this problems, City Authorities of the Greater Accra Municipal Assembly (GAMA), admit the unsuitable condition of sanitation in Accra, which is described by stifled drains, unselective waste disposal and uncollected refuse in central waste receptacles which end up in drainages and other open systems (AMA, 2006; 2017; Owusu, 2010). As the national capital and largest city, coupled with high population growth and activities of the people, Accra generates waste between 1500 and 1800 tonnes per day while an average of 1200 (66%) tonnes are collected daily (AMA, 2006). Annepu and Themelis (2013) also reported that Accra generated about 2,000 tonnes per day (TPD) of municipal solid waste (MSW), of which over 75% was collected, while a feasibility study by WasteCare Associates (2013) further estimated that Accra generates waste of between 2000 and 2,500 tonnes daily. The picture below in Figure 2.2 depicts the waste management issues in some parts of Accra metropolis.

Figure 2.2: Waste management crisis in Accra
Source: citifmonline, 2014

Having realised that Ghana's sanitation falls short, some initiatives such as the "Sanitation Challenge Ghana Initiate Award" in June 2016, was sponsored by the United Kingdom's Department for International Development (UK DFID). The award is to incentivise MMDAs to prioritise and improve upon urban sanitation delivery. Cash prizes were awarded to regions such as Volta, Eastern, and Northern, to roll out programmes to address sanitary conditions in their Assemblies. However, it is worth noting the fact that Accra, the filthiest capital city with its numerous slums, was nowhere near the prizes awarded. Hence, the sanitation situation requires much attention especially, from city authorities as well as all stakeholders. In this regard, the next section reviews a suburb of Accra which is earmarked as a slum.

2.5.1 Sanitation in Slum Area – Nima

It is established that Accra has many fast-growing, low-income communities with minimal infrastructure for waste disposal. In such areas, waste washes into drainage ways and subsequently causes the increases in flooding (Owusu, 2010; AMA, 2006). This study focuses on a suburb of Accra called Nima; a flood-prone area, which is also known to be the largest slum in Accra. Nima is found in Ayawaso District under the AMA as far as sanitation and waste management service delivery is concerned. Even though Nima is a residential town in the Greater Accra Region of Ghana, it is described as the largest urban slum settlement in Accra, and also ranks 18th amongst the top 20 slums in Africa. According to the UN-Habitat (2008; 2009), people living in slums find it inconveniencing to access clean drinking water and also live with poor sanitation facilities (Owusu, 2010). According to Boadi and Kuitunen (2003), the deficiencies in properly set down lanes and unreasonably narrow as well as untarred roads, particularly, in slums areas, make it troublesome for waste gathering vehicles to accomplish their services in a couple of areas of the city. Thus, waste containers may be sited at open places where slum residents could go and dump their refuse at a fee of which residents of Nima are of no exception. However, some of this rubbish are sometimes left uncollected even though residents may continue to dump their waste. As shown below in the image (see, figure 2.1), is a typified example of an uncollected waste container at a dump site with spillovers. To this end, the subsequent sections discuss the activities of waste management service providers in both the informal and formal sectors.

Figure 2.3: Uncollected container at dump site.
Source: Monney (2014). www.modernghana.com/newsphoto

2.6 INFORMAL AND FORMAL SANITATION SERVICE PROVIDERS

Recognising the supply chains, distribution centres, and small-scale sanitation business visionaries or entrepreneurs are important to guarantee reasonable access to enhanced sanitation amenities and services (Devine & Kullmann, 2011; Mariwah, 2012). In Ghana and Accra in particular, the disappointment of the WMD to accomplish wanted outcomes (cleaner cities) necessitated for private sector participation in solid waste management in 1995. Since then, the WMD has privatised 80 percent of waste management in Accra (Boadi & Kuitunen, 2003). Hence, there are many actors that provide sanitation and waste management services in the formal sector as well as those in the informal sectors (locally called 'kaya bola') who help to keep the city clean. However, informal activities have been

less recognised as relevant actors. They are, therefore, hardly integrated into waste management system despite the immense contribution. They are the non-registered waste pickers, including waste carriers, scavengers and waste recyclers (Boadi & Kuitunen, 2003).

On the other hand, there are some registered companies dotted in certain districts (eg. Jekora Ventures) while others operate throughout out the country. Prominent amongst them is the Zoomlion Waste Management Company Limited which, has almost become a household name and simply referred as 'Zoomlion'. Some of these registered sanitation service providers are contracted by the government to manage waste that is generated in some parts of the cities across the nation. As an example, the next sub-sections further review the activities of two of such sanitation service providers in the formal sector.

2.6.1 Zoomlion Waste Management Company Limited (ZWMCL)

Zoomlion Ghana Limited (ZGL) is "a giant in the waste management as well as environmental sanitation business in Ghana and Africa" (Zoomlion, 2017). This firm which was framed in January 2006, under the company's Act, with an aggregate centre staff of 3,000. Zoomlion offers janitorial services to both private and public organisations; to commercial, industrial and residential clients. The firm has spread its operations to other African nations, for instance, Angola, Equatorial Guinea, Liberia, Togo, and Zambia (Zoomlion, 2017). Notable is its international services in janitorial and environmental sanitation during the African Cup of Nations (AFCON) in Ghana and Angola in the years 2008 and 2010 respectively. The firm provides the services in solid waste collection; liquid waste collection and haulage; communal container services; tricycles waste collection; vector (pest) control; landfill site management fabrication and sale of waste management equipment; water tanker services; landscaping and beautification; street and drain cleaning; as well as capacity building. Zoomlion's proposition is to fulfil customers and clients by consistently enhancing operations to make sanitation service delivery cost-effective.

Furthermore, the organisation oversees more than 85,000 labourers under different types of Public-Private Partnerships (PPP) (Zoomlion, 2017). Thus, in light of Zoomlion's expertise, the Ghana government, through its Ministry (MLGRD), has some waste management contract with Zoomlion Company limited to collect and dispose of garbage in all districts across the nation. Their responsibilities, include lifting filled containers and street sweeping some areas of the Accra Metropolis (Mariwah, 2012).

2.6.2 Jekora Ventures Limited (JV)

The Jekora Ventures Limited (JV Ltd.) began its cleaning services in the year 2003. JV Ltd. is one of the first to offer recycling services to its customers alongside solid waste source separation or segregation programme (Jekora Ventures Ltd., 2017). This programme is incentive based and thus rewards clients by giving them discounts on their monthly bills, for efficiently separating or segregating their waste (such as organic, paper, plastic, textiles, etc.) in recyclable streams. Myriad of JV's activities featured in the news includes: weekly radio sensitisation programme on Hot 93.9 FM; SIC Life Trust Finance Limited cleans the streets of Tudu; The Netherlands finances 11 projects in water, sanitation ESPA's Creating and capturing value (CAPVAL): Ghana WASH Window (GWW); YOUTHFES Ghana Project - Making wealth from Waste; WACEE'15: No waste to waste - Productive use of biomass (JV, 2017). The WACEE (West African Clean Energy Environment) conferences usually exhibit partners with diverse ideas on how waste could be transformed into energy. This waste management contractor's services are available for commercial and industrial clients of the Osu Klottey Sub-Metropolitan area of the Accra Metropolitan Area (AMA) and the Adentan Municipal Area (AMA). Nonetheless, residents could also deposit their recyclables at JV's station located in Asylum down, Odawna or Jamestown, all in the Greater Accra region of Ghana.

Several other formal waste management service providers contracted by the AMA are Ayeety Brothers Company (ABC) Ltd., Liberty Waste (serves Ablekuman South), Mesk World (Ashiedu Keteke), Asadu Royal waste serves Ablekuman South, Platinum Ltd. serve some parts of Ablekuman South, Okaikoi North, inter alia Ayawaso East of which the study area (Nima) is a part. However, the city authorities report that the services of some of these waste contractors have been appalling, see figure 2.3 above (AMA Report, 2014; www.myjooyonline.com). Since the government, as well as its city authorities, is involved in engaging waste management entrepreneurs in the private sector, the next section discusses on stakeholder engagement or public private partnership (PPP).

2.7 STAKEHOLDERS ENGAGEMENTS / PUBLIC PRIVATE PARTNERSHIP

Effective waste managing in developing nations requires meaningful participation of concerned stakeholders/partners (Alagir 2012). This is maintained by several waste management scholars who advocate that it is imperative to encourage partnership so as to fuse in the different sectors in the economy as an integrated system (Elsaid & Aghezzaf, 2015a; 2015b; Oteng-Ababio, 2010b; Boadi & Kuitunen, 2003). In addressing the solid waste menace, the government of Ghana has embarked on myriads of projects towards solving the sanitation problem, thereby, collaborating with several institutions. For example, there is a project worth fifteen ($15) million dollars which is a public private partnership between Zoomlion and the government of Ghana. In this partnership, Zoomlion is focused on continuing to build association (partnership) with local Authorities like Ministries, Department and Agencies (MDAs) of central Government; Metropolitan, Municipal and District Assembly (MMDAs); private sector customers; and the groups they serve. The firm, in like manner, considers not barring rivals in the business, whom Zoomlion implies or refers to "associates" in the matter of keeping Ghana and Africa

spotless, green, and sound. In such manner, the organisation has collaborated with top local and worldwide educational establishments to establish the Institute of Waste Management which would energise the sanitation industry with highly-skilled and well-trained personnel in Ghana and beyond.

Additionally, the National Waste Bin Distribution Programme (NAWABIN) is a national waste partnership (PPP) that merges with Zoolion Gh Ltd., Melchia Investments Ghana Limited and the Ministry of Local Government and Rural Development (MLGRD) to bring a sustainable solution to urban sanitation problems. The waste bin distribution project is executed with the aid of National Service Personnel. These service personnel are expected to visit house-to-house across the country to collect data to enable sanitation companies to deliver services to communities. In this regard, the final section of this chapter reviews some of the sanitation campaigns and or interventions that have been used and upheld by several stakeholders in Ghana.

2.8 SANITATION CAMPAIGNS / INTERVENTIONS

Several sanitation campaigns and programmes have been rolled out in Ghana. Such programmes are usually sponsored or supported by corporate organisations (as part of their corporate social responsibility) and several stakeholders. Some of these campaigns have been identified from the researcher's pilot study to find out if the citizenry is aware of any sanitation campaign. The researcher is of the rational assumption that if an individual is able to recall a sanitation campaign that encourages good sanitation practice (ie. proper waste disposal behaviours), then the individual is likely to positively change behaviour. This is because the campaign may have been well positioned in the minds of the target audience. However, this may not be the case in reality. In this regard, some of the campaigns or programmes that were favourably mentioned by respondents are represented below:

i. The ***National Sanitation Day*** (NSD) programme is an initiative by the Ministry of Local Government and Rural Development to influence all Ghanaians to clean their environment on first Saturdays of every new month. Collaborators of the programme include the security service (Ministry of Defence) and Kasapreko Company Limited and also supported by several corporate entities such as Pz Cussons, SIC Life, ADB Bank, and VVIP Group Musicians. The NSD campaign has been aired on several radio stations (e.g. CitiFm, JoyFm) and telecast (GTV, Tv3 Network; JoyNews Tv; MyJoyOnline) across Ghana (Ghana News Agency, 2014).

ii. *"Clean Mama"* is a Unilever Sanitation project since 2010 and supported by Zoomlion. For the Unilever's key soap *"Clean Mama"* Campaign, a Ghanaian celebrity, Irene Opare, has been an environmental sanitation ambassador and a passionate advocate of sanitation and thus engages in real life clean-up exercise in communities at different geographical locations in the country to support sanitation and to influence every household to be clean by using an affordable soap. Thus, '*clean mama'* has been a sanitation-themed television programme (www.newsghana.com.gh, 2014).

iii. The "*Keep Ghana Clean*" battle supported by the Ministry of Local Government and Rural Development keep running particularly, on national television to promote good sanitary practices. The campaign comprised various public service messages including "The Story of Cholera", and the use of refuse receptacle. It is a five-minute animation film produced by the Global Health Media Project and released in 2011 (GTV, 2011)

iv. In 2014, some commercials on good refuse disposal practices were telecast on Ghana Television in which women are portrayed as sanitation offenders: In one

circumstance where a young lady in the road drops some litter, a supposed insane male person confronted her to lift it up. For another scenario, a female traveller riding on a taxi, after quenching her thirst, recklessly flings a water bottle out the window. The male cabbie stops the car and advises her to lift the litter up and properly dispose of the waste or else he would not continue the journey. Regardless, as the passenger alights to pick up the waste (bottle), the driver scornfully speeds away and leaves the young lady on the road; she was confused (GTV, 2014).

v. A sanitation campaign on TV that discourages improper refuse disposal. In this campaign, children disapprove of their female parent's behaviour of depositing solid waste into drainage (GTV, 2015).

vi. A short documentary (2015) telecast by Crystal TV, GTV, etc. and it is supported by Ghana Independent Broadcasters' Association (GIBA) on sanitation campaign aimed at stopping insanitary practice of open defecation around water bodies as such wrongful behaviours expose inhabitants to cholera outbreak, usually associated with symptoms of profuse water diarrhoea and vomiting that could be fatal.

vii. *"Don't litter, reuse, recycle" Campaign.* A DSTV waste management campaign telecast also on GTV Sports, advocates for the separation of waste such as paper, plastic, and glass.

viii. *"Wabodam" sanitation Campaign* dabbed 'Sanitation for All' (2008; 2007). A 'madman' disapprove and thus whips (punishes) and chases a supposed 'sane fellow' who is seen openly defecating into an open drainage. The campaign abhorred indiscipline in society and calls for all hands on deck on sanitation. It was sponsored by the then Ghana's Vice President, Late Aliyu Mahama.

ix. 'Homowo Clean-up Campaign' in 2015 is aimed at cleaning all beaches across various Ga communities including Gamashie, Osu, La, Teshie, and Nungua during the festive occasions (in August). The *"Falefale"* (meaning cleanliness in Ga) Campaign by Gasmilla of 'Telemo' fame, features several celebrities to spread the word of cleanliness in different languages and styles.

x. Great Lamptey Mills Complex School (2004; 2010; 2015) released four-minute musical production shown on television which encourages the youth to engage in proper sanitation practices and promote positive behaviours in Ghana.

For the above-cited examples, it is evident that there are several other sanitation campaigns and interventions (through audios or videos) from professionals of various fields and institutions across the country that seem to have behaviour change (sanitation) messages targeted at various segments of people in society. Mass media has been via radio and television and messages are sometimes translated into different predominant languages such as Ga, Hausa, Twi and Ewe.

Since several campaigns and programmes have been rolled out to curb the sanitation menace, the question then remains: "who really gets the message and whether they understand the message" (Griffin & O'Cass, 2004)? Are the social marketing campaigns just mere sayings (Niblett, 2005; 2007; Szmigin et al., 2011)? How are social marketing campaigns affecting behaviour change and what are the challenges associated with behaviour change communication (Tweneboah-Konduah, 2014)?

Amidst the campaigns, why does the sanitation issue seem to escalate with endemic of cholera outbreaks coupled with malaria and other sanitation 'health-related' cases? How effective are the social marketing campaigns towards achieving the sustainable development goal (SDG)? It is critical for the researcher to think along these lines because, if some social

marketing campaigns have been successful, then what accounts to the failure of others? Figure 2.4 (at the end of this chapter) presents a snapshot of a sanitation campaign intervention for the Accra metropolis of the catchment area of study.

It is against this backdrop that the researcher holds the opinion that investigations be carried out to ascertain the effectiveness of the social marketing campaigns with regards to sanitation programmes towards waste disposal behaviours amongst Ghanaians. The next chapter (3) reviews literate on empirical studies by various scholars on social marketing and it application in waste disposal or management practices.

Figure 2.4: Sanitation Campaigns / Interventions located adjacent the Nima Police Station

Source: Field photograph, 2017.

2. 9 CHAPTER SUMMARY

The chapter provides a general understanding of the thought of sanitation issues and the categorisation of the managerial administrations of the sanitation segment in Ghana. The execution of the different organisations or divisions and sub-areas are likewise discussed within the context of the study. The latter part of the chapter concentrated on the informal and formal sanitation service providers by describing the industry environment including the stakeholder engagement among the service providers. The chapter ends with a few sanitation campaigns that industry players have rolled out in the past to impact and change insanitary behaviours.

CHAPTER THREE

LITERATURE REVIEW

3.0 INTRODUCTION

It is important that a study is anchored in both theoretical and empirical literature. A review of empirical literature helps position the study and provides the basis for any empirical contribution of the study. Therefore, this chapter reviews relevant and contemporary literature on the concepts of social marketing and how it has evolved overtime and its effectiveness with regards to behaviour change.

3.1 THE CONCEPT OF SOCIAL MARKETING

According to Kotler and Zaltman (1971) a number of non-business organisations started adopting marketing logic as a prerequisite for furthering their goals and products. There is the application of marketing principles to help promote social actions using a more effective programme to elicit the right responses from target audience (Kotler & Zaltman, 1971). The social marketing discipline is grounded in social change and marketing theory (Dann, 2010).

There was an initial confusion as people thought social marketing was related to societal marketing (Andreasen, 1994). Social Marketing is said to be at growth stage of its product life cycle but, it is at risk of not fully reaching its potentials (Andreasen, 2002). Unlike societal marketing which sought to protect consumers from harmful marketing, social marketing seeks to influence behaviour change among target audience (Andreasen, 1994). The term social marketing also grew to be accepted by both private and public organisations. Andreasen (1994), cites an example of private insurance companies promoting the use of seat belt, or companies in the alcoholic industry promoting responsible drinking. The development of the field is explained by Andreasen (2004) as having an academic and

practice sides. In relation to the academic development of social marketing, Andreasen (2004) cites the increase textbooks, book chapters and academic journals devoted to the field as well as the increase in the number of social marketing conferences, and the establishment of social marketing centres. Andreasen (2004) also presents developments in social marketing practice side as the adoption of social marketing approaches by federal and government agencies, such as the adoption of social marketing as a strategy to tackle diseases such as HIV. The emergence of multinational social marketing consulting firms, major advertising companies claiming social marketing capabilities, major job titles in social marketing, and general interest in social marketing in America and Europe are being recognised.

3.2 DEFINITIONS AND DOMAINS OF SOCIAL MARKETING

Social marketing has been defined differently by several authors. According to Dann (2010), a review of literature for the last forty years revealed about forty-five definitions. Andreasen (2006) asserts that the lack of a common definition explains the lack of consensus on the understanding of social marketing and is likely to hinder its development. Social marketing employs the commercial marketing technique of the four Ps (product, prices, place, and promotion) (Kotler & Zaltman, 1971; Andreasen, 2002). However, Niblett (2007) emphasises that social marketers ought to totally elucidate what social marketing is and how it is practised with regards to the use of the 3Ps (Place, Price and Product) that go beyond promotion, and how they contribute to behaviour change (Niblett, 2007).

One of the widely used definitions is proposed by Kotler and Zaltman (1971). Kotler and Zaltman (1971) used the term “social marketing” to refer to:

> "*the application of principles and tools of marketing to achieve socially desirable goals that benefits society as a whole rather than for profit or organisational goals – this includes the design, implementation, and control of programmes calculated to influence the acceptability of social ideas and involving consideration of product planning, pricing, communications and marketing research"* (p. 4).

Andreasen (1994) explains that there are a number of deficiencies in this definition. One of the issues raised is related to the reference made to the promotion of ideas which other authors believe social marketing is more than. In an attempt to build on the definition, Andreasen (1995; 2006) defines social marketing as: *"the application of commercial marketing technologies to the analysis, planning, execution, and evaluation of programme designed to influence the voluntary behaviour of a target audiences in order to improve their personal welfare and that of their society"* (p.7).

Smith (2006) describes social marketing as *"not a science but rather a professional craft which relies on multiple scientific disciplines to create programmes designed to influence human behaviour on a large scale"* (p.38). Social Marketing has also been viewed as the systematic application of marketing concepts and techniques designed to influence voluntary behaviour of target audience, for social good (Kotler & Lee, 2008; Andreasen, 1995).

The definition by French and Blair-Stevens (2007) present social marketing as the *"systematic application of marketing alongside other concepts and techniques, to achieve specific behavioural goals for a social good"*. This definition is used widely as it takes into consideration two key issues of concern namely, 'behaviour change' and 'for a social good'.

As explained earlier, the lack of a consensus regarding the definition of social marketing prompted for a study by Dann to develop one. Dann (2010), develops a definition of social

marketing after reviewing forty five definitions. The result of that study defined social marketing as *"the adaptation and adoption of marketing activities, institutions, and processes as means to induce behavioural changes in a targeted audience on a temporal or permanent basis to achieve a social good"* (p.151).

This definition is used as the working definition as it aggregates all major issues addressed in the definition of prominent authors such Andresen (2006), Kotler and Lee (2008), and French and Blair-Stevens (2007; 2010a; 2010b). From the several definitions posited by social marketing scholars, it is important to differentiate the concept of social marketing from commercial marketing. Thus, the next section attempts to differentiate these concepts.

3.3 CONTRASTING SOCIAL MARKETING AND COMMERCIAL MARKETING

It is distinguished that social marketing manages the market's core convictions or beliefs and values, while commercial marketing ordinarily manages seemingly shallow preferences and sentiments (Kotler & Zaltman, 1971). MacFadyen, Stead and Hastings (2003), distinguish social marketing from various sorts of marketing by positing that the end goal of social marketing is to enhance individual welfare and society, not to enrich /benefit the organisation initiating or doing the social marketing activity.

It is worthy to note that the role of social marketing is to change and positively influence behaviour (Andreasen, 2002; Kotler & Lee, 2008). It is further established that "social marketing is not a theory in itself, rather a framework or structure" (Kotler & Zaltman, 1971). Social marketing also seeks to benefit target audience and society at large (Dann, 2010). Peattie and Peattie (2003), posit that past development of social marketing practice and theory is largely influenced by conventional commercial marketing. The over-reliance on commercial marketing techniques in the quest for social goal may create practical

drawbacks and uncertainties about the theoretical basis of social marketing. Therefore, there is the need to create the distinction between social marketing and commercial marketing.

Commercial marketing differs from social marketing. Though the marketing mix (4Ps) is also applicable to social marketing, the concept is somewhat different in application. Commercial marketing influences purchase decisions and encourage people to buy products and services; however, when it is applied to encourage people to change behaviour, it becomes social marketing (Sheau-Ting, Mohammed & Weng-Wai, 2013). A detailed explanation of marketing mix (4Ps) or the social marketing interventions is considered.

3.4 TRADITIONAL MARKETING MIX (4PS)

Among the numerous marketing techniques used in social marketing, includes the traditional marketing principles or commercial marketing theory of the marketing mix, otherwise known as the '4Ps' (Kotler & Lee, 2008). In social marketing intervention, the marketing mix elements (4Ps) are also applied to change behaviour. The 4Ps, in this regard, are usually the elements or tools that every marketer blends or mixes to serve the target audience better: Product; Price; Place; and Promotion (Kotler & Lee, 2008).

Firstly, the product as a social marketing campaign is the new behaviour the marketer wants the individual to adapt to or accept (Kotler & Lee, 2008). A Product is the social marketing effort that the marketer is selling; it is the desired behaviour and the associated benefits of that behaviour. The adoption of the behaviour must be sustained through the adoption of strategies to keep the performance of the behaviour. However, there are activities that are performed to sustain and maintain an adopted behaviour (Sheau-Ting et al., 2013; Yoder & Murphy, 2012). According to Tweneboah-Koduah and Owusu-Frimpong (2013), a change that lasts only during the intervention period is insufficient. This implies that sustained change in proper refuse disposal behaviour is of immense importance. This could be done

through constant monitoring and evaluation as well as reinforcement, feedback, and reminders, as have been identified as the main strategies in achieving sustainable behaviour change (Sheau-Ting et al., 2013).

According to Kotler & Lee (2008), the social marketing product (idea) could be identified or classified at various levels. The product levels may be core (i.e. benefits of the behaviour); actual (i.e. the specific behaviour being targeted); and augmented (i.e. any tangible object and service associated with the programme). For instance, since the behavioural object is to make the Ghanaian populace choose proper ways of refuse disposal as a healthy lifestyle, in this study, the specific desired behaviour is that urban slum and non-slum residents, as well as traders in the Accra metropolis, should properly dispose of their rubbish (actual product) in bins and containers that are provided (augmented product). In this regard, the core product for a sanitation campaign is that people in a cleaner environment, comparatively, live longer as sanitation related diseases could be avoided (Katukiza, Ronteltap, Niwagaba, Foppen, Kansiime & Lens, 2010; 2012).

Secondly, price is also one of the Ps. Price is the value or worth that target market associates with embracing the preferred behaviour. It is not just in monetary terms but, there is also psychological cost (of abstaining from known habits) as well as intangible costs such as time and efforts. This may be the mental cost of receiving or accepting to another conduct other than what is privy to the individual. According to Ahmed and Rafiq (2002), the psychological cost of adapting to a new behaviour is that which has to be foregone in order to carry out new behaviour (i.e. the opportunity). As such, (opportunity) costs are difficult to precisely measure unlike the monetary price of goods and service. Therefore, the target audience may tend to overestimate the cost of changing behaviour and could be prone to resist changes (Ahmed & Rafiq, 2002; Rafiq & Ahmed, 1995). It is, therefore, admonished

that monetary cost may increase a competing behaviour while none monetary cost may decrease the competing behaviour (Kotler & Lee, 2008).

Monetary cost may be the fee paid by residents for waste collection. For instance, a National Report on Ghana's waste management contained in the 18th session of the United Nations Commission on sustainable development reveals that it costs around six Ghana cedis (less than $1.50) for each ton of waste gathered in Accra (Anku, n.d). Thus, as a monetary cost, residents are expected to pay about ¢6.00 upon waste collection. Again, with regards to intangible cost, this could be attributed to waiting time of residents and shop owners in anticipation for a waste management agents to visit in order to collect their rubbish. Also, it takes time and effort for the target audience to properly dispose of refuse at authorised places. Therefore, to encourage behaviour change, price (monetary cost) should be affordable at all times and the benefits of adapting the new behaviour need to be clearly explained to allay fears (psychological and emotional cost) of individuals by providing appropriate information (Ahmed & Rafiq, 2002).

Thirdly, the place element of the 4Ps refers to access. Materials or items required for behaviour change needs to be presented or offered at outlets reachable to target audience in order to make behaviour change conceivable. It is with regards to where and when the target audience could perform the behaviour, secure related generous inquiries or get the related organisations to receive the associated services. For instance, to encourage proper refuse disposal in our cities may translate to providing litter bins at a distance of between 200 to 300 metres away from each location and the waste contractors regularly emptying waste receptacles at various points to avoid spillovers.

Fourthly, promotion involves representing the place of access via communication channels where communication appears (Kotler & Lee, 2008). This is done based on essentially

understanding of the motivations of the intended interest group and learning of their principal and reliable channels of communication (Cave & Curtis 1999). An example is the use of stickers on litter bins, flyers, radio advertisement, news stories, television (TV) documentaries and commercials, internet, and personal presentations (eg. '*Clean mama campaign'*). Since social marketing employs 8Ps, the additional 4Ps of social marketing, namely: partnership; public; policy; and purse string are considered in next section.

3.5 EXTENDED 4PS IN SOCIAL MARKETING

The traditional marketing elements have been extended in social marketing to include four additional elements, namely: policy; partnership; publics; and purse strings. These elements are hereby explained in the subsequent paragraphs.

Policy refers to the guidelines, rules and regulations that may be incorporated by law to perform certain behaviours. The ideas or plans used in making decisions could make a behaviour change easier or harder. As such, there may be infrastructural changes needed to complement a campaign. Hence, an enabling policy environment is necessary for sustaining behaviour change in the more broadened and prolonged term (Scott, 2005). However, policies cannot work in isolation without the involvement of people. Hence, it is important to partner with others.

Partnership is about stakeholder engagements. Partnership involves individuals, organisations and agencies who have same agenda coming together with the intention to solve the same social issue (Kotler & Lee, 2008). This includes teaming up with other organisations or agencies in a community to enhance the effectiveness of a campaign. Stakeholders may either be in the formal or informal sector. For instance, the formal stakeholders include the local authority such as Accra Metropolitan Assembly (AMA),

some ministries and agencies from central government such as – Health sector (Ministry of Health [MoH]; Ghana Health Service [GHS]), Environmental Protection Agency (EPA), and waste management service providers (eg. Zoomlion, Jekora Ventures, etc.). In Ghana, for example, hand washing sanitation campaign strategy was designed in partnership with the professional advertising agency Lintas Ghana (globalhandwashing.org, 2015).

Publics are all persons concerned who could help influence and support behaviour change. They are both the internal and external groups involved in the programmes (Kotler & Lee, 2008). Internal publics are the individuals who are engaged with endorsement or usage of the programme, concept or idea whilst external publics comprises the intended interest group, policymakers, gatekeepers and secondary audiences (e.g. religious leaders, community members, role models and corporate institutions among others). They may be referred to as stakeholders. For example, a public figure and celebrity was engaged as environmental sanitation ambassador to educate the public on the need for environmental cleanliness in Unilever's key soap *"Clean Mama"* Campaign which, was also supported by Zoomlion Waste Management Company Limited.

Purse String usually refers to financial sources or funding to support the social marketing programme (Kotler & Lee, 2008), including donor agencies as well as other non-governmental organisations (NGOs) such as World Bank and WHO. For instance, as indicated by the National Environmental Sanitation Strategy Action Plan (NESSAP), MMDAs are to operate a separate fund for sanitation which, would be obtained from internally generated funds' (IGFs) allocations from central government and donor support (Monney, 2015). It is worth noting that the absence of funds could inhibit the social marketing activities. For instance, in May 2014, the principal composting and recycling plant was halted in Accra because of monetary requirements (Effah/CitiFmonline.com, 2014). It may be, therefore, necessary to consider a workable budget when planning for or

designing social marketing programmes while not losing sight of the efforts geared towards individual behaviour change (downstream). The downstream social marketing is considered in the next section.

3.6 DOWNSTREAM SOCIAL MARKETING

Social marketing is considered an operational (downstream) as well as a strategic (upstream) approach used to address social problems. The downstream aspect of social marketing is considered as the traditional social marketing that focuses on individual behaviour change (Wymer, 2011). It is observed that social marketing efforts directed at community residents take a downstream perspective (Truong, 2014). The downstream social marketing as described by Dibb and Carrigan (2013) is focused on influencing the behaviour of the target market, such as drug abusers, non-exercisers, poor eaters, smokers, et cetera. Downstream marketing is unique from upstream social marketing; its peculiarity lies in how the impact of social standards or norms are examined in a specific setting (Dibb & Carrigan, 2013). Carrigan, Moraes and Leek (2011) explain that downstream social marketing interventions are very vital in providing informational inputs regarding vulnerable behaviours that individuals hold on to such as point-of-purchase advertising displaying the benefits of washing clothes at lower temperatures. However, it is sometimes difficult to adopt downstream social marketing interventions when the unfavourable actions of individuals hinder the attainment of objectives (Carrigan et al., 2013).

3.7 UP-STREAM SOCIAL MARKETING

Apart from trying to influence individual behaviour in social marketing, upstream social marketing could also be applied as a last resort. Upstream social marketing is the application of marketing and other techniques to influence people in authority (policy makers,

regulators, opinion leaders, managers and educators) to come out with policies, regulations or laws to change the structural environment which will help address a societal problem (Gordon, 2013). Wymer (2011) advocates for resolving fundamental issues regarding causes of societal problems, and not just focusing on the strategies to influence behaviour. Therefore, most of the social marketing interventions are regarded as downstream initiatives. Social marketers essentially are required to be proactive to respond to external environments' uncertainties and challenges (Hastings, MacFadyen, & Anderson, 2000). Reason being that social context together with peoples' choices may determine their behaviour (Hastings et al., 2000; Hoek & Jones, 2011).

In upstream social marketing, people in leadership positions (authority) are regarded as the target audience who advocate, engage stakeholders and employ other marketing techniques to influence the behaviour of others who may (also) possess the audacity to positively shape structural and environmental conditions for desirable social outcomes (Gordon, 2013). It is, therefore, necessary to spread the tentacles of marketing beyond the individual and further involve others such as policymakers to help shape and influence behaviour change through policies, laws and regulations (Hastings et al., 2000; Hoek & Jones, 2011; Scott & Higgins, 2012).

It is argued that the successful ways to address health and social problems is through education, law, and marketing (Rothschild, 1999). However, the desired changes may seem impossible especially, when target audience (individuals) do not have the ability or motivation to perform the desired behaviour. Hence, the targets' voluntary behaviours may not achieve the desired goal if the problem is beyond the individuals' control. Therefore, to develop successfully or an effective social marketing intervention, individuals should be able to have control over that social problem in question (Wymer, 2011).

Education is about teaching or knowledge transfer. Education may create awareness through the information that is transferred to the target audiences to voluntarily act (behave) in a certain manner (Rothschild, 1999). In this regard, social marketers need to educate target audience about the benefits of proper waste disposal while reducing the cost/inconveniences that may inhibit them from performing the actual behaviour. It is, therefore, prudent that the social marketer persuades the targets to adopt the required behaviour both for the individuals' and societies' benefits. Notably, social marketing is said to be successful when the individual voluntarily changes behaviour because he/she stands to benefit and the barriers to performing the behaviour are reduced (Andreasen, 2002; Kotler et al., 2002).

Using the law requires forces and not voluntary on the part of the individual (Rothschild, 1999). Even though social marketing advocates for rewarding good behaviour and not superimposing behaviour change, scholars argue that upstream measures through the imposition of rules and regulations would create the enabling environment for downstream interventions to be fully successful (Rothschild, 1999). In this regard, social marketers (change agents) could influence changes in regulations and public policies through lobbying and actively participating in social issues or activities. This act of creating a conducive environment (such as sitting litter bins on streets and at every bus stop) may be necessary for social marketers because successful downstream social marketing interventions are mostly attainable through a well calculated upstream strategies (Hoek & Jones, 2011).

The discourse above validates the fact that upstream marketing intensely depends on the use of policies, laws and regulations to manage behaviour change thereby punishing wrongful behaviours without any favours. While the downstream marketing manages behaviour change by motivating and offering incentives (benefits) to persons to willfully change their behaviour. Although upstream social marketing may be effective (Hoek & Jones, 2011),

identifying whose behaviour to change in a specific circumstance is exceptionally important to the achievement of social marketing intervention. Hence, several approaches may be considered in a social marketing campaign. The next section discusses some criteria necessary for the success of social marketing campaigns/activities.

3.8 BENCHMARKS FOR GENUINE SOCIAL MARKETING

According to Andreasen (2002), the effectiveness or success of social marketing thrives on six (6) benchmarks and that these elements should be observed in programmes/ interventions to decide if it is reliable with social marketing (see, table 3.1). Subsequently, French and Blair-Stevens (2007) and French (2012), extended these benchmarks (see, table 3.2) by including two additional criteria. Notwithstanding, both benchmark criteria provide a set of "guidelines" to use when designing a social marketing initiative (Wettstein & Suggs, 2016).

Table 3.1: Andreasen's six benchmark criteria

Criterion	Description
Behaviour	Behaviour change is the benchmark used to design and evaluate interventions
Audience research	Projects consistently use audience research to understand target audiences at the outset of interventions, routinely pretest intervention elements before they are implemented and monitor interventions as they are rolled out
Segmentation	There is careful segmentation of target audiences to ensure maximum efficiency and effectiveness in the use of scarce resources
Exchange	The central element of any influence strategy is creating attractive and motivational exchanges with target audiences
Marketing mix	The strategy attempts to use all 4Ps of the traditional marketing mix. It creates attractive benefit packages (products) while minimising the costs (price) wherever possible to make the exchange convenient and easy (place) and communicating powerful messages through media relevant to – and preferred by – target audiences (promotion)
Competition	Careful attention is paid to the competition faced by the desired behaviour

Source: Andreasen (2002), adopted from Wettstein & Suggs (2016, p.3).

Another study that provided insight on the benchmarks of social marketing is the one from National Social Marketing Centre, NSMC, in the United Kingdom (UK). This institution provided eight benchmarks including customer orientation, behaviour, theory, insight, exchange, competition, segmentation, and method mix. The table 3.2 presents the eight (8) benchmarks.

Table 3.2: NSMC's (National Social Marketing Centre) eight benchmark criteria

Criterion	Description
Customer orientation	Develops a robust understanding of the audience, based on good market and consumer research, combining data from different sources
Behaviour	Has a clear focus on behaviour, based on a strong behavioural analysis, with specific behaviour goals
Theory	It is behavioural theory-based and informed. Drawing from an integrated theory framework
Insight	Based on developing a deeper "insight" approach – focusing on what "moves and motivates"
Exchange	Incorporates an "exchange" analysis. Understanding what the person has to give to get the benefits proposed
Competition	Incorporates a "competition" analysis to understand what competes for the time and attention of the audience
Segmentation	Uses a developed segmentation approach (not just targeting). Avoiding blanket approaches
Methods mix	Identifies an appropriate "mix of methods"

Source: French and Blair-Stevens (2007), adopted from Wettstein & Suggs (2016, p7).

From the above examples (table 3.1 and 3.2) of criteria, it is important for social marketers to identify and appropriately blend or mix methods in designing the social marketing campaign (French & Blair-Stevens, 2007). These social marketing scholars argue that the campaign may need not encompass all criteria, but rather a substantial number of the criteria should be identified in such interventions. To this end, the social marketing campaign is considered in the next section.

3.9 SOCIAL MARKETING CAMPAIGN

The work of social marketing is ideally based on the campaign (Cates, Shafer, Diehl & Deal, 2011; Stead, Gordon, Angus, & McDermott, 2007). One cannot fully understand the social marketing application to social issues without first understanding how social marketing as a concept translates from theory into practice. Social marketing is more demanding than generic marketing; in that, it involves changing impulsive behaviour resources (Lefebvre & Flora, 1998). Moreover, while for generic marketing the definitive goal is to meet investors' objectives, for the social marketer, the principal concern is to meet society's aspiration to enhance the citizens' quality of life.

Social marketing programmes are carried out through campaigns by targeting a particular group of people over a specific period of time. Kotler and Roberto (1989) describe the social marketing campaign to be *"an organised effort conducted by one group (the change agent) which attempts to persuade others (the target adopters) to accept, modify, or abandon certain ideas, attitudes, practices or behaviour" (*p6).

Social marketing professionals and researchers have over the years tried to address the challenges that social marketers face in creating campaigns that adequately influence target audience's behaviour (Andreason, 2006; Kotler & Andreasen, 1996; Kotler & Roberto, 1989; Weinreich, 2010). Researchers posit that social marketing planning must be based on understanding which behaviour change should be effected. Therefore, an effective social marketing strategy could then remove barriers to the new behaviour through promotion (Mckenzie-Mhor, 2000). The effectiveness of social marketing is detailed in the next section.

3.10 EFFECTIVENESS OF SOCIAL MARKETING

Effectiveness is the degree to which a social marketing intervention accomplishes its intended objective or purpose (Wymer, 2011). Wiebe (1951) analysed four social campaigns to figure out what conditions or qualities represented their relative achievement or absence of accomplishment and presumed that a campaign's success relied upon the existence of "adequate force, direction, an adequate and compatible social mechanism, and distance" (p.12). In this manner, the achievement of the campaign relies upon right product development, promotion, place, and price, which ought to be considered by the marketer (Wiebe, 1951). According to Fernandez-Haddad and Ingram (2015), certain factors may be key determinants that impact on the effectiveness of social marketing programmes. However, researchers generally argue that social marketing activities have globally not been effective (Fernandez-Haddad & Ingram, 2015; Tweneboah-Koduah, 2014; Tweneboah-Koduah et al., 2012; Stead et al., 2007). Scholars allude that designing an intervention bothers on the fact that the social marketer is able to establish a target audience, objectives and goals (Kotler & Lee, 2008). Moreover, in achieving this, there is the need to identify target market barriers, benefits and the competition. Hence, it is necessary to have knowledge of behaviour change theories in order to use this insight to develop strategies (Kotler & Lee, 2008). Pandurangan (2015) posit that campaigns had adopted persuasive media messages which have been designed having in mind that a behaviour will follow a particular attitude. Therefore, in order to ensure the effectiveness of a social marketing campaigns, there is the need to move beyond the attitudes of individuals in the way of thinking, feeling, belief, or opinion of approval or disapprove a behaviour and ensuring the behaviour is actually performed (Pandurangan, 2015). The next section discusses the theories that might be considered in designing effective campaigns for behaviour change.

3.11 BEHAVIOUR CHANGE THEORIES

Scholars such as Charles and Ryan (2011) have argued that strategies may have failed due to the absence of behaviour change theories as a tool since behaviour change could not be effective without the use of a theory (Andreasen, 2002). Therefore, French et al. (2010), emphasise that it is valuable to have an understanding of a theory as it can reinforce and boost the success of social marketing interventions (Tweneboah-Koduah et al., 2012). The role of social marketing is to solve societal problems (Helmig & Thaler, 2010) and can be effectively done with the use of theory (Andreason, 2002). Theories often used in social marketing include:

- The Health belief model (Rosenstock, 1966)
- The Traditional Exchange Theory (Bagozzi, 1978)
- The Transtheoretical Model /Stages of Change Theory (Prochaska & DiClemente, 1983).
- The Diffusion of innovation (Rogers, 1983)
- The Social Cognitive Learning Theory (Bandura, 1986)
- The Theory of Planned Behaviour (Ajzen, 1991)

3.11.1 Health Belief Model

The health belief model attempts to elucidate conditions that are crucial for behaviour change to happen (Rosenstock, 1996; Strecher & Rosenstock, 1997). The model imparts that an individual will make a move to avoid, screen for, or control a sickness or condition in view of the accompanying factors:

(a) ***Perceived susceptibility*** - one must believe that one is vulnerable to the condition or perceives a negative health outcome. For instance, how people believe they are

likely to contract diseases such as cholera, malaria, typhoid, among others, due to insanitary practices;

(b) ***Perceived severity*** – one believes that getting the disease or condition leads to severe consequences. With regard to sanitation, it relates to the seriousness of contracting diseases due to improper refuse disposal or waste management practices. Thus, Janz and Becker (1984), assert that severity dimensions may include medical/health conditions and other social consequences such as conditions on work, family and social relations;

(c) ***Perceived benefits*** – one believes that participating in the preventive behaviour will lessen the risk or give other positive outcomes. Hence, the individual is likely to change behaviour if the gains are more than the cost of adapting to the new behaviour;

(d) ***Perceived barriers*** – one believes that the tangibles or psychological costs of performing the behaviour are of less magnitude than the benefits. It is the negative aspect of performing the action. In this regard, anything that will hinder or prevent the behaviour change of the individual should be of low value or cost as compared to the benefits. Thus, the new behaviour should not be perceived as time-consuming, inconvenient and unpleasant (upsetting, painful and difficult);

(e) ***Cues to action*** – it is when the individual encounters something that triggers readiness to perform the behaviour. This may be internal (e.g. symptoms of a disease) or external activities (such as sanitation campaigns/mass media communications, interpersonal interactions, or reminder postcards from sanitary officers, waste management and health care providers). However, the individual should believe that it is possible to change insanitary behaviour. Hence, the "self-efficacy" level is explained;

(f) ***Self-efficacy*** – one believes one can take action. For instance, a person being able to keep the waste after consuming a product (e.g. water sachets/bottles, toffee wraps, banana peels, et cetera) until one sights a waste disposal point to dispose of the unwanted item. Hence, the individual should believe that is doable.

3.11.2 Traditional Exchange Theory

The genesis of this theory as explained by Bagozzi (1978) is that marketing is considered as an exchange which is represented by a dynamic social process that functions using economic and psychological factors. This theory argues that individuals develop exchanges for socio-emotional as well as economic reasons. According to Shore, Tetrick, Lynch, and Barksdale (2006), economic exchange theory specifically entails transactions between parties which are basically not long-term oriented or ongoing, but are rather considered as discrete, and involve financial interactions. This implies that the economic exchange theory emphasises a relationship which is characterised by financial obligations leading to a tangible relationship.

The exchange theory, according to Bagozzi (1978), consists of three broad determinants:

i) social actor variable which explains that the characteristics of the social actors influence the nature of the relationship in many ways;
ii) social influence variables which consist of the actions, communication, and nature of information shared among the actors; and
iii) situational variables which are determinants constraining the relationship between the actors.

In social marketing, it would be appropriate to determine the source actor characteristics such as the expertise, trustworthiness, status, prestige, similarity, et cetera as well as receiver characteristics such as self-esteem, self-confidence, background attributes such as race, sex,

religion, and social class among others. It is important to consider these characteristics as they affect the relationship. Also, social marketing campaigns should consider the intentions, purposes and desires of actors within the relationship. The rewards and punishments that exist due to the exchange relationship must be identified. Finally, the exchange theory stresses the need to identify situational factors relating to the availability of a source of satisfaction, the physical and psychological settings, and the legal and normative setting to ensure the exchange exist.

3.11.3 Transtheoretical Model (Stages of Change Theory)

The transtheoretical model generally called the stages of change theory, depicts the phases that individual experiences while in transit to embracing a behaviour (Prochaska & DiClemente, 1983). The individual goes through five (5) stages:

(a) *Precontemplation* – an individual does not know about the potential issue and does not see himself or herself in danger;
(b) *Contemplation* – the individual understands that he or she may be in danger and starts to consider whether to make a move or take action;
(c) *Preparation* – the individual has reasons that he or she should make a move and learns more about what is required;

The process might stop at this point if the individual encounters many barriers to changing the behaviour, nonetheless, the individual may move to next stage and continue with the process.

(d) *Action* – the individual performs the behaviour and decides for himself or herself whether it was beneficial; and
(e) *Maintenance* – the individual constantly performs the behaviour in the appropriate circumstances.

This theory integrates principles and processes of change from different theories (Prochaster & Velicer, 1997). Notwithstanding, with any given behaviour, an individual might stop at a particular stage in the process or even revert to a previous stage. For example, one may move back and forth between preparation and action many times over the course of his or her life, particularly, for behaviours requiring long-term lifestyle changes such proper waste disposal practices. The next section briefly discusses Rogers' diffusion of innovation model which was also propounded in 1983.

3.11.4 Diffusion of Innovation Model

The diffusion of innovations model expounds on a particular innovation advancing through a population over time (Rogers, 1983). The individual's innovativeness is categorised as: (i) innovators; (ii) early adopters; (iii) early majority; (iv) late majority; and (v) laggards (Rogers, 2002). The model stipulates that with any new product or practice, some people will be the first to adopt it, others will wait until most of their peer group has already accepted it, and others will never change their ways. Comparatively, early adopters may integrate more in localities (local systems) than innovators (cosmopolites). The study of Dearing (2009), cited some examples of the application of the diffusion of innovation model in social interventions. One such example is the use of village voodoo practitioners who command trust and credibility in their villages for HIV prevention education in Haiti. Another example in Mali concerning reproductive health targeted the peers and relatives of the youth rather health workers who were not trusted (Dearing, 2009). In waste disposal, the decision and respected individuals in communities could be used to diffuse the proper mechanisms to the general public. The next section also considers Bandura's (1986) social cognitive learning theory.

3.11.5 Social Cognitive Learning Theory

This theory expresses that behaviour change is impacted by factors within the individual and the environment (Bandura, 1986) and that one's behaviour is the result of the interaction among cognition, behaviour, environment, and physiology (Bandura, 1977). As in this theory, a knowledgeable individual would be stimulated or inspired to act if he or she is aware of the positive outcomes or benefits of performing the desired behaviour and possess the capability (self-efficacy) to perform behaviour regardless of the circumstances that constraints that individual (Bandura, 2000; 2004). According to Luszcynska and Schwarzer (2005), the social cognitive theory is very important in social modelling, thought, and action. The theory also supports helping an individual to adopt a behaviour beyond their experiences through social modelling of knowledge and competencies (Luszcynska & Schwarzer, 2005). Stajkovic and Luthans, (1979), posit that there is a triadic influence of social cognitive theory which includes the person (unique personal characteristics), the environment, and the behaviour itself (past success of performing the behaviour). However, the social cognitive theory has been criticised for its inability to encompass personal attitude as a factor to determine its impact on behaviour change (Rosenstock, Strecher & Becker, 1988). In spite of the limitations, this theory has the ability to stress on self-efficacy and other sources to determine behaviour change (Lerner, 1982; Maibach & Cotton, 1995; Bandura, 2000). The next and last section on theories discusses in details, the Ajzen's (1991) theory of planned behaviour upon which this research work is anchored.

3.11.6 Theory of Planned Behaviour

According to Conner and Sparks (2005), the extension of an earlier Theory of Reasoned Action (TRA) by Fishbein and Ajzen in 1975, gave birth to the Theory of Planned Behaviour (TPB). The development of the theory of planned behaviour is necessary as it addresses the deficiencies of the TRA in managing behaviour for which individuals need to make a

conscious choice of action (Ajzen, 1991). The Planned Behaviour Theory proposes that the immediate determining factor of behaviour is the person's intention to act or not to act upon that required behaviour (Bezzina & Dimech, 2011). According to Ajzen (1991), the intention to perform a behaviour is anticipated or predicted with high precision from attitudes towards the behaviour, subjective norms, and perceived behavioural control. Ghani, Rusli, Biak, and Idris (2013), further explain that the TPB individual takes into consideration three major issues before performing a behaviour. The actor's belief of the consequences of the behaviour and the assessment of these consequences (attitude), the beliefs and compliance to normative expectations of a behaviour (subjective), and beliefs about the existence of factors that may serve as facilitators or impediments in performing the behaviour, and the perceived capability of these factors (perceived behavioural control). The constructs of the TPB are discussed in the sub-sections.

3.11.6.1 Attitudes

The use of the Theory of Planned Behaviour in studies has described a strong attitude-intention relationship (Rex, Lobo & Leckie, 2015). Tonglet, Philips and Read (2004) are of the view that attitude towards a behaviour is the individual's favourable or unfavourable evaluation of performing the behaviour. The attitude refers to the individual's disposition to the behaviour (Cordano, & Frieze, 2000). Bezzina and Dimeach (2011), point that attitude is the psychological emotion related to a behaviour which determines whether performing that behaviour will generate positive or negative feeling.

According to Hagger, Chatzisarantis, and Harris (2006), an individual's positive attitude affects the enacting of a target behaviour. In social marketing, the emphasis on attitudes is built on the premise that the adoption of a sustainable behaviour must be preceded by positive attitude (Rex et al., 2015). According to Laroche, Bergeron and Barbaro-Forleo (2001), the attitude of an individual is determined by the perception of the importance, the

inconvenience of adopting a sustainable behaviour, and the perceived severity of environmental problems. The attitude construct, therefore, represents the realistic situation that targets audience face in adopting a sustainable lifestyle. The Attitude in the theory of planned behaviour framework refers to "residents' environmental cognition of e-waste and attitudes towards recycling". Tonglet et al. (2004), argue that recycling attitude essentially impact e-waste recycling behaviour. Nixon and Saphores (2007) examined the elements that could impact one's readiness to pay an advanced process fee (APF) for hardware or electronics and found that environmental attitudes exert tremendous effects.

According to Greaves, Zibarras and Stride (2013), attitude towards the behaviour by an individual represents their overall evaluation of the behaviour. An individual's evaluation of a behaviour, according to Bortoleto, Karisu and Hanaki (2012), could be a positive or negative feeling about that individual's own behaviour. The perception that the individual has a responsibility to perform a behaviour defines the denial or performance of a behaviour. The application of this in waste management could be expressed by identifying whether the individuals perceive a linking between their actions and the environment or even respond to the government (Bortoleto et al., 2012). Three key elements that attitude could manifest in an attempt to draw the relationship between the performances of environmental behaviour, namely: affective evaluation, personal norms, and denial of responsibility (Bortoleto et al., 2012). Hence, it is essential to note that only individuals who feel a moral obligation to undertake an environmental behaviour will adopt a positive behaviour (Bortoleto et al., 2012).

The application of marketing in promoting sustainable environmental behaviour could only be effective if strategies are developed to build positive attitudes towards environmental sustainability and also make consumers see the need to perform positive attitudes to help the environment (Rex et al., 2015). Therefore, the inclusion of the attitude variable in a

social marketing campaign in promoting sustainable behaviour is very crucial in predicting the extent to which an individual would make a conscious effort to adopt proper refuse disposal and waste management behaviour.

Studies have identified attitudes of individuals as a significant determinant of intention to perform a behaviour. One of such studies is by Rex et al. (2015), – these authors used the theory of planned behaviour to determine the intention of individuals to adopt sustainable behaviour. In the study, the attitude was found to be positively and statistically related to intention to adopt sustainable behaviour since a person's attitude towards sustainable behaviour are understood from the importance of sustainably behaving, saving natural resources, protecting land, and recycling to reduce pollution. Another study by Cordano and Freize (2000) applied the theory of planned behaviour in waste management to assess the intention of environmental managers to prevent pollution. Attitudes were not just found to be positively related with an intention to prevent environmental pollution but, the variable had the strongest relationship (Cordano & Frieze, 2000). In another study, attitudes were found to be the main predictor of recycling behaviour (Tonglet et al., 2004). It was discussed that households are clearly not willing to engage in recycling schemes unless they perceive the schemes and outcomes as positive behaviours (Tonglet et al., 2004). Food separation research also found positive attitudes of households to separate food as very important in the intention to separate food waste. From the available literature reviewed, attitudes could be considered as a determinant of waste disposal behaviour. Based on the above discussion, however, the following hypothesis is formulated:

H_1: There is no statistically significant relationship between attitude and individuals' intentions to engage in waste disposal behaviour.

3.11.6.2 Subjective Norms

Tonglet et al. (2004), explain that subjective norm is the person's opinion of social pressure to act or not to act on the desired behaviour. Bezzina and Dimeach (2012) posit that subjective norms relate to the influence of others on the individual to adopt behaviours. According to Rex et al. (2015), subjective norms, apart from attitudes, have been agreed by researchers to have a moderate effect on intention to perform a behaviour. Rex et al. (2015), posit that researchers have identified subjective norms as a predictor of consumer intentions to recycle household waste, to buy environmentally friendly products, and therefore proposes the use of this construct for sustainable behaviour studies.

Hagger et al. (2006), describe subjective norms as a series of factors relating the perception a person holds that he/she has to consider the important people in his/her life which serves as a motivation to comply to what others expect of him/her. Kalafatis et al. (1999), further explain that individuals internally generate a feeling of self-respect or pride when they undertake socially worthy acts (e.g. recycling papers and bottles), while the failure of the individual to act in socially acceptable manner leads to a feeling of shame or self-reproach.

The referent groups that individuals look up to may include religious organisations, friends, political parties, parents, doctors and several others (Kalafatis et al., 1999; Bortoleto et al., 2012; Greaves et al., 2013). Valle, Robelo, Reis, and Menezes (2005), explain that there is social pressure emanating from family (internal referents), friends, neighbours, and social groups (external referents) to perform certain behaviours. Another important referent group that consumers could really try to satisfy is the government. Wang, Guo and Wang (2016), stress the role of the government in formulating laws and regulations and promoting a propaganda on waste management.

Social marketers, therefore, should consider the role of referents, by using them as role models and invoking concerns about self-regard as these could be used to prevent waste (Bortoleto et al., 2012). Social marketing interventions should build positive norms by using prior examples as there would be no individual to be a catalyst for the development of the norms (Bortoleto et al., 2012).

The literature on the application of social marketing in waste management has also acknowledged the contribution of subjective norms as a major predictor of behaviour. One of such studies includes that of Mannetti, Pierro and Livi (2004) who found that subjective norms, though having the weakest impact on collection and disposal of refuse still predicts waste disposal intentions. This results according to Mannettiet et al. (2004), might be attributed to the nature of the questions (agree-disagree measure) and could be more predictive if individuals have a higher accessibility of collective self. One of the major environmental concerns all over the world is the use of plastics. Hasan, Harun and Hock (2015), in their study on the effect of subjective norm on students' intention to use plastic found that subjective norm to be a major predictor. Again, the reason for the weaker effect of subjective norms on plastic use was explained by Hasan et al. (2015), as people are not willing to disclose information about their actual self. Pakpour et al. (2014), in their study on household waste behaviour, found that subjective norms are predictors of recycling behaviour.

Contrary to other studies, Greaves et al. (2013), found subjective norms to be a stronger predictor of environmentally sustainable behaviour (switching off the computer). These findings were explained as the direct perception of the employee of the role of the facility for their jobs (Greaves et al., 2013). Another study that supports this assertion is that of Mahmud and Osman (2010) who explain that as subjective norms get more favourable, behavioural intentions to recycle waste becomes higher. A study on sustaining the

environment through recycling by Ramayah, Lee and Lim (2012) also found that subjective norms have a significant impact on recycling behaviour. These studies from the review of literature support the fact that subjective norms will be a higher predictor of intention to perform a behaviour if the behaviour is a public one. A study by Mancha and Yoder (2015), found that a stronger sense of identity to certain people may improve the efficacy to perform the behaviour (Mancha & Yoder, 2015). They argue that individuals having a strong identity with other people may become part of the vanguard that could help improve the environment through environmental protection programmes such as awareness creation. In light of the above discourse, the following hypothesis is formulated:

H_2: ***There is no statistically significant relationship between individuals' subjective norms and their intentions to engage in waste disposal behaviour.***

3.11.6.3 Perceived behavioural control

According to Tonglet et al. (2004), perceived behavioural control construct of the theory of planned behaviour relates to the individuals' opinions of their capabilities to perform the behaviour. The perceived behavioural control (PBC) has been used as a construct to predict behavioural intention on waste management (Mannetti et al., 2004). Ajzen (2002), emphasises that PBC is the ease at which an individual could perform an action base on an assessment of whether the individual possesses the requisite skills, resources, and opportunity to perform the behaviour. This view was explained by Ajzen (1991), that perceived behavioural control may be influenced by control beliefs such as past experiences of acquaintances and friends, and by other critical factors that may increase or reduce the perceived difficulty in performing the behaviour. Furthermore, Ajzen (1991), explains that the availability of resources and opportunity, and the fewer the impediments and obstacles make the individual to perceive a higher control over the behaviour. This view was collaborated by Rex et al. (2015), who explains that a person is likely to adapt a sustainable

behaviour if he/she perceives the behaviour is easy to perform or adopt to. The emphasis is laid on the premise that the individual possess self-efficacy to perform the behaviour (Greaves et al., 2013).

Wang et al. (2016), posit that the cost, convenience, and processes are important issues to be considered in waste management. This view is maintained by Tonglet et al. (2004), as the authors draw on the study of Boldero (1995) which included issues such as measure of exertion included, storage space, inconvenience, and access to waste designs or schemes. However, the real cost and convenience of proper waste management behaviour is the perceptions of the residents (Wang, et al., 2016). It is also very crucial to state that the perceived behavioural control, by having the basic knowledge and capability to perform the behaviour, may not by any means directly influence behaviour. Relatively, it may have a roundabout impact (indirect effect) through subjective norms as social pressure could help to determine whether to perform or not to perform the behaviour (Bortoleto et al., 2012).

Perceived behavioural control in recycling was scored very high by respondents which implies that waste recycling behaviour is perceived not to be a difficult or inconvenient task (Pakpour et al., 2014). Also, the use of the theory of planned behaviour to predict the intention to use plastic by students found that perceived behavioural control has a moderate relationship with intention to use plastic (Hasan et al., 2015). Another study to examine the preference of environmental managers to implement environmental programmes found that as perceived behavioural control of managers increases, the preference for source reduction activity also increases. Tonglet et al. (2004), explain that respondents' perceived behavioural control is a predictor of recycling behaviour as individuals perceive that they possess the skills, opportunities and resources to perform the behaviour. Based on the above discussion, the hypothesis is formulated:

H_3: ***There is no statistically significant relationship between individual perceived behavioural control and their intentions to engage in waste disposal behaviour.***

On the basis of the discussions above, the social marketing interventions relating to waste disposal or management usually take into consideration the beliefs of target audiences about how easy they can adapt and perform the behaviour. This is very crucial in ensuring that individuals perform sustainable behaviours (Rex et al., 2015). In this regard, the theory of planned behaviour is employed in this study, to examine the effectiveness and or influence of the social marketing campaigns/interventions on the individual's responsibility towards good sanitation and waste management behaviours in Ghana.

3.12 ROLE OF DEMOGRAPHIC CHARACTERISTIC IN WASTE MANAGEMENT

A number of studies have advocated for the use of demographic characteristics to determine the intention to perform desirable waste management behaviour (Tonglet, et al., 2004; Wang et al., 2011). According to Wang et al. (2011), demographic variables have been given serious attention in waste management literature. The demographic characteristics such as age, gender, education, and income on household role were found in literature as important factors in determining the adoption of environmentally sustainable behaviour (Fernandez-Haddad & Ingram, 2015). Also, Saphores, Ogunseitan and Shapiro (2012), found that most commonly used demographic variables in waste recycling are age, gender, income and education.

A study by Dwivedy and Mittal (2013) on the willingness of individuals to be part of e-waste recycling found that income level is a significant predictor. Comparatively, a study by Wang et al. (2011), found that income and educational level of respondents were not significant in the prediction of recycling behaviour. Tonglet et al. (2004), found a significant difference in the waste minimisation among age groups. The study found that individuals at sixty-five (65) or above are likely to participate in waste reduction behaviours whilst the

age group that was found to have the least propensity to perform waste minimisation behaviour are between twenty-five (25) to thirty-nine (39) years (Tonglet, et al., 2004). This was supported by Saphores et al. (2012), who found that individuals above sixty years (60) increase the odds of performing waste recycling behaviour. In relation to gender, Tonglet et al. (2004), also found that females are likely to perform waste re-use than males.

The demographic variables of age, gender and education attributed to the 31% of the variance in behaviour (Pakpour et al., 2014). Ghani et al. (2013), found that age, gender, employment and education is not statistically significant. Also, Hasan et al. (2015), explain that the gender of the individual is statistically significant in intention to recycle waste. This was explained that the mean score for females is higher than that of males as female have a higher pro-environmental behaviour than men (Hasan et al., 2015). In relation to educational level, Hasan et al. (2015), found that there is no statistically significant difference between undergraduate and postgraduate respondents. This did not support studies which posit that high level of education provides an opportunity for an individual to have a better understanding of the effect of certain behaviour on the environment. Based on the above discussions the following hypotheses are formulated:

H_{4a}: *There is no statistically significant relationship between individuals' age and their waste disposal behaviour.*

H_{4b}: *There is no statistically significant relationship between individuals' gender and their waste disposal behaviour.*

H_{4c}: *There is no statistically significant relationship between individuals' education level and their waste disposal behaviour.*

H_{4d}: *There is no statistically significant relationship between individuals' income level and their waste disposal behaviour.*

3.13 EMPIRICAL STUDIES OF TPB AND WASTE MANAGEMENT

The Theory of planned behaviour (TPB) has served as the conceptual framework in a number of studies in waste management with some of these studies introducing some situational and behavioural factors (Mancha, & Yoder 2015; Hasan et al., 2015; Ghani et al., 2013). Laroche et al. (2001), are of the view that the TPB allows for the addition of other factors to test for the adoption and use of waste management behaviour (Ajzen, 1991). Thus, the following discussions focus on empirical results from other studies. The discussion is done based on the four variables namely: attitudes; subjective norm; perceived behavioural control; and demographic characteristics.

3.14 CONCEPTUAL FRAMEWORK

The conceptual framework for this study is adapted from the theory of planned behaviour by Ajzen (1991). A number of studies have adopted this framework in the study of waste management behaviour all over the world (Macha & Yoder, 2015; Greaves et al., 2013; Hagger et al., 2006). The review of the literature shows that the theory has a very wide application in predicting sustainable waste management behaviour ranging from household waste separation, recycling, e-waste management, waste disposal, to liquid, and solid waste management amongst others.

The assumption underlying this conceptual framework is that based on the theories and conceptual issues discussed in the literature, this study proposes a conceptual framework. The conceptual framework is a graphical representation of the application of the theory of planned behaviour and the impact of demographic variables on waste disposal behaviour.

The conceptual framework has three major variables from the original theory namely: attitudes, subjective norms, and perceived behavioural control. Attitude represents the

individual's favourable or unfavourable assessment or evaluation to properly dispose of waste. The second variable which is the subjective norm represents the individual's perception of the social pressure to perform or not to perform proper waste management practices. The perceived behavioural control represents the individual's ability to perform proper waste management practices. This study proposes that there is a positive relationship between the three variables proposed by Ajzen (1991). However, the literature review recommended the need to consider demographic variables such as age, gender, educational level, and income. These four demographic variables were introduced in the conceptual framework to examine their effect of the intention to adopt proper waste disposal/ practices in Ghana.

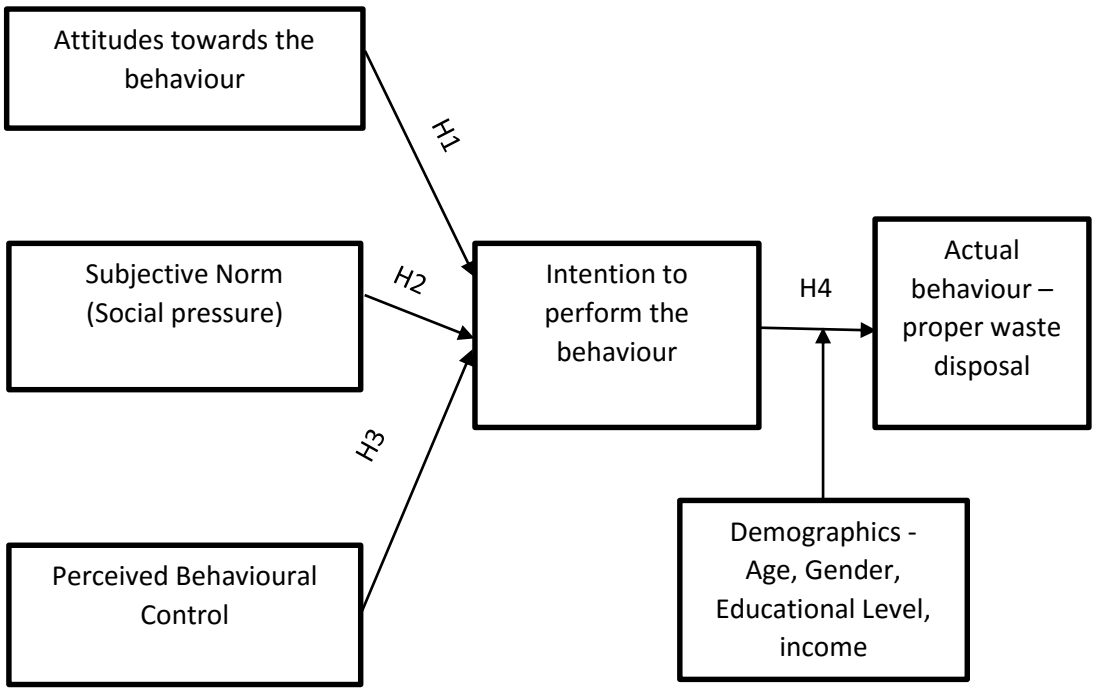

Figure 3.1: Conceptual Framework

Source: Adapted from Ajzen (1991)

3.15 RESEARCH HYPOTHESIS

The hypotheses are:

H_1: There is no statistically significant relationship between attitude and individuals' intentions to engage in waste disposal behaviour.

H_2: There is no statistically significant relationship between individuals' subjective norms and their intentions to engage in waste disposal behaviour.

H_3: There is no statistically significant relationship between individuals' perceived behavioural control and their intentions to engage in waste disposal behaviour.

H_{4a}: There is no statistically significant relationship between individuals' age and their waste disposal behaviour.

H_{4b}: There is no statistically significant relationship between individuals' gender and their waste disposal behaviour.

H_{4c}: There is no statistically significant relationship between individuals' educational level and their waste disposal behaviour.

H_{4d}: There is no statistically significant relationship between individuals' income level and their waste disposal behaviour.

3.16 CHAPTER SUMMARY

This chapter provided a detailed audit of surviving written work on the idea of social marketing. The section commenced with a discussion of social marketing and after that took a gander at the meaning of social marketing in a broader domain. To offer a philosophical bearing on the concept, the distinction between social marketing and commercial marketing were featured accordingly; thus, enabling a review on the traditional as well as the social

marketing mix. To completely value the concept, this section likewise attracted consideration regarding a few criteria used to plan or measure social marketing exercises and in addition its viability. Relevant theories were reviewed with much spotlight on the theory of planned behaviour (TPB) which, the study was anchored on. Based on the theory, the justification for the conceptual framework used in this study is presented. The framework depicts the application of the three constructs of the TPB and impact of demographics on waste disposal behaviour. The assumptions underlying the framework were also indicated to aid understanding. Hereafter, this section ended by considering the possible research hypotheses.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.0 INTRODUCTION

This chapter of the study discusses the methodology used in conducting the study. The chapter comprises research design, research population, sample and sampling technique, research instrumentation, data collections, and ethical considerations.

4.1 RESEARCH APPROACH

This study adopted a deductive approach taken into consideration the nature of the study. The use of a deductive approach is commonly accompanied with a positivist paradigm using a scientific method to better predict reality (Krauss, 2005; Hunt, 2001). Creswell, Plano Clark, Gutmman, and Hanson (2003), argue that in marketing, studies have adopted a number of paradigms but, it seems positive paradigm has dominated the marketing literature. Hunt (1994) also supports this assertion by stating that a positive paradigm using quantitative studies is the most common research paradigm in consumer research. According to Amaratunga, Baldry, Sarsha and Newton (2002), a positivist research approach applies a quantitative method usually, through testing of hypothesis. Johnson and Onwuegbuzie (2004) posit that positivist is considered as a quantitative purist who maintains that social sciences studies must be objective with the researcher being separate from the study. A positive paradigm is different from an interpretivist which favours qualitative studies and are seem to believe that multiple realities exist and calls for a more contextual study which cannot be separated from the researcher (Johnson & Onwuegbuzie, 2004).

According to Bryman and Bell (2015), a deductive approach toa research could be best described as where a theory is applied. This work, therefore, used the constructs of the theory of planned behaviour in conducting the study. In relating to the research objectives, it demands that the researcher adopts a quantitative method to test for assumptions and hypothesis by providing empirical results. The use of a deductive approach is appropriate when the variables used for the study are to be analysed quantitatively (Bryman & Bell, 2015; Saunders, Lewis, & Thornhill, 2007; Amaratunga et al., 2002; Newman & Benz, 1998).

A research approach could be quantitative, qualitative, and mixed. Creswell et al. (2003), explain that mixed methods involve the collection or analysis of both qualitative and quantitative data in a single study through the gathering of data concurrently or sequentially, and the analysis of the data is integrated. In business research, Cameron and Moliza-Azorin (2011), posit that mixed methods have now received legitimacy as a methodological choice and therefore have been widely used by researchers across a variety of disciplines. According to Bryman and Bell (2015), a quantitative study adopts a deductive approach which lays emphasis on the relationship between theory and research through the testing of theories. On the other hand, the qualitative approach according to Bryman and Bell (2015), emphasises on an inductive approach which aids in the development of theories. A qualitative study was, however, not adopted as this study sought to establish the statistical relationship between variables used.

Thus, this study adopted a quantitative study by relying on the existing theory of planned behaviour to test for the adoption of waste disposal behaviour of individuals. A quantitative study is used for explanation of a phenomenon which is unbiased and reality is objective and apart from the researcher (Bryman & Bell, 2015).

4.2 RESEARCH DESIGN

According to Malhotra and Birks (2007), research design is the process through which a research is conducted. It involves systematic and specific methods for acquiring knowledge (Creswell, 2009). It helps plan the details of the procedure so as to draw meaningful conclusion about a given phenomenon (Churchill & Iacobucci, 2009). McGivern, (2006) explains that research could be grouped or classified by the idea of the research enquiry and the kind of confirmation it plans to create. There are three categories namely: exploratory, descriptive, and causal or explanatory (McGivern, 2006). Thus, the nature of the research would also help the researcher to adopt plans that would help answer questions in an objective, accurate, and economic manner (Kumar, 2005).

The researcher employed explanatory research approach using cross-sectional survey approach in finding out how sanitation campaigns have impacted people's attitude towards waste disposal and management practices. The researcher is of the opinion that an explanatory research gives a better understanding of the situation (sanitation problems) as it seeks to explain the phenomenon. Thus, the researcher formulated some hypotheses. The hypotheses are statements or two variables that may be related. The researcher sought to explore and explain how sanitation campaigns have impacted on behaviour change in Ghana.

This study also used a cross-sectional research which applies the use of surveys completed by a respondent within a particular point in time (Rindfleisch, Malter, Ganesan & Moorman, 2008). Bryman and Bell (2015) explain that cross-sectional surveys usually have large samples and are not experimental in nature, unlike longitudinal studies where the phenomenon is studied on further occasions.

4.3 RESEARCH POPULATION

A study population refers to the collection of units from which the sample of the study is selected (Bryman & Bell, 2015). Zikmund, Babin, Carr and Griffin (2013), state that defining a study population is a very difficult task as this may affect selecting on an appropriate research sample. An important question that was raised by Zikmund et al. (2013), which this study sought to address is, how much variance exists in the population? Ghana's populace is evaluated to be 27 million. The number of inhabitants in Greater Accra region is around 4.5million and Accra alone has an urban populace of 2.27 million (GSS, 2012; World Population Review, 2017). In this study, the proposed population for the study focused on traders at commercial areas (markets), and urban slum dwellers in the Greater Accra region (GRA) of Ghana. The GRA is one of ten (10) administrative regions; its capital city, Accra is the most densely populated part of the region with about 2.27 million residents who generate between 2000 and 2,500 tonnes of municipal solid waste (Annepu & Themelis, 2013; WasteCare Report, 2013). Furthermore, the WHO (2015), described Greater Accra region as the epicentre for cholera outbreak due to poor sanitation and hygiene practices. In this regard, the survey was conducted in a geographical locations considered to be a slum area that also hosts a very busy market; thus, including residents and non-residents of the same geographical area or locality.

4.4 SAMPLING TECHNIQUE

Sampling involves the procedure a researcher undertakes to arrive at conclusions based on the measurement on a part of the population (Bryman & Bell, 2015). The implication is that a researcher who follows the right procedure will be able to use a sample which is representative of the entire population as it has the same characteristics of the population (Bryman & Bell, 2015). It is very important to avoid errors in determining a sample and

sample size for a study. Zikmund et al. (2013), assert that it is practically impossible to conduct a research without a sample and it is described as a procedure to use a small number of units of a population as a means of arriving at conclusions about the whole population.

Sampling technique could be classified into probability and non-probability sampling (Zikmund et al., 2013; Hair, Hanson, Wolfe & Pollak, 2015). According to Kothari (2004), probability sampling includes, simple random sampling, stratified sampling, systematic sampling, and cluster/area sampling; whereas non-probability sampling includes convenience sampling and judgement sampling. This study adopted a non-probability sampling technique for the study. The decision to use a non-probability sampling was arrived at considering the arguments of studies that have used the theory of planned behaviour in social marketing. Tonglet et al. (2014), in their study in the United Kingdom on recycling behaviour, used a non-probability to sample one hundred and ninety-one (191) respondents. There also exist a number of studies in social marketing that had used non-probability sampling (Tweneboah-Koduah et al., 2012; Tweneboah-Koduah, & Owusu-Frimpong, 2013). Those that applied probability sampling such as simple random had used samples made of individuals involved in a scheme or faculty or students of schools (Hassan, Harun & Hock, 2015; Ghani, Rusli, Biak, & Idris, 2013, Pakpour et al., 2014; Tweneboah-Koduah & Owusu-Frimpong, 2013).

Due to the nature of housing registration and the relative lack of a waste disposal scheme in the area of study, this has compelled the researcher to adopt a convenient sampling technique. A study by Tweneboah-Koduah and Owusu-Frimpong (2013) used a convenience based sampling to assess condom use among commercial drivers. A convenience sampling, according to Kemper, Stringfield and Teddlie (2003), is a commonly used purposive sampling. It involves drawing elements from a group which the researcher could easily access. The convenience sampling technique, therefore, allows for the selection

of respondents who may voluntarily take some time off to respond to questions. The research area is typically unstructured and unplanned and respondent's households are not properly documented. This makes it difficult for the researcher to predetermine the sample frame with respect to contact details such as e-mails, postal addresses, and telephone numbers among others.

4.5 SAMPLE SIZE SELECTION

The selection of sample size in a study that uses a structural equation modelling should strictly adhere to rules of sample size (Hair, Ringle, & Sarstedt, 2011). The general guideline is that the sample size must be equivalent to the accompanying statements which are viewed as the biggest: (i) "ten times the largest of the formative indicators used to measure one construct"; or (ii) "ten times the largest number of the structural path directed at a particular construct in the structural equation model" (Hair et al., 2011). In the case of this study, the structural path is only one. Also, Hoe (2008), posits that a researcher using SEM could adopt a sample size of 200 respondents as this possess a very significant statistical power. Furthermore, other scholars recommend a sample size of above 200 participants (Bagozzi & Yi, 2012). Thus, based on the arguments and justifications provided, the total sample size for the proposed study was made up of three hundred and ten (310) respondents. Respondents were sampled from various geographical locations that are densely populated in Accra.

4.6 SOURCE OF DATA

Primary and secondary sources of information gathering are the two major sources of data (Malhotra & Birks, 2007; Saunders et al., 2007). A primary source of data was used for this study. The common form of primary data is collected using interviews, survey

questionnaires, observations, focus groups, and others (Saunders et al., 2007). Secondary data sources provide already existing data sources which a researcher could not use but, primary data sources are collected from the field by the researcher.

This study used surveys as a primary source of data collection. Surveys, according to Bryman and Bell (2015), are common sources of primary data. This may be attributed to the fact that researchers use surveys to solicit responses in a structured manner in an attempt to obtain a well-organised data for analysis (De Vaus, 2002).

4.7 RESEARCH INSTRUMENT

The research instrument used for the study surveyed questionnaires. The research employed semi-structured questionnaires as the instrument for gathering data. The first part of the survey questionnaire was used to collect data on the demographics of respondents including the awareness of sanitation campaigns, age, level of education, and income levels. It is very important in collecting demographic data to achieve the research objective in relation to the effect of demography on intention to perform waste disposal behaviour. These questions/statements were eighteen (18) in number; thus, 18 demographic variables were obtained.

The second part of the survey questionnaire sought to solicit for responses on individuals' intentions to perform waste disposal behaviour. The questionnaire had a five-point Likert scale to assess the perception of their attitudes, subjective norms and perceived behavioural control in performing waste disposal behaviour. The theory of planned behaviour constructs namely, attitudes, subjective norms, and perceived behavioural control, were used to develop the antecedents of waste disposal behaviour. The items were adapted from the study of Ghani et al. (2013). The attitude variable has a total of five (5) items. The

subjective norm variable which sought to assess the influence of other people on the ability and intention to perform waste disposal behaviour was made up of four (4) items. The perceived behavioural control variable includes four (4) items. The final part of the survey questionnaire is to access data on the overall behavioural intention of respondents to adopt proper waste disposal. This variable is made of five (5) items. Hence, the second section comprised in all 24-items of the TPB.

Labelling of the 24-items of the TPB in this section (final part) continued/commenced from number nineteen (19) (i.e. after numbering the 18 demographic variables). Therefore, the 5 items of Attitude (AT) were labeled from AT 19 to AT23; the 4 items of Subjective Norm (SN) labeled from SN24 to SN 27; the 4 items of Perceived Behavioural Control (PBC) numbered from PBC28 to PBC 31; the 5 of items of Behavioural Intention (BI) were labeled from BI32 to BI 36; and the 6 items of Actual Behaviour (AB) were numbered from AB37 to AB42. This indicates that the questionnaire contained a total of forty-two (42) questions /statements (see, Appendix 1). This numbering/labelling was maintained in the Structural Equation Models (diagrams) presented in the analysis stage of chapter five of this work (see, figures 5.2 – 5.4).

The study resorted to the use of Likert scales as the measurement scale for the study. Malhotra (2006) explains that Likert scales are an effective means of collecting data in a more structured way usually using a set of variables on five (5), or six (6) point scales. Saunders et al. (2007), also explain that using ranking methods such as the Likert scales help in collecting sets of responses to a range of agreement or disagreement to a statement. The Likert scale adopted ranges from 1 meaning strongly disagree to 5 meaning strongly agree.

4.7.1 Procedure for Data Collection

The survey questionnaires were administered to respondents by the researcher. The questionnaires were delivered by hand to the participants to complete and researcher also helped administer the questionnaire, where necessary, to facilitate the respondents' understanding and maximum response. This is intended to expedite the data collection process and to increase the response rate. A total number of about three hundred and thirty (330) respondents were contacted; however, 310 persons co-operated for the study as the researcher could not return to few participants who for want of time, collected the questionnaire with the intention to complete same at a later date.

4.7.2 Reliability and Validity of Research Items

It is important to consider the reliability of the measurements used in order to ascertain the degree of consistency in the results (Hair, Black, Babin, Anderson & Tatham, 2006). This in simple terms is, to what extent a test, an experiment, and a measurement could yield the same results on repeated trials (Carmines & Ziller, 1979). Hair, Ringle, and Sarstedt (2011) explain that major issues are of concern in conducting reliability and validation test. The first is that if a researcher is not confident of the variables used in the research, then there is a little reason to use them to determine structural relationship; and the second issue is assessing the structural model estimates. In using Structural Equation Modelling (SEM), Hair et al. (2011), came up with the following reliability and validity measures:

a) For internal consistency reliability, composite reliability must be higher than 0.70.
b) Indicator reliability loadings must be larger than 0.70
c) Convergent validity using average variance extracted (AVE) should be higher than 0.50

d) Discriminant validity must have its average variance extracted (AVE) of a construct must be higher than the construct's highest squared correlation with any other latent construct.

These measurements above were used to test for reliability and validity of variables through a confirmatory factor analysis.

4.8 ANALYSIS METHOD OF STUDY

This segment describes the strategies or techniques that were employed as a part of the examination of information for this study. There are two notable techniques as to examining information or dissecting data – quantitative data analysis and qualitative data analysis. A quantitative analysis is a numerical or statistical representation and control of information/perceptions to describe and clarify the phenomena which those perceptions/information reflect. Alternatively, the qualitative analysis refers to the non-statistical examination and understanding/interpretation of information to discover basic implications and patterns of connections (Babbie, 2004). In this study, the quantitative techniques were adopted because it quantifies the information generated and give meaning in an objective manner.

The data analysis was conducted using a quantitative data analysis. A structural equation modelling (SEM) was employed in analysing the quantitative data. According to Hair et al. (2011), SEM is now considered as the quasi-standard for marketing researchers as it seeks to establish a relationship between multiple variables. SEM analysis could be compared to other statistical analysis such as regression, correlation, ANOVA, MANOVA, and factor analysis. However, Hair et al. (2011), posit that the SEM is very useful in studies trying to establish causalities. Also, SEM is very useful when the researcher is relying on a hypothesis that has been developed from a very sound theory. Furthermore, Hoe (2008),

argues that SEM provides a simultaneous measure of confirmatory factor analysis and a structural model.

With SEM, the independent variables are referred to as the exogenous variables whereas the dependent variable is the endogenous variable. In relation to this study, the antecedents of behavioural intention as proposed in the theory of planned behaviour namely attitudes, perceived behavioural control and subjective norms are the exogenous variables and the intention to perform proper waste disposal is the endogenous variable.

As explained by Hoe (2008), conducting an analysis using SEM consists of two major measures. The first is specifying the relationship between the latent variables, and secondly, using the structural model to establish a relationship between constructs. The confirmatory factor analysis was used to test for hypothesised factor structure by ensuring that each factor loads heavily on other latent factors. The second part of the SEM analysis is to establish the relationship between the latent variables. This is very important in specifying the hypothesised relationship that has been proposed through theory. Finally, the SEM analysis was also performed on assessing the effect of demographic variables as moderating or mediating factors (conditional indirect effect). The Baron and Kenny (1986) technique and bootstrapping resampling procedures were used to resolve this issue.

4. 9 ETHICAL CONSIDERATIONS

In performing a research, it is required of the researcher to consider ethical issues. Malhotra and Peterson (2001) argue that researchers should seek the consent of participants prior to research, in both qualitative and quantitative research approaches. Thus, the researcher encouraged respondents' voluntary participation and also ensured them that the respondents' rights to be informed, rights to privacy and rights to choose was regarded by maintaining the confidentiality of all the information given to aid this study.

In an attempt not to disregard the rights of respondents to consent, all prospective research partakers were educated that the investigation was for scholarly purposes. To ensure anonymity, the respondents were assured that the information disclosed would be treated with most extreme privacy. The respondents were, in this way, requested not to show their names on the questionnaires.

This information was clearly communicated on the questionnaire sheet. Besides, the respondents were given ample time to answer questions and some shop owners were allowed to take the questionnaires home and submit them after a day or two. However, the researcher was unable to receive about 20 of these questionnaires.

4.10 CHAPTER SUMMARY

This section describes the different research methodological approaches used as a part of the investigation. Detailed opinions for the adoption of the various philosophical foundations were discussed. Based on the discussion progressed for the philosophical foundations alongside the objective of the study, a quantitative methodology was viewed as an appropriate methodical standpoint. A general idea of both quantitative and qualitative research methods was exhibited requiring the discourse of particular methodological issues. In such manner, the section portrays the plan or design. The part at that point talks about the reason for the kinds of examination embraced. The rest of the chapter then focused on the measurement and measures used in the study, the population, sampling technique and units of analysis, together with a description of the time limit. The section finishes up by describing survey and the questionnaire that was used for data collection as well as how the research questionnaire and protocol were developed for the study.

CHAPTER FIVE

PRESENTATION OF RESULTS AND DATA ANALYSES

5.0 INTRODUCTION

This chapter comprises the results and the presentation of analyses of the study. First, summary statistics of the demographic characteristics and background characteristics of sanitation campaign and their patronage of waste management of respondents were presented. Initial descriptive statistics were calculated for all the items in the 24-item of the theory of planned behaviour (TPB) questionnaire. Next, exploratory factor and confirmatory factor analyses were performed. Finally, the study or hypothesised model was tested.

5.1 DEMOGRAPHIC CHARACTERISTICS

Most of the respondents are females (*n*=168, 54.2%). Most of the respondents indicated that they were within the age group of 25-30 years (*n*=95, 30.3%). Majority of the respondents have no formal education (*n*=93, 30.0%). Most of the respondents identified themselves as self-employed (*n*=143, 43.2%). Most of the respondents earned a monthly income of GH¢ 500 and above (*n*=139, 44.8%). Most of the respondents indicated that they were married (*n*=135, 43.5%). Most of the respondents resided in slums (*n*=253, 81.6%). Majority of them were residing at their current place of residence between 0-5 years (*n*=121, 39.0%). The detailed summary statistics for the demographic characteristics are reported in Table 5.1.

Table 5.1: Demographic Characteristics of Respondents

Variable	Frequency	Percentage
Gender		
Male	142	45.8
Female	168	54.2
Age		
18-24	33	10.6
25-30	94	30.3
31-40	90	29.0
41-50	36	11.6
51 and above	57	18.4
Education		
No formal Education	93	30.0
Primary	38	12.3
JHS	41	13.2
SHS/A-Level	77	24.8
Tertiary	49	15.8
Other	12	3.9
Employment		
Unemployed	43	13.9
Employed	133	42.9
Self-Employed	134	43.2
Income		
1-100	52	16.8
101-200	7	2.3
201-300	32	10.3
301-400	13	4.2
401-500	67	21.6
500 and above	139	44.8
Marital Status		
Single	107	34.5
Co-habiting	39	12.6
Married	135	43.5
Separated	5	1.6
Divorced	19	6.1
Widowed	5	1.6
Residents		
Slum	253	81.6
Non-slum	57	18.4
Duration of Stay (years)		
0-5	121	39.0
6-10	77	24.8
11-15	43	13.9
15-20	13	4.2
Above 20	56	18.1

Source: Field data, 2017

5.1.1 Respondents' Awareness of Sanitation Campaigns and Patronage of Sanitation Services

Frequency and percentages were calculated for variables that collected information on respondents' awareness of sanitation campaigns and patronage of sanitation services in densely populated suburbs of Accra. Most of the respondents were aware of sanitation campaigns (*n*=192, 61.9%). Lager part of the respondents showed that they were exposed to sanitation campaigns through other mediums (*n*=163, 52.6%) apart from TV (*n*=99, 31.9%). Most of the respondents noted that they have ever engaged the services of waste disposal companies (*n*=183, 59.0%). Most of the respondents indicated that waste disposal companies visited their homes twice a week to collect wastes (*n*=139, 44.8%). Most of the respondents noted that weekly cost of waste disposal was GHC 10-15 (*n*=107, 34.5%). Most of the respondents indicated that they do not dispose wastes at a central dumping site in their suburbs (*n*=205, 66.1%); as a result, most of them indicated that the frequency of disposing of waste at a central place was inapplicable in their case (*n*=197, 63.5%). For respondents who indicated that they visited central dumping sites, they noted that they spent above GHC 5.00 per disposal. The detailed summary statistics of respondents' awareness of sanitation campaigns and patronage of sanitation services are reported in Table 5.2.

Table 5.2: Respondents' Awareness of Sanitation Campaigns and Patronage of Sanitation Services

Variables	Frequency	Percentage
Awareness of sanitation campaign		
Yes	118	38.1
No	192	61.9
Medium of awareness		
TV	99	31.9
Radio	35	11.3
Print	7	2.3
Online	6	1.9
Other	163	52.6
Service Engagement of Waste Disposal Companies		
Yes	183	59.0
No	127	41.0
Waste Disposal Company Weekly Visits		
Once	62	20.0
Twice	139	44.8
Thrice	11	3.5
Not at all	98	31.6
Cost of waste disposal		
10-15	107	34.5
16-20	56	18.1
21-25	26	8.4
26-30	31	10.0
Above 30	90	29.0
Disposal of Refuse at Central Dump site		
Yes	105	33.9
No	205	66.1
Frequency of Disposal		
Once	8	2.6
Twice	97	31.3
Thrice	8	2.6
Not at all	197	63.5
Cost per disposal		
1-2	30	9.7
3-5	15	4.8
Above 5	71	22.9
Not applicable	194	62.6

Source: Field work, 2017

5.2 SUMMARY STATISTICS FOR THE ITEMS IN THE TPB WASTE DISPOSAL QUESTIONNAIRE

Summary statistics were calculated for responses to the statements in the TPB waste disposal questionnaire. Respondents were instructed to pick any of the following responses

from the Likert scale response checklist: strongly disagree (1), disagree (2), neutral (3), agree (4), and strongly agree (5). Mean (*M*) and standard deviations (*SD*) were calculated for all the responses to the statements in each of the domains of TPB. Small standard deviations (*SD*) with respect to the mean indicated that majority of the respondents selected response option closer to the mean (*M*) and vice versa. For questions in the Attitude (AT) domain of the questionnaire, results in Table 5.3 indicated that most of the respondents selected responses that are not close to the mean response, which is likely to be among either strongly disagree (1), or agree (4), and strongly agree (5). Whereas all questions in the perceived behavioural control (PBC), subjective norm (SN), behavioural intention (BI), and actual behaviour (AB) domains of the questionnaire results in Table 5.3 indicated that most of the respondents selected responses that are closer to the mean response. This means that most of the respondents were neutral in their response to the questions in those four domains.

Table 5.3: Summary Statistics for the items in the TPB waste disposal questionnaire

		Mean	SD
ATTITUDES	**AT**	**3.29**	**1.02**
In my opinion, proper waste disposal is a good activity	AT19	3.44	1.21
I think proper waste disposal activity will be an interesting task	AT20	3.38	1.18
For me, proper waste disposal is useful	AT21	3.25	1.18
In my opinion, proper waste disposal protects the environment	AT22	3.18	1.12
Waste management practices should be further promoted in Ghana	AT23	3.18	1.22
PERCEIVE BEHAVIOURAL CONTROL	**PBC**	**3.41**	**0.82**
The decision to dispose of waste is completely up to me	PBC28	3.47	.99
For me, the decision to properly dispose of waste will be an easy task	PBC29	3.51	1.01
I have complete control in deciding whether or not to properly dispose of my waste	PBC30	3.52	.98
If I wanted to, I could dispose of my waste at home	PBC31	3.15	1.06
SUBJECTIVE NORMS	**SN**	**3.57**	**0.86**
My family thinks I should dispose of my waste properly	SN24	3.75	1.06
My neighbours think I should participate in proper waste disposal	SN25	3.52	1.08
My colleagues think I should be involved in proper waste disposal at work	SN26	3.41	1.07
The community in which I live think I should properly dispose of my waste	SN27	3.58	1.03
BEHAVIOURAL INTENTION	**BI**	**3.84**	**0.71**
I intend to dispose of my waste on a regular basis if there are waste collection measures	BI32	4.00	.95
I plan to regularly dispose of my waste if I am satisfied with waste collection measures by the local authorities	BI33	4.03	.80
I will try my best to dispose of waste if I am convinced with the benefits of proper waste disposal	BI34	3.93	.87
I will make an effort to properly dispose of my waste if the local authorities enforce public participation in proper waste disposal	BI35	3.65	.94
I intend to dispose of my waste if the local authorities provide satisfactory services for proper waste disposal	BI36	3.59	1.05
ACTUAL BEHAVIOUR	**AB**	**3.37**	**0.74**
I regularly dispose of my waste by sending them to the required dump site or bin (container)	AB37	3.47	1.03
I regularly attempt to reduce the waste in my home	AB38	3.49	1.04
I regularly make use of the waste generated at home for other purposes	AB39	3.45	1.04

I have never recycled any part of my waste in my home	AB40	3.43	1.01
I have never disposed of my waste indiscriminately	AB41	3.21	1.06
I am regularly influenced to properly dispose of waste due to campaign messages	AB42	3.16	1.10

Source: Field work, 2017

5.3 FACTOR ANALYSES

5.3.1 Exploratory Factor Analyses

An exploratory factor analysis (EFA) of the 24 items of the TPB questionnaire was performed on the data from 310 respondents from densely populated suburbs of Accra, Ghana. Before running the examination with IBM SPSS, the information was screened by analysing descriptive statistics on every item, inter-item correlations, and potential univariate and multivariate assumption violations. From this basic assessment, all factors or variables were observed to be interval-like, variable sets had all the earmarks of being bivariate normally distributed, and all cases were free (independent) of each other. On account of the substantial sample size, the variables-to-cases ratio was considered sufficient. The Kaiser-Meyer-Olkin (KMO) measure of examining sufficiency was 0.86, demonstrating that the present data were appropriate for principal components analysis. Likewise, Bartlett's test of sphericity was significant ($p< 0.001$), showing an adequate relationship between variables to continue with the analysis (see, Table 5.5).

In light of the subscales that are said to involve TPB questionnaire, the five factors were extracted, and all with eigen values more prominent than 1, in total representing 66.77% of the aggregate fluctuation (variance) explained in the Varimax with Kaiser Normalization rotation solution. The five-factor Varimax rotated component matrix mirrored the existent scoring schema of the 24-item TPB questionnaire with some few exceptions. Two of the items (AB37: I regularly dispose of my waste by sending them to the required dump site or bin [container], and AB42: I am regularly influenced to properly dispose of waste due to

campaign messages) in the Actual Behaviour subscale had loadings less than 0.60; thus, they were removed from the questionnaire in subsequent factor analyses for each of the subscales. The two items did not correlate most strongly (loadings greater than 0.60) with the actual behaviour subscale as expected. It would seem that from the perspectives of the respondents, regularly disposing of their waste by sending them to the required dump site or bin (container) was not something they consider important. Also, from the perspectives of the respondents, regularly being influenced to properly dispose of waste due to campaign messages was not effective.

Subscales were constructed based on the organisation as shown in table 5.4, whilst table 5.5 displays the sample adequacy. The internal consistency of each of the subscales as assessed by coefficient alpha is shown in table 5.6. All the subscales exhibited very good internal consistency.

Table 5.4: Factor Coefficients: Five Factor Solution. Rotated Component Matrix.

	Component				
	1	2	3	4	5
AT19	0.81				
AT20	0.84				
AT21	0.87				
AT22	0.85				
AT23	0.82				
BI32		0.68			
BI33		0.80			
BI34		0.78			
BI35		0.71			
BI36		0.72			
PBC28				0.79	
PBC29				0.71	
PBC30				0.62	
PBC31				0.73	
SN24					0.79
SN25					0.81
SN26					0.74
SN27					0.65
AB37					
AB38			0.72		
AB39			0.79		
AB40			0.82		
AB41			0.73		
AB42					

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Variance explained: 63.77.

Source: Field data, 2017

Table 5.5: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	3714.957
	df	276
	Sig.	.000

5.3.1.1 Principal Component Analysis and Inter-Item Reliability Analyses for Each Subscale

Each of the subscales of the TPB scale were subjected to principal components analysis (PCA) and Inter-Item reliability test using SPSS version 21. Inspection of the correlation matrix for all the subscales revealed the presence of many coefficients of .3 and above.

For the subscale Attitude (AT), the Kaiser-Meyer-Olkin value was 0.85, exceeding the recommended value of .6 (Kaiser, 1970; 1974) and Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. The Cronbach alpha coefficient for Attitude (AT) was 0.91, suggesting that the AT subscale has very good internal consistency.

The Kaiser-Meyer-Olkin value, Bartlett's Test of Sphericity, and the Cronbach alpha coefficient of Perceived Behavioural Control (PBC), Subjective Norm (SN), Behavioural Intention (BI), and Actual Behaviour (AB) are reported in Table 5.6. The values indicated that the subscales themselves support the factorability of the correlation matrix. The Cronbach alpha coefficient of PBC, SN, BI, and AB suggest that the subscales have good internal consistency.

Table 5.6: Principal Component Analysis Inter-item reliability analyses for each subscale

Principal Component Loadings				Internal Consistencies		
Items	**Variable Codes**	**Factor Loadings**	**Variance Explained**	**Cronbach's Alpha**	**Item-total Correlation**	**Alpha if item is deleted**
Factor 1	AT19	0.85	**74.30**	**0.91**	0.76	0.90
	AT20	0.87			0.80	0.89
	AT21	0.89			0.81	0.89
	AT22	0.87			0.79	0.89
	AT23	0.83			0.74	0.90
KMO: 0.85; Bartlett's Test of Sphericity: Chi-square=1111.97; df= 10; p= 0.000.						
Factor 2	SN24	0.83	**65.13**	**0.82**	0.67	0.76
	SN25	0.88			0.75	0.72
	SN26	0.75			0.58	0.80
	SN27	0.77			0.59	0.80
KMO: 0.79; Bartlett's Test of Sphericity: Chi-square= 441.38; df= 6; p= 0.000.						
Factor 3	PBC28	0.86	**65.54**	**0.82**	0.72	0.74
	PBC29	0.80			0.64	0.78
	PBC30	0.79			0.62	0.79
	PBC31	0.78			0.61	0.79
KMO: 0.79; Bartlett's Test of Sphericity: Chi-square= 437.77; df= 6; p= 0.000.						
Factor 4	BI32	0.74	**59.47**	**0.83**	0.58	0.80
	BI33	0.81			0.68	0.78
	BI34	0.79			0.65	0.78
	BI35	0.73			0.58	0.80
	BI36	0.77			0.63	0.79
KMO: 0.83; Bartlett's Test of Sphericity: Chi-square=532.09; df= 10; p= 0.000.						
Factor 5	AB38	0.80	**64.34**	**0.81**	0.62	0.77
	AB39	0.84			0.68	0.74
	AB40	0.84			0.69	0.74
	AB41	0.72			0.54	0.81
KMO: 0.76; Bartlett's Test of Sphericity: Chi-square=432.42; df= 6; p= 0.000.						

Source: Field data, 2017

5.3.2 Confirmatory Factor Analyses

The 22 items that were retained at the EFA stage were further subjected to a confirmatory factor analysis (CFA). Factor loadings for the 22-item TPB are reported in table 5.7. During

the CFA stage, items with factor loadings below a threshold of (less than) 0.70 were removed. Standardised regression weights were accepted to be statistically significant at a p-value of 0.01. At this stage, the researcher purposed to retain items with strong regression weights. Thus, the final TPB questionnaire consist of 15-items. This 15-item TPB scale formed the measurement model of the Structural Equation Model (SEM) of the study. The factor loadings of the new 15-item TPB questionnaire are subsequently reported in table 5.8.

Table 5.7: Factor loadings (Standardised regression weights) for the 22-item TPB questionnaire

	β	t-values	*P*-value
AT19	0.82		0.00
AT20	0.85	17.34	0.00
AT21	0.86	17.66	0.00
AT22	0.82	16.48	0.00
AT23	0.78	15.35	0.00
SN24	0.77		0.00
SN25	0.85	14.06	0.00
SN26	0.65	10.94	0.00
SN27	0.68	11.44	0.00
PBC28	0.82		0.00
PBC29	0.71	12.50	0.00
PBC30	0.73	12.90	0.00
PBC31	0.69	12.12	0.00
BI32	0.69		0.00
BI33	0.76	11.32	0.00
BI34	0.72	10.88	0.00
BI35	0.64	9.76	0.00
BI36	0.70	10.61	0.00
AB38	0.73		0.00
AB39	0.80	12.29	0.00
AB40	0.76	11.92	0.00
AB41	0.60	9.58	0.00

Source: Field data, 2017

5.4 THE STRUCTURAL EQUATION MODEL (SEM)

The hypothesised model of the study is displayed in figure 5.1. Firstly, the study hypothesised that an individual's intention to adopt a sound waste disposal behaviour does

not mediate the individual's attitude, subjective norm, perceived behavioural control towards waste disposal and the actual behaviour. Secondly, the study hypothesised that demographic characteristics (gender, age, education, and income) of respondents have no statistical signifcant effect on individual's actual waste disposal behaviour.

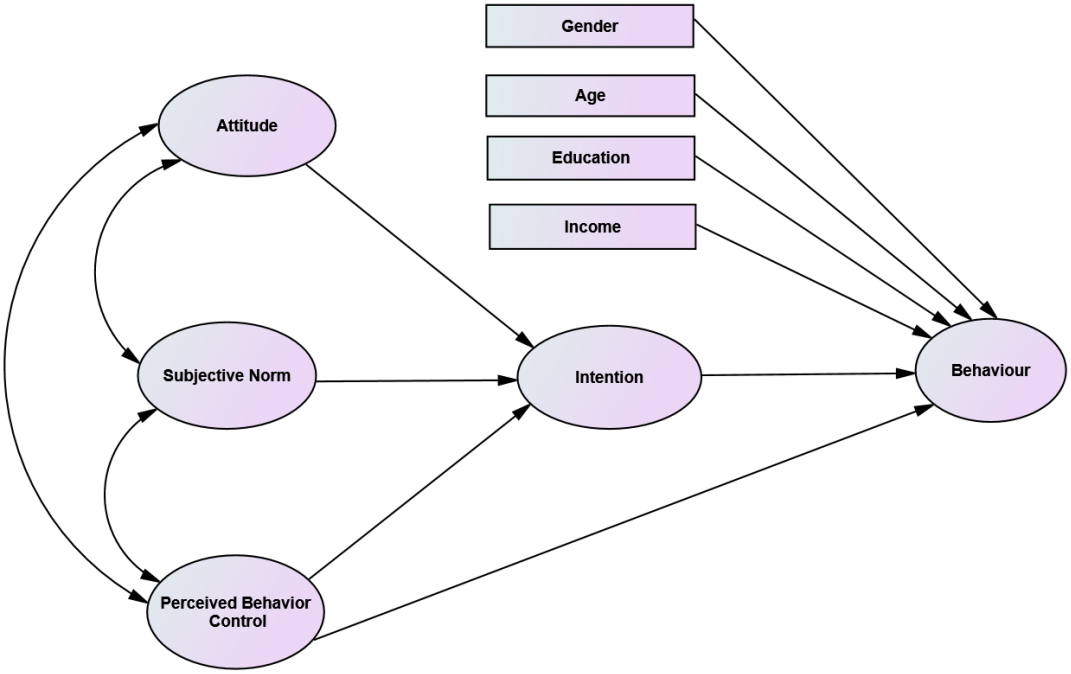

Figure 5.1: The Hypothesised Model
Source: Field data, 2017

5.4.1 Basic Composition of SEM

In SEM, there are two models: the measurement model and the structural model. The first model, which is the measurement model, is a representation of the relationship between the observed and the unobserved variables in the model. This measurement model reveals the correlation between the scores on a measuring instrument and the underlying constructs they are expected to measure. From the foregoing explanation, the measurement model, therefore, represents the confirmatory factor analysis (CFA), in that, it specifies the pattern by which each measure or item loads on a particular factor. During the CFA, the focus is

on validating the model and no attempt is made at explaining the relationships between or among the constructs. In other words, CFA assists in understanding how the measured variables cluster together to portray a construct(s). CFA is mainly used for validation and reliability checks purposes. Two purposes structure the use of CFA:

1) It confirms a hypothesised factor structure; and

2) It is used to validate the measurement model.

Unlike measurement models, in the structural model, relationships among unobserved variables are explained. Structural models explain how latent variables influence each other in a direct or indirect way. Because structural models seek to explain how variables are related to each other, they are very useful in hypotheses testing.

A two-step structural equation modelling strategy using IBM SPSS Amos 21 (Arbuckle, 2010) was adopted in this study. In the first instance, the estimation of the measurement model was performed. Secondly, the estimation of the structural model was performed. The factor loadings from the estimation of the measurement model were presented.

5.4.2 Validation of the Measurement Model: Psychometric Checks

A Confirmatory Factor Analysis (CFA) was carried out through Amos 21. Measurement model validity relies on verifying adequate levels of goodness-of–fit for the measurement model and finding particular proof of construct validity. Validity is described as the degree to which information gathering techniques definitely measure what they were meant to measure (Saunders & Thornhill, 2003). To fulfil the validity process, the following are the two main validity and reliability checks that were conveyed:

- Convergent validity
- Composite Reliability

5.4.2.1 Convergent Validity

Convergent validity is achieved when every item in a construct intensely correlates with its expected theoretical construct. The expectation is that the items that are the pointers of a construct should converge or share a high proportion of variance in common. The proportion of variance extends within zero and one (0 – 1), and the expected level of standardised loadings for items that measure a construct is 0.70, however, 0.60 is likewise an adequate level (Barclay, Higgins & Thompson, 1995). In this study, convergent validity was examined through the t-statistic for each factor loading. From the examination, it has been observed that all factor loadings are greater than 0.70 and range from 0.71 to 0.86. The standardised factor loadings (λ) of all items of each construct in the measurement model are presented in table 5.7.

Convergent validity was assessed for the thirteen (13) constructs employing three criteria prescribed by Fornell and Larcker (1981):

(1) All estimation factor loadings must be noteworthy and surpass 0.70;

(2) Construct reliabilities must surpass 0.80; and

(3) Average Variance Extracted (AVE) by each construct must surpass the difference because of estimation error for that construct (that is, AVE ought to surpass 0.50).

For a convergent validity in structural equation modelling, the factor loadings and AVE ought to be more prominent than 0.5 (Fornell and Larcker, 1981). The average variance extracted (AVE) for each of the variables is manually ascertained for every one of the constructs using the given formula below:

$$AVE = \frac{\sum_{i=1}^{k} \lambda_i^2}{\sum_{i=1}^{k} \lambda_i^2 + \Sigma_{i=1}^{k} \vee ar(e_i)}$$

From the forgoing equation, λ is the standardised factor loadings and $var(e_i)$ is the measurement error of each indicator. The mathematical equation can be reduced in a simple form as sum of squared standard loadings divided by the addition of sum of squared standard loadings and sum of indicator measure errors. For example, the average variance extracted (AVE) for the factor 'Attitude' was calculated in the following way:

$$\frac{(0.82)^2+(0.89)^2+(0.86)^2+(0.82)^2+(0.78)^2}{[(0.82)^2+(0.89)^2+(0.86)^2+(0.82)^2+(0.78)^2] + [(0.49)+(0.39)+(0.36)+(0.42)+(0.59)]}$$

That is AVE for Attitude is 3.4 / (3.4 + 2.25). Therefore, AVE for Attitude = 0.60. The AVE and the construct factor loadings are displayed in table 5.7. As observed from the table, all AVE values and factor loadings are higher than 0.50. For every one of the constructs, all items have high loadings, with greater part exceeding 0.70, in this manner, indicating convergent validity.

5.4.2.2 Composite Reliability

To achieve construct validity, it is required that score reliability must be achieved (i.e. factor loadings of items must indicate that they are measuring a construct). Reliability is understood as the degree to which measurements are free from error and thus produces consistent results. From the perspective of Carmines & Zeller (1979), reliability is defined in general as the extent to which a measure, procedure, or instrument yields the same result on repetitive analyses. Hair, Anderson, Tathman, & Black (1998) postulates that reliability can be helpful in assessing the degree of consistency among multiple measurements of variables. In this study, reliability is explained as the internal consistency of a scale, which assesses the degree to which the items are measuring the same construct. In other words, the internal consistency of a scale is achieved when all items are viewed as analogous measures underlying the same construct of interest. The standard way of assessing composite

reliability is to accept all path loadings from construct to measures greater or equal to 0.70. Composite reliability measures the overall reliability of a set of items loaded on a latent construct. The threshold of acceptability is 0.70 and above because values greater than 0.70 is indicative of a good reliability. Path loadings between 0.60 and 0.70 are additionally acceptable if other indicators of the construct's validity are good (Hair et al., 2006).

Fornell's composite reliability (CR) was used in testing the internal reliability of the measurement models (Fornell & Larcker, 1981). Reliability of factor elements was assessed by checking composite reliability. The CR ought to be more prominent than the benchmark of 0.70 to be viewed as satisfactory (Fornell and Larcker, 1981). The formula for ascertaining CR is as per the following:

$$CR = \frac{\left(\sum_{i=1}^{k} \lambda_i\right)^2}{\left(\sum_{i=1}^{k} \lambda_i\right)^2 + \left(\sum_{i=1}^{k} e_i\right)}$$

Where λ is the standardised factor loadings and e_i is the indicator measurement error. This can be explained as the square of sum of standardised factor loadings divided by square of sum of loadings plus sum of indicator measurement errors. For instance, the CR for the dimension 'Attitude' was calculated as demonstrated below:

$$\frac{[(0.82) + (0.89) + (0.86) + (0.82) + (0.78)]^2}{[(0.82) + (0.89) + (0.86) + (0.82) + (0.78)]^2 + [(0.49) + (0.39) + (0.36) + (0.42) + (0.59)]}$$

That is CR for Attitude is 17.3889 / (17.3889 + 2.25). Consequently, the composite reliability for the construct 'Attitude' is found to be 0.89. Essentially, composite reliabilities for different constructs were evaluated. The composite reliability and AVE'S of all constructs are exhibited in table 5.8. All composite reliabilities of constructs have a value higher than 0.70, showing sufficient internal consistency.

Table 5.8: Psychometric properties of the new 15-item TPB Questionnaire

Constructs	Items	Standardised Loadings	CR	AVE	Cronbach's Alpha α
Attitude	AT19	0.82	**0.89**	**0.60**	**0.91**
	AT20	0.85			
	AT21	0.86			
	AT22	0.82			
	AT23	0.78			
Subjective Norm	SN24	0.82	**0.78**	**0.84**	**0.80**
	SN25	0.81			
Perceived Behavioural Control	PBC28	0.79	**0.76**	**0.62**	**0.76**
	PBC30	0.77			
Behavioural Intention	BI33	0.73	**0.80**	**0.58**	**0.77**
	BI34	0.73			
	BI36	0.71			
Actual Behaviour	AB38	0.75	**0.80**	**0.58**	**0.81**
	AB39	0.84			
	AB40	0.71			

Source: Field data, 2017

5.5 THE MEASUREMENT MODEL

The study tested the first measurement model in the study hypothesis. A confirmatory factor analysis of the measurement model was assessed in IBM SPSS Amos 21**,** and Figure 5.2 displays the path coefficients generated in the analysis. The Chi-square and fit indexes are shown in table 5.9. Although the Chi-square test of the model was statistically significant with a value of 221.86 (80, *N*=310), $p < 0.001$, the model yielded acceptable fit indexes for RMSEA; however, NFI, CFI, and GFI values indicate a marginal fit of the model. All path coefficients achieved statistical significance (p=0.001) and practical significance (standardised regression estimates greater or equal to 0.70). Therefore, a modification was not conducted to improve the measurement model. The model comparison fit measures,

AIC and BCC were all reasonably small, indicating a marginal fit between the model and the data. The result suggests that *Attitude, Perceived Behaviour Control, Subjective Norm, Behavioural Intention, and Actual Behaviour* are all indicators of the Planned Behaviour Model (PBM).

Table 5. 9: Chi-square and Goodness of Fit Indices for Confirmatory Factor model of PBM

Factor model	χ^2	df	GFI	NFI	CFI	RMSEA	AIC	BCC
Original	221.86	80	0.91	0.90	0.94	0.08 (0.06-0.09)	301.86	306.23

χ=Chi-square; df=degree of freedom; GFI=Goodness of Fit Index; Normed Fit Index; CFI=Comparative Fit Index; Root Mean Square of Error Approximation; AIC=Akaike Information Criterion; BCC= Brown-Cudeck Criterion.

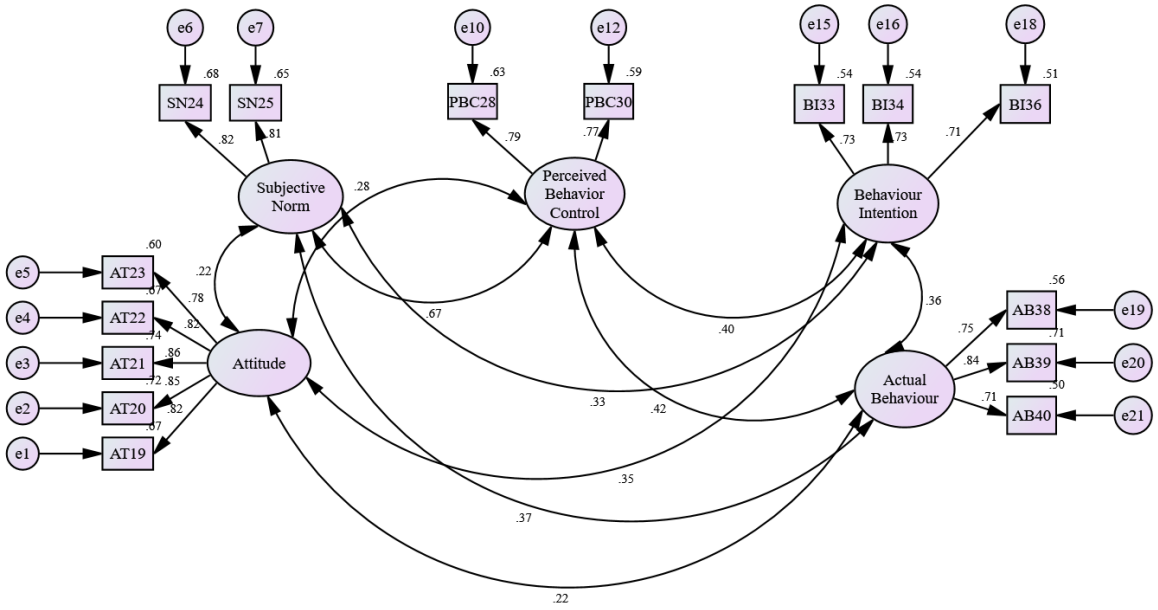

Figure 5.2: The Measurement Model
Source: Field data, 2017

5.5.1 Study—or Hypothesised—Model

A two-stage structural equation modelling technique using IBM SPSS Amos 21 (Arbuckle, 2010) was adopted; a full-information maximum likelihood procedure was utilised in assessing the parameters. This procedure or technique incorporates the diverse estimation of the measurement model preceding the simultaneous estimation of the measurement model and the structural model. Despite the fact that the measurement model gives an evaluation of convergent validity and discriminant validity of the latent variable (planned behaviour model), the measurement model in conjunction with the structural model supports an exhaustive appraisal of the full model. The present structural model, shown schematically in figure 5.3, assessed: the direct effect of behavioural intention on actual behaviour; direct effect of perceived behavioural control on actual behaviour; the indirect effect of subjective norm on actual behaviour via behavioural intention; the indirect effect of attitude on actual behaviour via behavioural intention; and the indirect effect of perceived behavioural control on actual behaviour via behavioural intention. The structural model also assessed the direct effects of gender, age, education, and income on actual behaviour.

The hypothesised model accounted for 25% of the variance in actual behaviour, which was mostly due to the direct effect of perceived behavioural control. To assess how well the hypothesised model fits the data, many fit indexes from the SEM text output (under model fit) are to be reported against the thresholds of the various fit measures. Therefore, values of fit measures that are within acceptable range suggest the acceptability of the hypothesised model. Several fit measures are to be reported to be certain about how well the hypothesised model fits the data. Several criteria (fit measures) were employed to assess the hypothesised model.

Five criteria were employed to assess the hypothesised model. The Chi-square test was statistically significant, χ^2 (144, N= 310) =406.89, P= 0.00, suggesting the model failed to

fit the data. However, the significance of the chi square is influenced by sample size, therefore, reporting other fit measures can truly explain how well the model fits the data. The Root Mean Square Error of Approximation (RMSEA) was 0.07 (with a 90% confidence interval: 0.07 and 0.09) indicated that the model is acceptable. However, other fit measures suggest that the hypothesised model is unacceptable. The Normed Fit Index (NFI), the Adjusted Goodness of Fit Index (AGFI), the Goodness of Fit Index (GFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), and Parsimonious Goodness of Fit Index (PGFI) indicated unacceptable fit at values of 0.84, 0.84, 0.88, 0.89, 0.89, and 0.67, respectively. Four of the path coefficients achieve statistical significance (p=0.001), and one achieved practical significance (standardised regression estimates greater or equal to 0.30). None of the demographic variables achieved both statistical and practical significance, indicating that there was no significant relationship between any of the demographic variables – gender, age, education, and income and actual behaviour of properly disposing of waste. The only path that achieved practical significance is Perceived behavioural control on Actual Behaviour. Therefore, a modification was conducted to improve the full model. To improve the study model, all the demographic variables were removed (see, tables 5.10 and 5.11).

Table 5.10: Path and Statistical Coefficients of the Study Model

	β	**S.E.**	**t-value**	**P**
Behavioural Intention <---Perceived Behavioural Control	0.25	.11	2.20	0.03
Behavioural Intention<---Attitude	0.26	.05	3.75	0.00
Behavioural Intention<---Subjective Norm	0.11	.09	0.99	0.32
Actual Behaviour<---Gender	0.06	.09	1.08	0.28
Actual Behaviour<---Age	0.06	.04	1.09	0.28
Actual Behaviour<---Education	-0.01	.03	-0.19	0.85
Actual Behaviour<---Income	-0.03	.02	-0.50	0.62
Actual Behaviour<---Behavioural Intention	0.23	.08	3.04	0.00
Actual Behaviour<---Perceived Behavioural Control	0.35	.08	4.46	0.00

Source: Filed data, 2017.

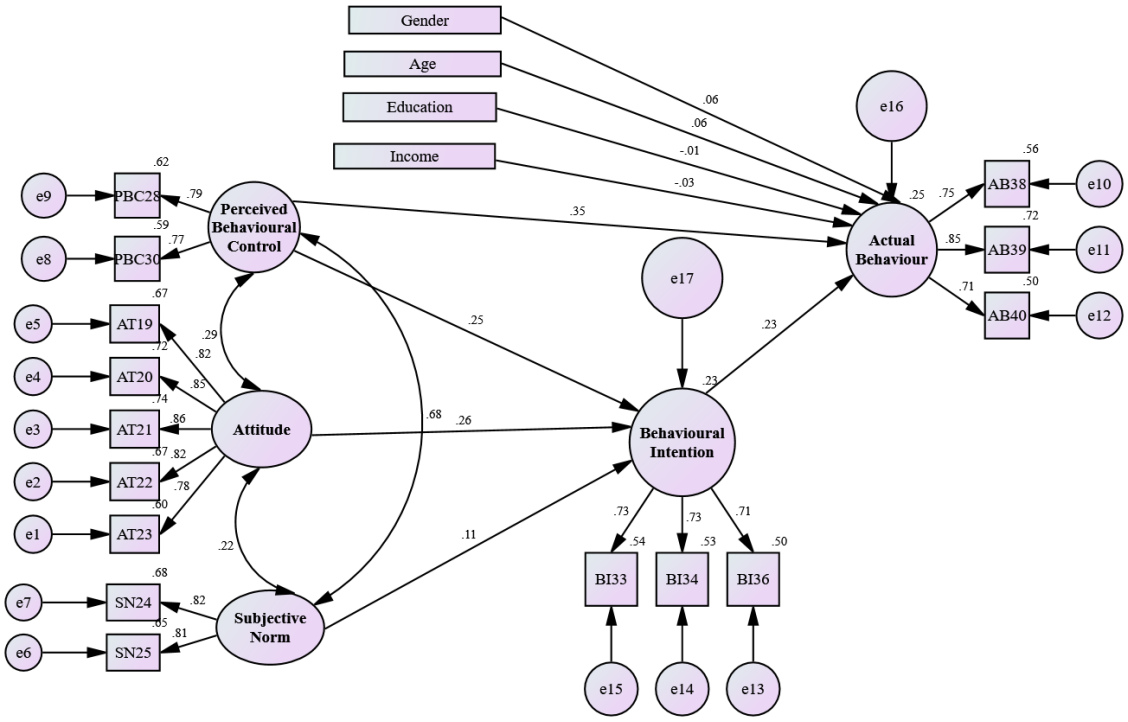

Figure 5.3: The tested Study Model
Source: Field data, 2017.

Labelling of all the 24-items of the planned behaviour model commenced from number 19 and continued all through to number 42 (as explained in chapter 4). This implies that 5 items for Attitude (AT) labeled from: AT 19 to AT23; 4 items under subjective norm (SN): SN24 – SN 27; 4 items for Perceived Behavioural Control (PBC): PBC28 – PBC 31; 5 items for behavioural intention (BI): 32 – BI 36; and 6 items under actual behaviour (AB): AB37 – AB42. The above tested study model is further modified.

5.5.2 The Modified Study Model

The modified model explained 24% of the variance in actual behaviour, which was due to the direct effect of perceived behavioural control. In the modified model (Figure 5.4), the chi-square test was statistically significant, $\chi^2(82, N=310) = 224.11$, P=0.00, suggesting that the model does not fit the data well. Root Mean Square Error of Approximation (RMSEA), Normed Fit Index (NFI), and Adjusted Goodness of Fit index (AGFI) indicated good fit at values of 0.07 [with a 90% confidence interval: 0.06-0.09], and marginal fits at values of

0.90, and 0.87, respectively. Other fit measures indicated marginal fits. Goodness of Fit index (GFI), Comparative Fit Index (CFI), and Parsimonious Goodness of Fit index (PGFI) indicated that the model marginally fit the data at values of 0.91, 0.94, and 0.62, respectively. One relative measure and parsimonious measure indicated that the model is a good fit. Incremental Fit Index (IFI) and Parsimonious Normed Fit Index (PNFI) at values of 0.94 and 0.71, respectively, suggest that the model is a good fit to the data. Only one of the path coefficient in the modified model failed to achieve statistical significance (*p=0.001*). Only one path coefficient achieved practical significance (standardised regression estimates greater or equal to 0.30). This is also presented in table 5.11 below.

Table 5.11: Path and Statistical Coefficients of the Modified Study Model

	β	S.E.	t-value	P
Behavioural Intention <---Perceived Behavioural Control	0.25	.11	2.20	0.03
Behavioural Intention<---Attitude	0.26	.05	3.75	0.00
Behavioural Intention<---Subjective Norm	0.11	.09	0.99	0.32
Actual Behaviour<---Behavioural Intention	0.23	.08	3.04	0.00
Actual Behaviour<---Perceived Behavioural Control	0.35	.08	4.42	0.00

Source: Field data, 2017.

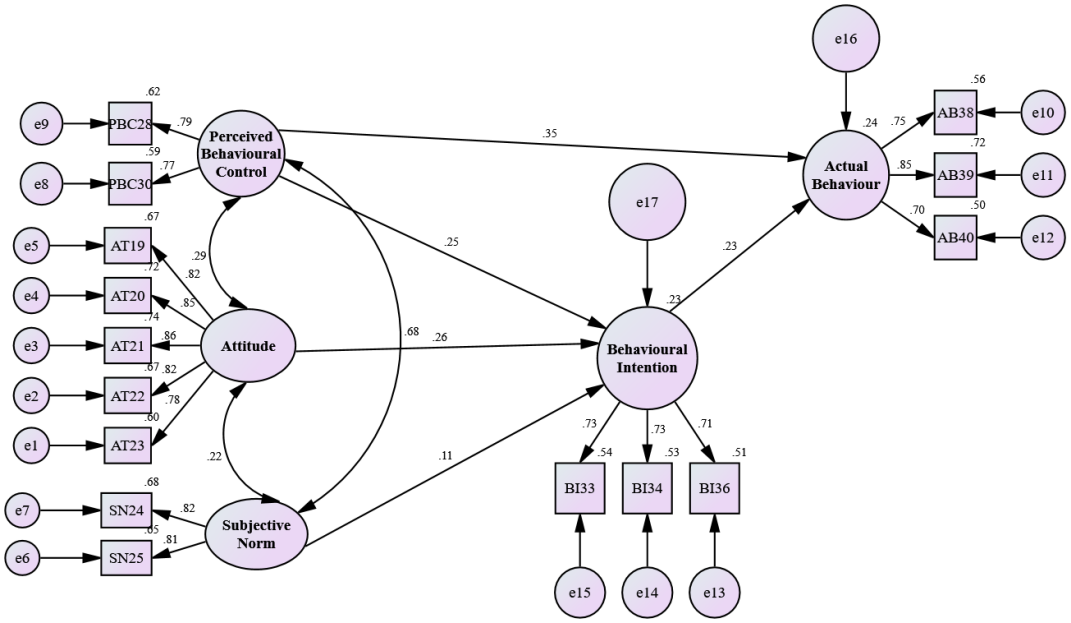

Figure 5.4: The Modified Study Model

Source: Field data, 2017.

5.6 INTERPRETATION OF THE RESULTS IN RELATION TO THE HYPOTHESES

The following interpretations from tables 5.9 and 5.10 have been arrived at and how they related with the study's hypothesis:

Perceived behavioural control positively and statistically related with Behavioural intention of disposing of waste (β=0.25, p=0.03) with t-value greater than 1.96 (2.20). [This result does not support the following hypothesis: H_3: There is no statistically significant relationship between individual perceived behavioural control and their intentions to engage in waste disposal behaviour. Thus, the study failed to accept the hypothesis].

Attitude positively and statistically related with behavioural intention of disposing of waste (β=0.26, p=0.00) with t-value greater than 2.575 (3.75). [This result does not support the following: H_1: There is no statistically significant relationship between attitude and individuals' intentions to engage in waste disposal behaviour. Thus, the study failed to accept the hypothesis].

Subjective norm did not statistically relate with behavioural intention of disposing of waste (β=0.11, p=0.32) with t-value less than 2.575 (0.99). [This result does support the following hypothesis: H_2: There is no statistically significant relationship between individuals' subjective norms and their intentions to engage in waste disposal behaviour. Thus, the study failed to reject the hypothesis].

Gender does not positively and statistically relate with Behavioural intention of disposing of waste (β=0.06, p=0.28) with t-value less than 2.575 (1.08). [This result does support the following hypothesis: $H6_b$: There is no statistically significant relationship between individual's gender and their waste disposal behaviour. Thus, the study failed to reject the hypothesis].

Age did not statistically relate with behavioural intention of disposing of waste (β=0.06, p=0.28) with t-value less than 2.575 (1.09). [This result does support the following hypothesis: $H6_a$: There is no statistically significant relationship between individuals' age and their waste disposal behaviour. Thus, the study failed to reject the hypothesis].

Education did not statistically relate with Behavioural intention of disposing of waste (β=-0.01, p=0.85) with t-value less than 2.575 (-0.19). [This result does support the following hypothesis: $H6_c$: There is no statistically significant relationship between individual's education level and their waste disposal behaviour. Thus, the study failed to reject the hypothesis].

Income did not positively and statistically relate with Behavioural intention of disposing of waste (β=-0.03, p=0.62) with t-value less than 2.575 (-0.50). [This result does support the following hypothesis: $H6_d$: There is no statistically significant relationship between individual's income levels and their waste disposal behaviour. Thus, the study failed to reject the hypothesis].

Perceived behavioural control positively and statistically related with actual behaviour of disposing of waste (β=0.35, p=0.00) with t-value greater than 2.575 (4.46). [This result does not support the following hypothesis: H_4: There is no statistically significant relationship between individuals' perceived behaviour control and their actual waste disposal behaviour. Thus, the study failed to accept the hypothesis].

Behavioural intentions positively and statistically related with actual behaviour of disposing of waste (β=0.35, p=0.00) with t-value greater than 2.575 (3.04). [This result does not support the following hypothesis: H_5: There is no statistically significant relationship between individuals' subjective norms and their intentions to engage in waste disposal behaviour. Thus, the study failed to accept the hypothesis].

5.7 DISCUSSIONS OF FINDINGS

In this section, the research findings discuss in relation to the research objectives that were postulated. The discussions are under two main issues which seek to answer the research objective. The first issue is to discuss in relation to existing literature, the findings of the relationship between the antecedents of waste disposal behaviour and the actual behaviour. In this discussion, four major hypothesis are discussed based on what the study found and the arguments that were presented in literature. The second aspect of this section also discusses the findings on the moderating effect of the demographic variables of age, gender, educational level and income. The fundamental issue underpinning this study is to examine the behavioural factors that will determine waste disposal behaviour of individuals.

5.7.1 The Relationship between Antecedents of Waste Disposal and Waste Disposal Behaviour

The section on the discussions of findings is organised under the waste disposal behaviour variables of attitudes, subjective norms, perceived behavioural control and intentions and comparing these results with the findings of other studies. This study sought to test the hypothesis that the attitudes, subjective norms, and perceived behavioural control do not lead to the adoption of waste disposal behaviour among respondents. These hypotheses are very different from the numerous studies which proposed a statistical and significant relationship between these variables and waste disposal behaviour. The four antecedents of waste disposal behaviour were adopted from the Theory of Planned Behaviour by Ajzen (1991). This theory, serving as the fundamental basis for this study, posits that before an individual decides and becomes willing and capable to adopt a behaviour, the individual's attitude towards the behaviour, the subjective norms relating to the behaviour, the perceived behavioural control must lead to the development of intentions to perform the behaviour. The second path of the relationship is to test for a hypothesis on the relationship between

intentions of performing waste disposal behaviour and the adopting the behaviour. This led to a proposed hypothesis that there is no significant and statistical relationship between intentions and waste disposal behaviour.

With the first variable which is attitudes towards waste disposal, the study found that there exist moderate levels of positive attitudes towards waste management. The means that individuals did not have very strong positive attitudes towards proper waste disposal. The highest mean (in my opinion proper waste disposal is a good activity) was an average response, therefore, there was a sign that the respondents did not strongly agree to have the positive attitude to adopt waste disposal. The existence of some level of positive attitude towards the behaviour (waste disposal) is very important in developing the initiation process of marketing the behaviour change (proper waste disposal) to the people. The study of Tucker and Spiers (2003) argue that attitudes of individuals are very crucial in attaining behavioural change in household waste management. On the relationship between individual attitudes and the intention to adopt waste disposal practices, the study found that there was a significant relationship. This result is consistent with a number of studies which have sought to link individual attitudes and waste management practices (Rex, Lobo & Leckie, 2015; Tonglet et al., 2004). These studies propose that before individuals develop the intention to perform a behaviour, there should be a positive attitude towards that behaviour. However, the study of Cordano and Frieze (2000) found that attitude is not positively related to friendly environmental behaviour. This research adds to the result that the attitudes of respondents in this Ghanaian study are found to be significant to the development of intentions to perform proper waste disposal. The implication, therefore, is that social marketing campaigns on waste disposal have been able to build positive attitudes among individuals in the study area in the Greater Accra Region. The hypothesis, therefore,

is not supported as attitudes were seen to have a positive and significant relationship with behavioural intentions to dispose of waste.

The findings on the effect of subjective norms on the behavioural intentions of respondents were also presented. The findings suggest that just as attitudes, respondents did not agree they possess high levels of subjective norms when in relation to waste disposal. The means of the questionnaire items is an indication that respondents do not believe they are highly influenced by family, and other people in their communities to properly dispose of waste. On the average, the respondents somehow believe subjective norms play a role in their attempt to dispose of waste. Therefore, the study in an attempt to establish the relationship between subjective norms and behavioural intentions to dispose of waste was necessary. The study found that there was no statistical and significant relationship between subjective norms and behavioural intentions to dispose of waste. This was the only hypothesis that was supported by the entire study. This also was surprising as majority of social marketing studies have argued that subjective norm is significant in predicting behaviour change especially, with waste management studies, (Mancha & Yoder, 2015; Rex et al., 2015; Pakpour et al., 2014; Ramayah et al., 2012; Mannetti et al., 2004; Tonglet et al. 2004). The findings in the Ghanaian context indicate that subjective norm is not a predictor of proper waste disposal intentions is very surprising and thus calls for scrutiny. One of the reasons that this work could attribute to this situation is that individuals within the study area in the Greater Accra Region are not influenced by other community members as there are inadequate social environmental programmes having the support of the people. There is also a belief that the waste disposal campaigns in Ghana are not designed using referent groups in order to help build up the subjective norms of the people. According to Wang et al. (2016), one referent group is the government which, must be seen to be at the forefront of waste management campaigns. It is, therefore, obvious that contrary to other studies, this

study does not acknowledge the existence of social pressure emanating from family (internal referents), friends, neighbours, and social groups (external referents) to perform certain waste disposal behaviours.

Furthermore, this study also presented the findings on the effect of perceived behavioural control on intention to dispose of waste. The four items measuring the perceived behavioural control were very low; meaning that the respondents did not have a firm control over their ability to properly perform waste disposal behaviour. The general perception of the respondents indicates they did not possess higher behavioural control in performing waste disposal behaviours. The study further sought to assess the relationship between perceived behavioural control and waste disposal behavioural intentions. In this regard, the study found that there is a statistical and significant relationship between perceived behavioural control and behavioural intentions to properly dispose of waste. Again, the hypothesis proposed that there is no significant relationship between perceived behavioural control and intentions to dispose of waste was found not to be supported. However, these findings in the Ghanaian context is collaborated by other studies that perceived behavioural control is a predictor of behavioural intention to dispose of waste (Hasan, Harun, & Hock, 2015; Tonglet et al, 2004; Pakpour et al., 2014). This implies that respondents within the study area have the requisite control over disposing of waste which is an indication that respondents believe it is easy to properly dispose of waste.

The study also conducted a second path analysis to establish the relationship between behavioural intentions of disposing of waste and the actual behaviour of waste disposal. The study found that there is a statistical significance between behavioural intentions and actual waste disposal behaviour. This finding did not support the proposed hypothesis that the behavioural intentions to adopt waste disposal behaviour is not statistically related to actual waste disposal behaviour.

5.7.2 The Impact of Demographic Variables on the Relationship between Antecedents of Waste Disposal and Waste Disposal Behaviour.

In the bid to discover the impact of demographic variables on the relationship between antecedents of waste disposal and the actual waste disposal behaviour, the study built on the first objective by conducting a moderation test to determine the effect of age, gender, education, and income on waste disposal behaviour. This objective of this research was informed by the arguments made by scholars that social marketing campaigns have different results depending on the demography of respondents (Hasan et al., 2015; Pakpour et al., 2014; Ghani et al., 2013).

The age of respondents was found not to be statistically significant with waste disposal behaviour. This result is consistent with the findings of Ghani et al. (2013), that age is not a discriminator in adopting waste disposal behaviour. This implies that the age of target audience does not impact the adoption of waste disposal behaviour. There is, therefore, no difference in the perception of young and old target audiences of social marketing campaigns. In this context, the intention and actual disposal of waste could be done by both young and older individuals.

The gender of respondents is not a discriminator of waste disposal behaviour. This findings of this study imply that male and female target audience of waste disposal social marketing campaigns is likely to respond in a similar manner. This finding is not in line with the study of Hasan et al. (2015), who found that the gender of the individual is statistically significant with the intention to recycle waste. Hasan et al. (2015), found that females are more likely to adopt a higher pro-environmental behaviour than men. However, this study did not find a difference in the adoption of waste disposal behaviour among female and male. This

implies that waste disposal activity could be performed equally between male and female targets.

This study also sought to assess the effect of educational level of respondent on the adoption of waste disposal. The findings of this study found that education of the individual is not a discriminator of waste disposal behaviour. This is however surprising, as other studies have found that educational level of an individual determines the adoption of waste disposal behaviour (Pakpour et al., 2014; Ghani et al., 2013). Nonetheless, a study by Hasan et al. (2015), is consistent with this results as the findings suggest that there is no difference between the waste disposal behaviour of undergraduate and postgraduate respondents. This implies that the waste disposal behaviour of respondents is likely to be performed irrespective of their level of education.

Finally, this study found that the income level of respondents does not discriminate the adoption of waste disposal behaviour. A study by Aung and Arias (2006), however, found different results which sought to imply that the income level of the target audience of waste management behaviour change campaigns plays a vital role. This study, nonetheless, did not agree with such assertion as there is no difference in waste disposal behaviour due to the income of individuals.

5.8 CHAPTER SUMMARY

This chapter provides the outcomes and analysis of the study. Synopsis measurements of the statistic qualities and attributes of sanitation campaign and the support from respondents' perspective were exhibited. Distinct measurements were computed for every one of the items in the 24-item of the TPB questionnaire. The exploratory factor and confirmatory factor analyses were performed so as to test and present the hypothesised model. The basic

composition of the structural equation modelling is further explained for the purposes of analysis. Finally, results are interpreted and discussed in relation to the hypothesis of this study.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.0 INTRODUCTION

This chapter is organised into three major sections. The chapter begins with the summary of the findings of the study based on the two research objectives. The second issue relates to the general conclusions drawn from the study on theoretical issues, methodology and findings. Finally, the chapter ends with some recommendation on future research directions and industry practice based on the findings, theoretical and methodological issues.

6.1 SUMMARY OF MAJOR FINDINGS OF THE STUDY

This study was originally intended to assess the factors affecting waste disposal intention and behaviour. Therefore, two major research objectives were formulated to achieve this. The first objective was to assess the relationship between attitudes, subjective norms, and perceived behavioural control on waste disposal intentions and behaviour. The second objective was to determine the effect of demographic variables of age, gender, education, and income on waste disposal behaviour. A conceptual framework using the theory of planned behaviour was used to show a two path relationship between three antecedents of waste disposal behaviour namely, attitudes, subjective norms, and perceived behavioural control and intentions to dispose of waste, and waste disposal behaviour. The first relationship is between the antecedents of waste disposal and intentions to properly dispose of waste, and finally the relationship between intentions to dispose of waste and actual waste disposal. The three antecedents of waste disposal behaviour were selected based on the theory of planned behaviour and were used to collect data. The survey questionnaires were developed using semi-structured questions adapted from other studies on waste management. The assessment is based on the premise that attitudes, subjective norms, and

perceived behavioural control are necessary determinants of intentions towards adopting proper waste disposal behaviour, and the resulting effect is that favourable intentions will lead to actual waste disposal behaviour. Based on propositions and findings of other studies, four hypothesis were formulated to establish that attitudes, subjective norms, and perceived behavioural control has no statistical and significant relationship with intentions to dispose of waste, and also establish that intentions to dispose of waste has no statistical and significant relationship with waste disposal. The study results found that there was a statistical and significant relationship between individual attitudes, perceived behavioural control and intentions to dispose of waste. The study also found that the subjective norm does not have a statistical and significant relationship with intentions to properly dispose of waste. These findings meant that only subjective norm supported the hypothesis that there is no statistical and significant relationship with waste disposal intentions. Thus, this findings was found not be consistent with other studies. From the discussions of the findings in the previous chapter, it was observed that majority of the studies had found that subjective norm is a determinant of proper waste management behaviour. This, therefore, presents a unique findings in the Ghanaian context that subjective norms of respondents used for the study is not a predictor of intentions to dispose of waste. The findings on the effect of attitudes and perceived behavioural control on intentions to properly dispose of waste were consistent with majority of studies reviewed. On the relationship between intentions to dispose of waste and the actual disposal of waste, the study found that there is a significant relationship between intentions to dispose of waste and actual waste disposal behaviour. This result was consistent with majority of studies identified.

The second objective of this study was to assess the impact of demographic variables on waste disposal behaviour. This objective of the study was informed by the need to determine the effect age, gender, education, and income of individuals have on waste disposal

behaviour. Other studies had advocated for the need to assess the potential effect these demographic variables could have on waste disposal behaviour in order to inform how social marketing campaigns could appeal to these segments. However, the results found that none of these demographic variables was statistically and significantly related to proper waste disposal behaviour. This implied that the differences in age, gender, income, and educational level would not affect the adoption of waste disposal behaviour in the Ghanaian context.

6.2 CONCLUSIONS

This section of the chapter is dedicated to providing a conclusion on the entire research relating to the processes, approach, and findings. The section presents a conclusion on the two objectives that were formulated by the researcher. A conclusion on how the objectives of the study were achieved and is crucial in determining the fitness of theoretical and methodological issues. This calls for a review of the theories, conceptual framework, methodology and analysis adopted to achieve the research objectives.

The researcher believes that the methodology applied in undertaking the study is in line with the methodology proposed in other studies on the subject matter. The selection of a quantitative approach implied that the research sought to test for a relationship between two or more variables. Therefore, an explanatory study was adopted to establish the relationship between antecedents of waste disposal and actual waste disposal. A survey was used as the data collection method in order to agree with the quantitative nature of the study. Survey questionnaires were developed using structure items adopted from other studies. This served as the primary source of data collected from respondents. Survey questionnaires were considered appropriate as the researcher sought to collect data that could aid in the testing of hypothesis formulated for the study. However, the use of a quantitative approach could not have been possible without an available theoretical and conceptual framework for

the study. The factors affecting waste disposal behaviour was informed by the use of the theory of planned behaviour in similar studies. This, therefore, made the use of a quantitative approach very possible.

The development of a conceptual framework was possible due to the existence of literature on the various behaviour intentions and adoption constructs. However, the researcher introduced demographic variables into the original theory of planned behaviour to assess the effect age, gender, educational and income level have on waste disposal behaviour. The literature review found that the use of the theory of planned behaviour to develop conceptual frameworks was abundant, cutting across divergent waste management and environmental protection studies. The conceptual framework showed a two path relationship between waste disposal behaviour variables. The first path relationship involved the relationship between individual attitudes, subjective norms, and perceived behavioural control and the individual intentions to dispose of waste. The second path is the relationship between individual intention to dispose of waste and actual waste disposal. This led to the development of four hypothesis illustrated in the conceptual framework. The importance of considering the demographics of a target audience in social marketing campaigns was also considered in the development of the conceptual framework.

The data collected was analysed using structural equation modelling. The analysis led to the study findings supporting or rejecting the study hypothesis. The findings suggest that there was a statistical and significant relationship between individual attitudes, perceived behavioural control and individual intentions to properly dispose of waste. Subjective norm was found not to have a statistical and significant relationship with behavioural intentions to properly dispose of waste. This suggests that the first path relationship relating to attitudes and perceived behavioural control were not supported. The study, therefore, found that the subjective norms of the respondents are likely not to affect their intentions of

properly disposing of waste which was a profound outcome of this study. It was, therefore, explained that the social marketing campaigns on waste management had not considered how the influence of other individuals and society at large could positively affect waste disposal intentions. The study also found that the attitudes and perceived behavioural control of individual are very important in ensuring the development of intentions to dispose of waste in Ghana. The second path relationship between the intentions to dispose of waste and actual waste disposal was consistent with other studies that an individual who has an intention to dispose of waste is likely to perform waste disposal behaviour.

The introduction of four behaviour variables of age, gender, education, and income resulted in very interesting findings. It was surprising to find out that these demographic variables did not have statistical significance with waste disposal behaviour. This implies that the demographic variables relating to age, gender, education, and income are not likely to discriminate the adoption of waste disposal. The findings also may be as a result of the nature of waste disposal which is a behaviour that may not be prevalent among certain groups in a society. These findings, however, are not consistent with that of other studies which demand an in-depth enquiry.

This study, therefore, provides insight into the antecedents of waste disposal intentions which is crucial in determining the adoption of waste disposal behaviour. Social marketing campaigns should, therefore, consider the behaviour change issues relating to individual attitudes, perceived behavioural control, and subjective norms. The social marketing campaigns should be dedicated to developing a positive attitude towards waste disposal, increasing individual perceived behavioural control to ensure they have the self-efficacy to perform proper waste disposal behaviours. The subjective norms were found not to be related to intentions to dispose of waste. This could be due to the fact that there is little influence of community, governmental and individual influence on waste disposal. The

major contribution of this study to literature is the revelation that subjective norms are not statistically and significantly related to intentions to properly dispose of waste.

6.3 RECOMMENDATIONS FOR RESEARCHERS

This section of the study presents some future research direction to inform the conduct of research on social marketing and waste disposal. The factors affecting waste disposal behaviour in Ghana require further studies on how social marketing principles could be used to improve the situation. The findings imply that individual attitudes and perceived behavioural control are predictors of waste disposal behaviour intentions and there is, therefore, the need to conduct studies on these variables. Also, the findings relating to the subjective norms require that future research could identify why this variable is not a predictor of the waste disposal behaviour. This could help to identify the challenges social marketers face in selling waste disposal behaviour to residents.

There is also the need to propose some research directions considering the few studies that exist on the use of social marketing to resolve the waste situation in developing countries and in Ghana. The paucity of studies on social marketing and waste management is an indication that research has not contributed much to the marketing of proper waste disposal behaviour. There is enough evidence to show that the theoretical and conceptual development is satisfactory; however, the application of these theories and concepts should be replicated in different contexts due to societal and cultural factors.

From the findings of this study, the effect of individual attitudes and perceived behavioural control of individuals is very crucial in building the intentions to adopt proper waste disposal practices. It is, therefore, prudent to replicate these variables in other studies. Also, studies on social marketing interventions could adopt the theory of planned behaviour as this theory provides the bases for understanding the intentions and the actual performance of social

change behaviour. Other social marketing theories should be adapted to replicate waste disposal studies. Some of these notable theories and models include the health belief model and the stages model amongst others.

On methodological issues, a qualitative study could be applied to study each of the behaviour change variables used in this study. This could help provide an in-depth understanding on individual attitudes towards waste disposal, the perceived behavioural control in adopting waste disposal behaviour, and the subjective norms that exist in Ghanaian communities that either promote or hinder waste disposal behaviour. The views of social marketing and waste management experts in Ghana could also help identify relevant prospects and challenges relating to waste management in Ghana. This qualitative insight could identify some distinct social marketing issues that could be incorporated in the conceptualisation of studies. Furthermore, a study on a particular social marketing intervention on waste management could serve as a case study. This case study may consider the strategies that were employed, the challenges they were faced and how target audience finally adopted or failed to adopt waste disposal behaviour. Such an approach may be considered more as a pragmatic study. The effect of a social marketing campaign in waste management could be effectively researched when there is a measure of behaviour before and after the intervention. This approach could be used to build up strategies that could be regarded as tried and tested.

6.4 RECOMMENDATIONS FOR INDUSTRY PRACTITIONERS

This section now offers some recommendations for industry practitioners and social marketers in waste management campaigns. The findings of the study suggest that social marketers and waste management experts and stakeholders should first and foremost consider the intentions of individuals to adopt waste disposal behaviour. The attitudes and

perceived behavioural control relating to waste management is very crucial in determining waste disposal intentions. This Ghanaian study is an indication that social marketers should consider the attitudes and perceived behavioural control as important factors in changing waste disposal behaviour. With subjective norms, social marketers might introduce strategies that will increase the consciousness of community members, and family so they could not act as influencers in an attempt to pressurise individuals to adopt proper waste disposal behaviour.

From the literature review, it is obvious social marketers should adopt the use of social marketing theories in developing social marketing campaigns. In this regard, the various waste management campaigns in Ghana could adopt the theory of planned behaviour to underpin the behaviour change campaign. This will require that the social marketer considers the attitudes, the perceived behaviour control, and subjective norms to ensure there exist the intention to adopt proper waste disposal behaviour. This will help resolve the challenge in social marketing where the emphasis is laid on the communication campaign only.

6.5 CHAPTER SUMMARY

This chapter provides the summary of the entire study composing of three noteworthy areas. The section starts with the rundown of the discoveries of the examination in light of the two research targets; identifies with the general conclusions drawn from the investigation on hypothetical issues, methodology and findings; and closes with some suggestion on future research bearings and industry practice in view of the discoveries.

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APPENDIX I: QUESTIONNAIRE

UNIVERSITY OF GHANA BUSINESS SCHOOL

DEPARTMENT OF MARKETING AND ENTREPRENEURSHIP

MASTER OF PHILOSOPHY IN MARKETING

The researcher is an M.PHIL Marketing student at the University of Ghana Business School. This survey seeks to elicit responses on the topic: Social Marketing on Waste Disposal Behaviours in Ghana using the theory of Planned Behaviour. Information provided will be used for academic purposes and will be treated with much confidentiality. Please take a few moments and fill out this questionnaire by ticking where appropriate.

SECTION A: Background / Demographic data of respondents

1. Are you aware of any sanitation campaign? Yes ( ) No ( )

2. Name any sanitation campaign ……..

3. Which medium exposed you to the campaign? Tv ( ) Radio ( ) Prints ( ) Online ( ) other; specify ……...

4. Gender: Male ( ) Female ( )

5. Age: 18–24 years ( ) 25–30 ( ) 31–40 ( ) 41–50 ( ) Above 50 years ( )

6. Educational Qualification: No formal Education ( ) Primary ( ) JHS Education ( ) SHS/ A 'Level ( ) Tertiary ( )

7. Occupation: Unemployed ( ) Employed ( ) Self-employed ( )

8. Income: GH¢0 – 100 ( ) GH¢101 – 200 ( ) GH¢201 – 300 ( ) GH¢301 – 400( ) GH¢401 – 500 ( ) above GH¢500 ( )

9. Marital status: Single ( ) Co-habitation ( ) Married ( ) Separated ( ) Divorce ( ) Widowed ( )

10. Where do you live? ……..……..

11. How long have you lived in this area 0 - 5 ( ) 6 – 10 ( ) 11 - 15 ( ) 16-20 ( ) Above 20 years ( )

12. Mention any waste company that works in this community? …….....

13. Do you engage in their services? Yes ( ) No ( )

14. How often does a waste company visit to collect refuse in a week? Once ( ) Twice ( ) Trice ( ) Not at all ( )

15. How much does it cost you per month to deposit your refuse? GH¢ 10–15 ( ) GH¢ 16–20 ( ) GH¢ 21–25 ( ) above GH¢ 30 ( ) Not Applicable ( )

16. Do you go to central point (container) to dump refuse? Yes ( ) No ( )

If **YES**, Please answer questions **17 and 18**

17 How often in a week? Once ( ) Twice ( ) Trice ( ) Not at all ( )

18. How much does it cost you to deposit your refuse, each time? GH¢ 1 -2 ( ) GH¢ 3–4 ( ) Above GH¢ 5 ( ) Not applicable ( )

SECTION B: Measuring Instrument for Theory of Planned Behaviour

This section of the questionnaire seeks for your candid opinions on the factors that could influence your intention to properly dispose of waste. On a scale of 1-5, please Tick [√] the response that reflect your level of agreement or otherwise in each of the under listed statements.

1 = Strongly Disagree (SD) 2 = Disagree (D) 3 = Neutral (N) 4 = Agree (A) 5 = Strongly Agree (SA)

NO	STATEMENT	SD	D	N	A	SA
	ATTITUDES					
19	In my opinion, proper waste disposal is a good activity					
20	I think proper waste disposal activity will be an interesting task					
21	For me, proper waste disposal is useful					
22	In my opinion, proper waste disposal protects the environment					
23	Waste management practices should be further promoted in Ghana					
	SUBJECTIVE NORMS					
24	My family thinks I should dispose of my waste properly					
25	My neighbours think I should participate in proper waste disposal					
26	My colleagues think I should be involved in proper waste disposal at work					
27	The community in which I live think I should properly dispose of my waste					
	PERCEIVE BEHAVIOURAL CONTROL					
28	The decision to dispose of waste is completely up to me					
29	For me, the decision to properly dispose of waste will be an easy task					
30	I have complete control in deciding whether or not to properly dispose of my waste					
31	If I wanted to, I could dispose of my waste at home					