

THE UNIVERSITY OF HULL

**An Islamic Identity Approach to Developing Pro-Recycling
Attitudes in Malaysia**

**being a Thesis submitted for the Degree of Doctor of Philosophy
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by

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“In the name of Allah, the Beneficent, the Merciful.

Praise be to Allah, Lord of the Worlds, The Beneficent, the Merciful. Master of the Day of Judgment, Thee (alone) we worship; Thee (alone) we ask for help. Show us the straight path, The path of those whom Thou hast favoured; Not the (path) of those who earn Thine anger nor of those who go astray.”

[Al-Fatiha (The Opening): 1-7]

DEDICATION

In the name of Allah S.W.T., I am dedicating this thesis:

To my parents,
Md Isa Man & Mizah Hashim

To my beloved husband,
Mohd Ghadafi Abdul Rahim

and to my dear lovely sons,
Muhammad Alif Zafran & Muhammad Arif Zafran

*For every one of you,
I can only pray that God will bestow upon you a blessed life.*

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In the name of Allah SWT, the Most Compassionate and the Most Merciful, the researcher would like to thank the Almighty Allah for His blessings and help to complete this research.

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ABSTRACT

Recycling attitude and behaviour change have been traditionally explored from a socio-psychological perspective. Recent work on integrating social marketing communications interventions to influence this attitude and behavioural change has also grown. In particular, framing as a communications strategy has formed an important focus of this renewed stream of query. However, although the individual main effects of both positive and negative framing have been studied, the findings are mixed and do not offer clear justification in environmental studies. Sufficient articles emphasise that designing effective communication tools is vital and could be one of the reinforcement mechanisms to bridge the discrepancy. Furthermore, the studies on message framing effects and how consumer responses for single or multiple messages have received limited empirical consideration. Critically earlier studies have not specifically accounted for the influence of religion and moral identity in inducing behaviour change. Yet, within the type of context this study is embedded in, i.e. Malaysia, it would seem logical to tailor any interventions based on the socio-psychology on the target audience. Given the targeted nature of social marketing campaigns, this study proposes factoring in the Islamic self-identity of the Muslim target audiences in understanding recycling attitude change.

In this study, an experimental design was employed. This study utilised a 2 (positive vs. negative) X 2 (Islamic identity framing: yes/no) X 2 (Moral identity framing: yes/no) between-subjects experimental design. Hence, eight groups (two control groups, six experimental groups) were required in total. The participants (n=850) were final-year business students at the Universiti Teknologi MARA (UiTM). The

study found that informants would reflect different degrees of advertising effectiveness in response to different combinations of advertising framings, and Islamic framing will induce a better attitude towards the ad and a greater inclination to recycling intention. The results also indicated that, positive frames may be the most salient with Islamic appeals and may work effectively when emphasised with moral identity framing. Using identity framing to embed religion in these messages could have greater persuasive impact. As such this study is the first to highlight the use of Qur'anic verses as indicators of Islamic self-identity and demonstrate the effectiveness thereof for generating social change. Given the growing use of Qur'anic verses for social marketing interventions, this initial study represents an important contribution to validating the salience of this powerful social marketing approach.

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CHAPTER ONE

INTRODUCTION

1.1 Preamble

This chapter provides the context of the study, giving an outline of the background and the research problem. It provides the research aims and objectives and summarises the structure of the thesis that follows.

1.2 The Environmental Imperative

Global warming or climate change has begun to be a concern from the beginning of the 20th century. Since then, our planet has undergone global warming, which causes an increase in global temperature and extreme weather changes (Parker, 2011). These weather changes will cause drastic problems for both human places and animal habitats. For example, rising temperature will lead to mass mortality, and animal species will die and may become extinct (Walker and King, 2008). Climate change could affect our society through impacts on different social, cultural, and natural resources. For example, climate change could affect human health, infrastructure, transportation systems, energy, food, and water supplies (Parker, 2011). Human actions, such as open burning, uncontrolled deforestation, and the use of plastic materials and chemical substances for agriculture, have contributed to the damage of the Earth (Miller, 2005; Harris, 2006). Some effects can already be observed, and humans have less than 15 years to act to avoid dangerous impacts (Walker and King, 2008; Spence et al., 2009).

The evolution of environmental concerns started in the 1970s as marketing scholars began to address environmental issues and introduced the concepts of Ecological Marketing (Fisk, 1974; Henion and Thomas, 1976) and the Ecologically Concerned Consumer (Kardash, 1976). Shortly thereafter as the concerns continued, the Brundtland Report 'Our Common Future' introduced sustainability in business and political thought. This outcome reveals that there was an imbalance in managing the nature of development, production, and consumption (WCED, 1987), and marketing had become the justification for environmental problems.

This phenomenon not only reminds us of the importance of environmental protection but also rekindles our awareness and interest in environmental issues (Chitra, 2007). Kotler and Roberto (1989) view marketing as providing solutions to environmental and social issues. They note that marketing programmes can produce life-improving social and environment change. Environmental issues have reinvigorated most green marketing strategies because the number of organisations and individuals involved with friendly environmental activities has grown. The concern regarding environmental and social issues among consumers has also increased. For example, the word green became popular, and the term became a phenomenon in the 1990s (Cronin et al., 2011). Marketing scholars have developed new terms, such as Green Marketing (Ottman, 1993; Smith, 1998), Greener Marketing (Charter, 1992; Charter and Polonsky, 1999), Environmental Marketing (Coddington, 1992; Coddington and Florain, 1993; Peattie, 1995), Enviropreneurial Marketing (Menon and Menon, 1997) and Sustainable Marketing (Van Dam and Apeldoorn, 1996; Fuller, 1999). Because of these developments, marketers started to seek new prospects in green marketing that can create more sustainable economies and societies which are becoming

increasingly important for product differentiation and competitive advantage (Porter and Linde, 1995). Nevertheless, environmental outcomes look more doubtful because corporate environmental strategies continue to shift away from sustainable strategies because they emphasise production and profit making (Said et al., 2003; Peattie and Peattie, 2009).

Today, environmental issues remain major topics because over consumption and waste disposal have been added to the list of environmental problems (Polonsky, 2011; Cole and Fieselman, 2013; Treumann and Holland, 2013; Walter, 2013). Disposing of solid waste has become one of the major problems faced by most developing and developed countries (Mohamed et al., 2008; Manaf et al., 2009; Agamuthu et al., 2009; Zahari et al., 2010).

Faced with the threat of environmental degradation, people began to re-examine their consumption and waste disposal patterns. For over three decades, recycling has been encouraged as a desirable social behaviour, but unfortunately, people do not recycle as much as they can or should. Thus far, recycling is not favoured in practice even though it has been proven that recycling is beneficial to the environment and economy. Behavioural researchers have made efforts to study pro-environmental behaviours, such as recycling, because this study may provide a broader understanding of the factors that relate to and encourage these behaviours. However, a current challenge is the gap between consumer attitudes and their recycling behaviours. A large share of the early research focused on and examined the factors that influence recycling (e.g. Treumann and Holland, 2013; Cole and Fieselman, 2013; Ramayah et al., 2012; Elgaaied, 2012; Nigbur et al., 2010; Meneses, 2010). By

contrast, only a few studies have examined consumer receptivity to green advertisements and the credibility of the message content, which leaves a significant gap in the research (Tucker et al., 2012). To bridge the gap, scholars have developed a strong interest in the potential of message framing. Consumer response to pro-environmental advertisements or green advertisements is a complex puzzle that involves the interplay of themes, framing, and message credibility (Cheng et al., 2011; Cheng and Woon, 2010; Kim and Kim, 2014; Tucker et al., 2012; Rahim et al., 2012; Ku et al., 2012; Kronrod et al., 2012).

1.3 Social Marketing Perspective: The Message Framing Strategy

The perspective on issues regarding social responsibility and the protection of the environment has changed as businesses, governments, consumers, and other members of society have perceived its importance and significance (Grinstein and Nisan, 2009; Kronrod et al., 2012). Despite growing attention to the environment and sustainable behaviour, a conclusive consensus on attitude and behaviour change for pro environmental change remains lacking (Lehman and Geller, 2004; Pelletier and Sharp, 2008). The field that seemed so productive and full of promise for crucial social change is still far from being realised because there still exists the attitude-action gap within social marketing to influence recycling behaviours (Cheng et al., 2011; Prestin and Pearce, 2010). This gap has puzzled scholars for decades (Kollmuss and Agyeman, 2002).

Several studies (e.g., White et al., 2009; Timlett and Williams, 2009; Bezzina and Dimech, 2011) suggested further investigation, reinforcing consumer beliefs and perceptions through green communication campaigns. To bridge the gap, it is crucial

to determine how the information or the types of framed advertising messages are being communicated. The communicators should make messages more effective by tailoring them to a specific behaviour and must consider the special characteristics of the target audience when delivering the messages (Tsai, 2007; Pelletier and Sharp, 2008). To understand how individual attitudes and behaviours are shaped, it is essential to develop an understanding of communication and to elucidate media and its messages. One feature in communication that has concerned many researchers is message framing.

Earlier studies on message framing effectiveness have garnered strong interest among more recent scholars who have since comprehensively covered a wide range of mainly health communication topics. This research reveals the critical role that message framing can have in harnessing a variety of behaviours, such as smoking (Yeung-Jo, 2006), regular exercise and physical activity (Arora et al., 2006), the use of sunscreen (Block and Keller, 1995), breast self-examination (Meyerowitz and Chaiken, 1987), obtaining an HIV test (Salovey and Williams-Piehota, 2004) and oral hygiene (Tsai and Tsai, 2006). Despite its extensive use regarding health-related issues, persuasive communication is still insufficient in the ecological domain. Moreover, findings from previous studies regarding environmental behaviour have urged scholars to address issues pertaining to recycling. A strategic social marketing communication strategy is required to bridge the gap.

However, promoting individual behavioural change poses a challenge to scholars seeking to encourage consumers to embrace a greener lifestyle. As many social and environmental psychologists have explored numerous theories to explain the gap

between attitudes and behaviour regarding the environment, scholars have deliberately urged extensive focus on communication strategy in future research. Several of these suggestions focus on not only designing recycling communication campaigns with specific strategies for future research (Davis et al., 2006; Timlett and Williams, 2008, 2009) but also formulating and coordinating a strong communication campaign with a specific target population to reinforce attitudes (Hong and Narayanan, 2006; Vicente and Reis, 2007, 2008; Bezzina and Dimech, 2011).

Despite the growth in social marketing framing studies, there is a lack of consensus concerning the role that positive and negative messages may have (Cesario et al., 2013). It is no surprise that the attitude-action gap in environmental behaviours is still present. Within social marketing, there remains an infancy in our understanding concerning the role that message frames have in developing a strategy to influence recycling behaviours (Cheng et al., 2011; Prestin and Pearce, 2010).

Several research suggestions regarded how to enhance campaign effectiveness, such as using multiple messages within one campaign (Beltramini and Evans, 1985), but there was still less effort in experimenting and designing other framing effects. Whilst previous studies have reported the interaction among positive-negative framed messages, little work has been done in investigating the effects of multiple frame conditions, i.e on the conjoint effects of message frames (Shah et al., 2004). Indeed, according to Chang (2007) “the role of multiple competing frames has gone largely unexplored” (ibid. p.101). The few studies exploring mixed frames demonstrate a need for research regarding the subject (Borah, 2011).

Recent research has focused on determining individual differences linked to responses towards message frames (e.g. Updegraff et al., 2007; Cho and Boster, 2008; Uskul et al., 2009) but none of these studies explore the role of subculture as a unique individual characteristic. The sub-cultural factor, such as religion-framed messages, could be the key in promoting pro-environmental behaviour. In addition, there are limited studies on moral identity in framing strategy, although frames are a component of making moral judgements and could inspire moral and cultural values within the individual (Cappella and Jamieson, 1997). Frames have been referred to as a set of “interpretative packages” (Gamson, 1989) and have important consequences given receivers of frames may conceptualised reality differently based on specific framing patterns (Borah, 2011).

The integrated effect of positive or negative framed messages with religious identity framed messages and moral identity framing could affect consumer responses to advertising messages, such as recycling. This study sees religion (Islamic identity) as a component of framing and an individual uniqueness. New alternatives are needed for future research that require more thorough evaluations to understand how competing frames reinforce and motivate existing values or push individuals in conflicting directions (Chong and Druckman, 2007).

Social marketing campaigns have been widely useful in promoting behavioural change programmes (Altman and Petkus, 1994; Carrigan et al., 2011; Walsh et al., 2010; Raftopoulou and Hogg, 2010). However, considering the attitude-action gap, further investigation is necessary regarding how a message-framing strategy can be effectively tailored to encourage recycling behaviour. Furthermore, this research

suggests that appropriate and effective use of combination message framing in recycling campaigns would lead to desired environmentally sustainable behaviour changes. A study by Randolph and Viswanath (2004) found that the creation and positioning of messages for successful campaigns received limited efforts. A growing body of research proposes the need to analyse recycling campaigns in future studies (Afroz, Hanaki, Tuddin, & Ayup, 2010; Bezzina & Dimech, 2011; Davis, et al., 2006; Timlett & Williams, 2009), particularly to consider the use of framing and message design (Cheng, et al., 2011) for a specific segmentation and population (Hong & Narayanan, 2006; Vicente & Reis, 2007). Recycling was chosen as the pro-social behaviour in this study for several reasons. First, recycling suffers from academic attention as an environmental enquiry from a social marketing perceive and there remains inconclusive findings concerning recycling attitude development. Second, recycling is an established social concern of growing global importance and therefore understanding this issue further could generate positive or pro social impact (Meneses, 2010; Meneses and Palacio, 2007; Biswas et al., 2000; see Bagozzi and Dabholkar, 1994; Lord, 1994; Shrum et al., 1994). The following discussion emphasises the objective of the study.

1.4 Research Objectives

In the previous discussion, the researcher highlighted message framing and subculture, whose influence must be well thought-out. Previous research suggests that further segmentation would be useful to develop specific communications and messages targeted at different segments. In promoting recycling behaviour in non-western countries such as Malaysia, communication practices must be tailored to the local setting (Gill, 2011). Thus, this research is focused on religion as a subculture

and uses religious texts and message framing to influence behaviour specifically targeted at Muslims in Malaysia. In addition to determining the role of Islamic-framing, this research aims to investigate how the integration of moral identity framing and positive-negative framing affect consumer responses towards advertising effectiveness in promoting recycling behaviour.

To the knowledge of the authors, there have been no studies that combine several frames, such as an Islamic identity message, a moral identity message, and a positive-negative message, in environmental advertising and that examine the combinations on advertising effectiveness. An experimental design is employed, and eight experimental groups are involved. Encouraging people to recycle will provide multiple advantages to society and the environment. However, it is unknown how Muslims consumers will perceive religious influences in promoting recycling behaviour. Because recycling is still new in Malaysia, it is unclear how an Islamic approach can encourage Muslim consumers to participate in this activity in the future. Therefore, how Muslim consumers perceive an Islamic identity message in communicating the need to recycle is proposed to influence behavioural intentions to create social order. The perceived Islamic identity message is projected as the main instrument in behaviour modification.

Considering the action-attitude gap, it is anticipated that invoking Islamic and moral identity framing in a persuasive communication will impact and thus moderate the effect of specific message frames regarding the favourableness of the resulting attitudes and future behavioural intentions. This study examines how message framing can be effectively tailored to encourage recycling behaviour. This study

identifies combinations of message frames used in recycling advertisements and their contributions to advertising effectiveness. Moreover, the present study assesses the role and effects of message framing, specifically Islamic message framing, in the prediction of recycling campaign success. This research contributes to the development of theoretical frameworks for the study of attitude–behaviour relations in the ecological domain. This research also provides an overview of the conceptual literature on framing and its role in social marketing communications. The present study intends to achieve three primary objectives:

OBJ1: To understand the nature of framing effects towards Muslims' recycling behaviour.

OBJ2: To examine the effects of framing (e.g., positive and negative framing, non-Islamic identity and Islamic identity framing, non-moral identity and moral identity framing, and Islamic identity and moral identity framing) towards ad attitude, recycling attitude and the intention to recycle.

OBJ3: To examine the relationship of ad (framing) believability on ad attitude, recycling attitude and the intention to recycle.

Several research questions are devised to further guide this study.

1.5 Research Questions

In this study, the researcher attempts to answer several questions. How can Muslims be encouraged to adopt and sustain recycling behaviours? How do Muslim consumers perceive recycling campaigns using Islamic messages? Does Islamic identity, moral identity or a combination of frames induce compliance? These

questions could provide the key to a social marketer who would like to employ framing techniques in communication programmes. Accordingly, a series of research questions are formulated:

RQ1a: Do Malaysian consumers view recycling advertisements as believable?

RQ1b: What are the message frames that affect the overall believability of recycling advertisements?

RQ2a: To what extent do the positively or negatively framed messages affect respondents' behaviour towards recycling?

RQ2b: To what extent do the non-Islamic and Islamic identity frames affect respondents' behaviour towards recycling?

RQ2c: To what extent do the non-moral and moral identity frames affect respondents' behaviour towards recycling?

RQ2d: Does Islamic identity framing affect respondents' behaviour towards recycling more than moral identity framing?

RQ3: To what extent does framing believability affect respondents' recycling attitude, attitude towards advertisements and the intention to recycle?

1.6 Significance of the Study

There are several factors that make social marketing and pro-environmental behaviour a distinct area worthy of study, and this research contributes significantly to both academic and managerial spheres. First, this research may result in a more thoughtful understanding of multi-disciplinary sustainability not only in marketing but also in psychology, religion, and environmental behaviour. These elements of social life are interconnected and inseparable and impact social structures at the individual level. This method challenges the present practice, given that promoting

pro-environmental behaviour in Muslim countries currently takes a fundamentally different approach. To date, the potential role of religion in promoting environmental behaviour has been ignored or underestimated in marketing literature. The findings from this research will link the literature on religion to environmental behaviour.

Equally important is the implication of media and public relations practitioners in promoting and fostering a sustainable lifestyle among consumers. Rigorous and intensive recycling campaigns will help targeted consumers develop a greater propensity to participate in recycling. Direct communication actions with properly planned communication strategies could effectively encourage consumers to recycle. Thus, it is important for media practitioners to communicate messages, specifically by framing the messages more appropriately, that inform and assure the targeted audience that they are doing the 'responsible thing'. This study provides a new understanding of how Muslim consumers perceive Islamic messages in recycling campaigns or ads. By understanding how identity framing affects Muslim consumers' behaviour towards recycling, this new moderating effect might create an expansion in Islamic marketing, particularly in fostering sustainable behaviour towards the environment. In addition to positive and negative framing, this study introduces new framings—Islamic identity framing and moral identity framing—as competent framings to be tested. This study could be the alternative to promote sustainability to a specific segment. This study considers multiple framing conditions because the subject has been previously unexplored (Borah, 2011; Chang, 2007).

Moreover, the present study will add to the literature regarding recycling behaviour, specifically in Malaysia, and will enhance the understanding of sustainability from a

marketing and Islamic perspective. This study could explore the potential effects of Islamic message framing on encouraging Muslims to recycle within Malaysia and could be extended to other Islamic countries. Thus, this study could provide a new alternative to recycling in Malaysia.

The proposed outcome and input from the research will expand the contemporary body of knowledge on social and Islamic marketing to bring environmental sustainability to Muslim countries. Moreover, the findings of this research could provide valuable knowledge, because this study will provide an understanding of religious beliefs to other academic disciplines, such as social marketing and environmental marketing. This contribution will provide sufficient information to major organisations and corporations to support their CSR programme and a wide range of social programmes using the Islamic approach. This study will also significantly contribute to the TPB, as researchers correlate new variables in TPB and combine the Islamic approach and TPB for a comprehensive outcome.

This study will not only bridge the gap in existing policies but also bring new hope in making nature-preserving programmes successful. This study has the potential to provide the Malaysian government and other non-governmental organisations (NGOs) a basis for policy development and implementation guidelines to encourage responsibility towards preserving nature. This study is relevant to marketing, social, psychological and environmental research.

1.7 Scope of Research

The focus of this study is to probe young Muslim consumers' responses towards different message frames to promote recycling behaviour. This study is the first step to develop communications based on an Islamic approach in Malaysia. This study, however, is limited to Muslim student samples, because developing an effective communication strategy requires a defined strategy. For messages to be communicated effectively, they should be specifically tailored to a target market of a particular audience and to an identifiable behaviour. Thus, a precise segmentation works best in a multi-racial country such as Malaysia.

1.8 Structure of the Thesis

This section provides a brief summary of the structure of the chapters. The thesis is can be summarised as being organised in the following manner:

Chapter One introduces the background, research objectives and questions of the investigating, thus contextualising the study.

The empirical review of recycling behaviour and marketing communication will be presented in Chapter Two. This review is divided into several parts. It begins with the introduction of the call for environmental action, the overview of theories, and the promotion of behavioural changes. Chapter Two also discusses the underlying theories of the studies regarding recycling followed by the prior empirical research and measurement of recycling behaviour. Moreover, this chapter presents an intensive review of the literature regarding communication strategy in marketing. The following topics will be addressed: the concept and theories of framing, prior

studies on message framing in promoting environmental behaviour, and designing an effective recycling communication campaign. Under the subsection of recycling campaigns, a review of literature germane to the relationship between religion and the environment are emphasised from the Islamic point of view.

Chapter Three outlines a detailed, step-by-step procedural examination of the methodology employed to obtain the information for this empirical study. This research employs interviews and experiments. Detailed discussions on the research instrument, sampling process, procedure during the interview and experiment and data analysis techniques applied are provided in this chapter.

Chapter Four presents the interview findings. This chapter provides the data gathered from face-to-face interviews. The interviews provide confirmation on how Islamic identity could potentially be the key to encourage Muslims to participate in pro-environmental behaviour. Whether promoting morals and good deeds is enough to encourage Muslims to recycle is still unknown, unless further experimental research is conducted. This chapter offers a point of view regarding alternative ways to persuade Muslims to participate in the recycling programme in Malaysia.

Chapter Five presents the empirical results of this study. The structure of the chapters follows the order of the developed hypotheses being tested.

In Chapter Six and Seven, the findings from the data analysis and hypotheses testing are comprehensively discussed, and the implications of this study on consumer behaviour theory and marketing practices are presented. Moreover, the limitations

experienced by the researcher in conducting the study and possible paths for future research will be discussed.

CHAPTER TWO

PROMOTING RECYCLING BEHAVIOUR: MESSAGE FRAMING AS A MARKETING STRATEGY

*“Say the right thing, in the right way to the right person,
in the right places and enough time.”*
- Lynne Doner Lotenberg

2.1 The Call For The Environmental Action

Research on recycling has been extensively done by researchers from various disciplines, depending on their discipline's orientation to describe why individuals recycle. For example, scholars tend to see recycling as a product that needs to be sold. Practitioners see the role of incentives, while social psychologists tend to study how motivational appeals affect this behaviour. Moreover, previous literatures have contributed greatly in understanding recycling behaviour among consumers. Some researchers have created and evaluated the efficacy of behavioural interventions in order to change environmentally related behaviours (Diamond and Loewy, 1991; Austin et al., 1993). In fact, previous studies have revealed the three primary targets for behavioural intervention that are certainly worth studying, namely (1) increasing recycling related behaviour, (2) decreasing residential energy use, and (3) reducing environmental litter (Geller et al., 1982; Dwyer et al., 1993). Hence, by focusing on recycling means less garbage in landfills, fewer natural resources are being reused, and less greenhouse gas is produced.

According to Arnould et al.(2004; p. 801), “disposition encompasses all the behaviours that consuming units undertake to divest themselves of undesired goods and services including reducing consumption, recycling products in multiple ways,

and separating themselves from unwanted goods.” Other than that, Gilpin (2000) specifically defines recycling as “the return of discarded or waste materials to the productive system for utilisation in the manufacture of goods, with a view to the conservation as far as practicable of non-renewable and scarce resources, contributing to sustainable development.” Without a doubt, recycling offers the best option for sustaining the environment (Latif et al., 2012; Sothirajah, 2011).

Despite of the goodness of recycling, influencing consumers to perform the target behaviour is the most challenging, even though the transformative change of the target behaviour could enhance greater environmental benefits (Lehman and Geller, 2004). In fact, promoting pro-environmental behaviours among the people towards sustainability is not an easy thing to do (Brewer and Stern, 2005). Despite of these challenges, there are hopes and alternative ways to inspire people to recycle as this behaviour would lead to great benefits if we focus on the end of the waste stream instead of reducing consumption (Gardner and Stern, 1998), and this behaviour will definitely be beneficial to the environment (Vicente and Reis, 2008; Sothirajah, 2011).

2.2 Prior Empirical Studies of Recycling Behaviour

The environmental issues have gained popularity from the public and communities, corporate organisations, and scholars due to consumers’ short-sighted lifestyles (Crane, 2000) that have led to the pollution, climate change, and the depletion of energy sources (Michael et al., 2009). From the marketing perspective, recycling behaviour can be seen as a product that needs to be promoted to the public (Shrum, et al., 1994). Despite of many failures in recycling campaigns in Malaysia, in reality,

marketing campaign can play a complementary role in an attempt to inspire recycling. Therefore, consistently promoting recycling is essential as it will positively influence recycling attitude and behaviour (Bezzina & Dimech, 2011; Timlett & Williams, 2009; Vicente & Reis, 2007, 2008).

As the quantitative research on marketing communication effectiveness on changing recycling attitude and behaviour is still scarce from social marketing view, communicating rational recycling messages will be one of the best key success factors to increase recycling behaviour (Tucker & Speirs, 2002; Vicente & Reis, 2008). From the literature, a number of authors (e.g., Davis et al., 2006; Hong & Narayanan, 2006; Timlett & Williams, 2009; Vicente & Reis, 2007, 2008) have suggested to study on communication campaign as this campaign is believed to be able to reinforce recycling attitude (Bezzina & Dimech, 2011).

As the concern rises, the attention suddenly point to the various arguments against that pessimism of previous pro-environment campaigns (Cheng et al., 2011). Firstly, social marketers should still ask whether society and consumers need to feel threatened with ecological catastrophe. Secondly, social marketers should reflect on the ethical shortcomings inherent to provoking fear and anguish in the public as fear involves a threat to personal freedom. Lastly, recent research reveals that recycling consumer is not likely driven by environmental concern as it is more inspired by the inertia of satisfaction. Indeed, “enjoy recycling” is a slogan that could counter the moral paradigm of a timorous ecology. These findings have recently been corroborated by Meneses (2010), who find that, by not using the fear of doomsday to

become the basis of the ecological ideology of the new millennium, consumer can become more oriented to recycling.

Although it is evident that message framing can play an integral role in message comprehension and subsequent action, industry lags behind in harnessing that power of message frames for recycling behaviour (Randolph & Viswanath, 2004). The combination of message framing technique and appropriate target audience may enhance the success of a social marketing recycling campaign (Randolph and Viswanath, 2004). Notably, message framing techniques are concerned with the manipulation of viewer perceptions in relation to outcomes, often revolving around benefits, i.e. gains, or costs, i.e. losses (Rothman and Salovey, 1997). For instance, Cheng et al. (2011) illustrate that the recycling behaviour can be positively influenced using gain frames, such as “if you recycle, you conserve natural resources,” or a loss frame, such as “if you do not recycle, the environment will deteriorate.” The former focuses on the benefits of adopting the behaviour, whereas the latter on the costs of not adopting. Similarly, messages about “the positive outcomes of recycling” can also reinforce positive behaviours towards recycling (Vicente & Reis, 2007).

Earlier studies have not specifically accounted for the influence of religion and moral identity in inducing behaviour change. The experiment on these framings and their interaction should provide insights that can help develop a richer understanding of user behaviour to assist practitioners in developing an effective change strategy and in facilitating the effective use of communication strategy. Accordingly, this study investigates respondents’ attitudes and intentions to adopt recycling behaviour. This

study examines not only the effects of positive-negatively framed messages, but also the effects of Islamic identity and moral identity framed messages on subsequent attitudes and behavioural intentions. Next, a brief introduction to Malaysia as a research setting with empirical evidence from past studies on consumer recycling behaviour in the country will be discussed.

2.2.1 The Socio-Psychology of Recycling Behaviour

There is growing awareness among the world's people that the environment needs to be protected so its resources can be used by future generations. Recycling is an important element in this effort. When people recycle used goods rather than throw them away, they conserve resources and energy. The activity also helps to reduce the amount of trash that is placed in landfills. Recycling further reduces the amount of trash that is burned, thereby contributing to the problem of air pollution. Because of the importance of the topic, researchers have sought to learn how people develop the attitudes that encourage them to engage in recycling behaviour. By identifying these factors, researchers can take the additional step of creating interventions that are effective in getting people to recycle. This literature review will emphasize a psychological perspective regarding the motivation to engage in recycling interventions. The main factors that encourage recycling include knowledge about its importance, identification with the social norms that pertain to it, and convenience in the location of recycling receptacles.

Various theoretical approaches have been applied to the effort to explain recycling behaviour. For example, Hornik et al. (1995) conducted a meta-analysis of previous research that emphasized a behaviourist viewpoint. As noted by these authors,

external incentives, such as money, can be used to motivate people to recycle. However, this approach is limited because the motivational effects end when the monetary reward is discontinued. Other extrinsic incentives include social influence and laws. According to Hornik & Cherian (1995), intrinsic motivation is the best predictor of recycling behaviour. For instance, people are more inclined to recycle if they believe it is important to protect the environment. Hornik et al. (1995) also noted the importance of facilitators in getting people to recycle. Facilitators are the internal and external forces that make it easier for people to participate in recycling initiatives. For example, the behaviour can be encouraged by placing recycling bins in convenient locations.

Other views on the issue have been provided by the theories associated with social psychology. As indicated by Rioux (2011), social psychologists have developed three kinds of models to explain pro-environmental behaviour: rationalist models, models concerning intentions to act, and pro-social models. The rationalist models are based on the idea that “increased environmental knowledge leads to the development of a pro-environmental attitude, which in turn fosters the development of environmentally friendly/pro-environmental behaviour” (Rioux, 2011: p.355). Several researchers have expressed agreement with this argument. For example, Martinez & Scicchitano (1998) found that many people fail to participate in recycling programs simply because they do not know what they are supposed to do (p. 293). Schultz (1999) discussed the importance of disseminating information in the development of effective recycling interventions. Barr (2003) carried out a study in which it was concluded that people are inclined to recycle and reduce waste if they are aware of the current policy debates on the subject (p. 237).

Although it is widely agreed that knowledge contributes to an attitude that accepts recycling, there is controversy regarding the extent to which a change in attitude leads to a change in behaviour. Tudor et al. (2011) conducted a survey of 566 employees in Britain and learned that employees who practiced recycling at home were more likely to participate in similar activities at work. As concluded by the researchers, this shows that the behaviours were influenced by “the underlying pro-environmental attitudes, values and beliefs of the employees” (Tudor et al., 2011: p.419). However, a contrary finding was obtained in a study by Geng et al. (2013), which used a behaviourist approach known as evaluative conditioning. Evaluative conditioning involves changing attitudes by pairing a stimulus with another stimulus that has positive or negative connotations. In the study, Geng et al. (2013) showed participants pictures of recycling activities alongside various pleasant images. The experiment was shown to cause changes in the participants’ attitudes about recycling; however, no significant changes were observed in their recycling behaviours.

Related to this, it has been argued that convenience is a vital factor in translating recycling attitudes into recycling behaviours. O'Connor et al. (2010) created an experimental condition involving the use of brightly-coloured recycling bins in three buildings on a Texas university campus. Students, teachers, staff, and visitors did not make much use of the bins when they were placed outside the classrooms. When the bins were moved inside, they were used with much greater frequency. A similar result was obtained in a study by Largo-Wight et al. (2012). As in the study by O'Connor et al. (2010), Largo-Wight et al. (2012) found that recycling behaviours increased when the receptacles were located inside buildings rather than outside. According to Largo-Wight et al. (2012), “Simply adding convenient recycling

receptacles, without education or promotional efforts, dramatically increased recycling behaviour and volume” (p. 29). In yet another study, Fisher and Ackerman (1998) found that attitudes could be changed through the use of advertising and that behaviours could be changed through the use of “highly visible recycling bins and containers” (p. 273).

Social psychologists have also utilized models that are designed to explain the intention to engage in recycling behaviours. For instance, the Theory of Reasoned Action suggests that intended behaviours arise from a combination of an individual’s attitude and social pressure (Rioux, 2011). A related perspective, the Theory of Planned Behaviour, adds the view that intentions are determined in part by “perceived behavioural control.” As noted by Rioux (2011), “this refers to the person’s perception of the ease or difficulty of performing the behaviour” (p. 356). The study by Largo-Wight et al. (2013), mentioned above, supports the Theory of Planned Behaviour. As shown in that study, recycling behaviours were greatly increased when the receptacles were made more easily accessible.

The third basic approach is found in pro-social models. As defined by Rioux (2011), pro-social models are concerned with “intentional behaviour that provides benefits to others” (p. 356). In order to understand this type of behaviour, psychologists have examined the role of social norms. Social norms are shared beliefs about how people should act (Thøgersen, 2008). As noted by Thøgersen (2008), social norms are reinforced by the use of rewards and punishment. Individuals who obey the norms benefit in various ways; those who disobey the norms might find themselves excluded from the rest of society. A specific pro-social model is found in the Norm

Activation Theory. This theory holds that people are motivated by values when they participate in specific behaviours. Recycling and other environmentally-friendly actions are motivated by a concern for other people and a feeling of responsibility toward them (Rioux, 2011). Another pro-social model is referred to as the Value-Belief-Norm Theory. This perspective indicates that pro-environmental behaviour is associated with “the belief that our individual action has consequences on the objects of our attachment (ourselves, others and the environment)” (Rioux, 2011, p. 356).

In the research literature, there are numerous studies that seek to understand recycling behaviours through the application of pro-social models. For example, Fisher & Ackerman (1998) used a social norm perspective to examine the ways that people might be motivated to engage in volunteerism and other altruistic behaviours. It was noted that motivation can be increased by making appeals to “group need.” When individuals identify with a group, they are expected to take part in activities that are good for the group as a whole rather than just for themselves (Fisher & Ackerman, 1998, p. 264). Nomura et al. (2011) used this view in their study of recycling practices in a small town in England. As demonstrated in the study, individuals were more likely to recycle when they saw the behaviour as a social norm within their neighborhoods (Nomura et al., 2011, p. 638). Barr (2003) refers to the role of “social pressure” in this process (p. 230). However, Thøgersen (2008) argues that the best results occur when social norms are internalized rather than being imposed from outside the individual (pp. 348-349).

As indicated above, social psychologists have adopted three basic approaches in their effort to explain why or why not people participate in recycling behaviours. A study

by Rioux (2011) drew on the views of Kollmuss and Agyeman to explore an approach that combines the three basic models (rationalist, intentional, and pro-social) into a single perspective. Rioux (2011) conducted research with 102 adolescent students regarding their attitudes about recycling used batteries. It was concluded that the attitudes could not be explained in simplistic terms. The students were motivated by a mixture of ethical, cognitive and affective factors when they chose to participate in the program to recycle batteries. The ethical factors included values about protecting the environment. The affective variables included a feeling of attachment to one's neighbourhood. Cognitive factors included perceived behavioural control, or the extent to which the recycling behaviour was seen as convenient and easy to carry out.

Other elements that influence recycling behaviour have also been identified. For example, Hunter et al. (2004) found that gender plays a role in potentially encouraging or discouraging people to recycle. Hunter et al. (2004) examined survey data involving respondents in twenty-two different countries. In a variety of cultural settings, women were found to engage in recycling and other environmental behaviours at a more frequent rate than men. However, it was also learned that the women were more inclined to participate in environmental activities at the private level (recycling, driving less, buying organic food, etc.) than at the public level (supporting organizations, participating in protest demonstrations, etc.) (Hunter et al., 2004, p. 692).

Kidwell et al. (2013), considered the role of political orientation in recycling behaviours. As indicated by the researchers, conservatives "tend to adhere to the

social norms of their in-group, strive for a high degree of self-control, and uphold a strong sense of duty” (Kidwell et al., 2013, p. 351). By contrast, liberals are more concerned with their subjective feelings than with group conformity. They are more likely than conservatives to base their moral views on the ideals of “caring and fairness” (Kidwell et al., 2013, p. 351). As concluded by these researchers, appeals to encourage recycling behaviours should be tailored to match the views and beliefs of conservative as opposed to liberal audiences.

Yet another view of the matter is found in a study by Trudel and Argo (2013) regarding the role of product size and distortion in the encouragement or discouragement of recycling behaviour. The researchers examined the factors that might cause a consumer to decide to throw away a used item rather than recycle it. It was found that people were more inclined to discard used products when the products were small in size. Furthermore, people were more likely to throw out items when the consumption process caused them to become distorted from their original shape. For example, a crushed aluminium can was typically regarded as being more useless than an uncrushed one. The perception of uselessness resulted in consumers throwing out such products instead of recycling them (Trudel & Argo, 2013).

2.2.2 Social Marketing as Interventions

Research has shown the various factors that motivate recycling behaviours in people. The major elements are knowledge about the importance of recycling, personal identification with the social norms that encourage recycling, and the existence of conveniently located recycling bins. These ideas have been used to develop proposals for getting people to recycle more. Some of the proposals are concerned

with the realm of education. For example, Meneses (2006) argues that recycling behaviours should be taught in the nation's classrooms. According to this author, it is important to take the different learning styles of individual students into account. As claimed by Meneses (2006), "Many environmental educational programs fail because they focus on what the organization wants to transmit instead of on how to adjust the environmental content to the pupils' learning process" (p. 20).

Other researchers have discussed the use of public education campaigns to increase recycling behaviours. As Schultz and Tabanico (2007) point out, recycling can be taught through the use of information campaigns. Such campaigns use brochures or other media to educate the community about the importance of recycling and how to go about doing it. A related approach involves the use of awareness campaigns. This approach uses statistics and other data to increase consciousness about the problems that occur when people do not recycle. Regarding the use of public information and awareness campaigns, Schultz & Tabanico (2007) note that people are influenced to participate in behaviours that they see others participating in. As these authors state, "People follow the social norm" (Schulz & Tabanico, 2007, p. 42). The authors describe a specific approach that can be useful for encouraging recycling behaviours throughout the country. In the approach, known as Community-Based Social Marketing, people are encouraged to overcome the barriers to a targeted behaviour. Community-Based Social Marketing has been found effective for getting people to engage in various environmentally-responsible behaviours including recycling. For example, it was used to increase oil recycling among people residing in three different counties in California (Schultz & Tabanico, 2007, pp. 42-43).

Other studies have emphasized the importance of providing information more directly to consumers. It has been argued that recycling can be increased through the use of signs in public places or by delivering information to people in their homes. Larson et al. (1995), for example, conducted an experiment in which informational signs were placed over aluminium can recycling receptacles in three university buildings. The presence of the signs caused a 65 percent increase in the use of the receptacles (Larson et al., 1995, p. 116). The researchers further noted that recycling behaviours declined when the signs were removed. A similar result was found in a study conducted by Werner et al. (2004) on the use of signs to encourage recycling of used newspapers. It was learned that a simple prompt to recycle was not as effective as a sign that contained information about why it is important to engage in such behaviour.

It has further been found that recycling can be increased among individuals by providing them with feedback from the community. For example, Nomura et al. (2011) studied the recycling of food waste on 318 streets in the city of Oldham, Great Britain. Some of the streets were assigned to a treatment group. The residents of those streets received postcards that told them how well their streets were performing on food waste recycling in comparison with other streets in the neighbourhood. The results were compared with the control group, which consisted of residents on streets that did not receive postcards. The results showed a noticeable increase in recycling among households in the treatment group. The effect was particularly strong when the feedback messages were repeated over time. In addition, the feedback was especially effective among residents living on shorter streets as opposed to longer ones. According to Nomura et al. (2011), this seems to indicate

that people are more likely to conform to a social norm when they see themselves as part of a relatively small and intimate group (p. 651). Being part of a larger group increases one's feeling of anonymity, thereby reducing the incentive to conform.

Another study on the role of feedback was conducted by Schultz (1999). Schultz examined a curbside recycling program among 605 residents in a community in Southern California. The households were randomly assigned to five different groups. One group of residents received a simple plea to participate in the recycling program. Three other groups received pleas plus information, pleas plus neighbourhood feedback, and pleas plus individual household feedback. The fifth group served as a control and did not receive any pleas or feedback. The different kinds of pleas were delivered to the residents in the form of notices that were hung on their doors. As shown in the results, a higher rate of compliance with the recycling program was found among the residents who received feedback (Schultz, 1999, p. 35). The results of the study support the view that awareness of social norms is an important element in encouraging people to recycle.

An interesting perspective on recycling can be found in a study by Wu et al. (2013), which looked at the effects of living in a sustainable building. As defined by these authors, a sustainable building is a structure that has been built "with the hope that the building itself encourages behavioural change" (Wu et al., 2013, p. 1). This is accomplished, in part, through the use of persuasive signs. According to the study results, simply being in the environment of a sustainable building encourages people to increase their recycling behaviours. It can be argued that sustainable buildings are useful in increasing knowledge about the social norms associated with recycling. In

addition, such buildings are designed to make it easier for people to participate in recycling efforts. In other words, the buildings make it convenient for people to engage in the behaviour. As discussed earlier, convenience was found to be a critical factor in encouraging recycling by O'Connor et al. (2010) and Largo-Wight et al. (2013).

This review has considered the psychological motivations that encourage people to engage in recycling behaviours. Some researchers emphasize a behaviourist perspective. According to this view, reward systems provide a potential approach to increasing recycling. Other writers focus on approaches that are based on the theories of social psychology. For example, it is argued that knowledge, or information, is a vital element in changing people's recycling attitudes and behaviours. Individuals are more inclined to recycle when they know why the activity is important and have been informed about what they should do. Recycling is also increased when people identify with social norms and conform to them. The need to protect environmental resources is a shared value that promotes recycling behaviours among many individuals. Another psychological factor is found in convenience. As indicated in the theoretical view of perceived behavioural control, people are more inclined to recycle if it is relatively easy for them to do so.

The review of the literature also identified other elements associated with recycling, such as gender, political orientation, size and shape of the used product, and living in a sustainable building. However, at this time, most studies are concerned with one or more of the three major motivators (knowledge, social norms, and convenience). All three should be acknowledged in the progression of effective recycling interventions.

Knowledge can be increased through education and awareness campaigns as well as through the use of signs, brochures, and postcards. Identification with social norms can be increased through community feedback. Perhaps the most important element is the convenient placement of recycling bins. As indicated in the results of some studies, this approach alone can greatly increase the number of people who engage in recycling behaviours. Clearly, socio-psychological interventions are critical but a recent growth in social marketing interventions as key predictors of recycling attitude and behaviour development is also evident. Key to social marketing is the marketing communications theory and the application of this, in particular framing theory is therefore reviewed in more detail.

Hong and Narayanan (2006) propose to develop a simple economic framework based on socio-economic variables to explain individual recycling behaviour. According to them, a typical economic individual is “one who emphasises self-interest, and acts rationally to maximise personal satisfaction or utility.” The average individual normally weighs the benefits and costs of recycling before willing to participate. Interestingly, such individuals in this context are not seeing being pro-environmental behaviour as a personal or moral responsibility. Apart of the cost of recycling are the resources and time as well as the inconvenience involved in this activity. It has been proven that it is not easy to operationalise recycling as this behaviour is hard for Malaysian public to do. The results suggest a campaign should be designed to specific target segments based on age, education, and ethnicity as these segments have been found to influence recycling behaviour. Moreover, for maximum effectiveness, environmental consciousness through publicity and education should be on-going constantly as it could improve public participation in future.

The study by Mahmud et al. (2010) investigated the antecedents of recycling intention behaviour among secondary school students, which were attitude, subjective norms, and perceived behaviour control (PBC). Based on the 400 samples, all the three factors were found to influence intention. PBC was the strongest predictor of intention, while attitude was an indirect predictor via the mediation of subjective norms and PBC. This study suggests focusing on other elements to inculcate a pro-environmental behaviour among students.

While Ajzen (1991) defines situational factors as “people’s perception of the ease or difficulty of performing the behaviour” (ibid. p. 21). Barr (2007) on the other hand views the factors as “a given personal situation with regard to behavioural context (for example, service provision), individual characteristics (such as socio-demographics) and individual knowledge and experience of the behaviour.” From the perspective of psychology, situationism (e.g., prompts, public commitment, normative influence, goal setting, removing barriers, providing rewards, and feedback significantly influence recycling behaviour (Schultz et al., 1995)) is an approach to personality that holds a concept that people are more influenced by external, situational factors than by internal traits (Krahe, 1993). Based on the previous study, situational factors have been found to be nonsignificant predictors of recycling behaviour, but significant predictors of intention to recycle.

Unlike any other previous studies, Mohamad et al. (2012) view religion as an ecological transformation that could influence local communities to recycle. Mohamad et al (2012) believe that religious communities could create large-scale revolution in harnessing societal participation of recycling in Malaysia. Based on the

few successful cases in Malaysia, religious communities possess a salient manner in how they operate. For instance, a temple or mosques can be a suitable platform for recycling activities, conducting long-term recycling programmes, and potentially expand the programmes to the broader community. Although Mohamad et al.'s study is only done with exploratory observation on the ground and discusses the observation at the theoretical and conceptual levels; the findings show the utility in harnessing religious sentiment and identity for pro social change. Thus, for future studies, researchers should explore and emphasise on the dynamics which shape and characterise socio-religious segments.

2.2.3 Promoting Recycling Behaviour: Malaysia as Research Setting

“Conservation is not just a job; it is a mission to save the planet.”

(WWF Malaysia, 2014)

Malaysia as an Islamic country is acknowledged for its diversity of cultures, customs, and races. Remarkably, these features make Malaysia a unique country in the world for being able to preserve the harmony and welfare among its people. Not to mention, the variety of tourist destinations make Malaysia an ideal destination for tourists. Despite the beauty of its attractions and success as a developing country, again, Malaysia is facing a dilemma to preserve its nature due to its growth in population density and the economy. As consequences, the amount of consumer's consumption has increased. This condition is very positive to the economy, but in contrary, it will lead to other problem namely waste disposal. Currently, many areas have been explored as a dumping site, and this has given severe impact on the environment. One of the most compelling evidences is Penang or legendarily known

as The Pearl of the Orient among foreign tourists. This state is currently running out of land for new landfills (Siti Aishah, 2003; Lee, 2007). Likewise, Langkawi Island is also facing the same problem due to the increasing population and urbanisation, changing patterns of consumption, and tourism industry (Shamshiry et al., 2011). Therefore, commitment from the public to recycle is needed to help the country preserve the beautiful island from being polluted (Lee, 2007; Shamshiry et al., 2011).

Malaysia is facing the challenges in managing its waste (Shamshiry et al., 2011), and the statistical forecasts show that the amount of solid waste is gradually increasing in coming years (Mohamed et al., 2008; Saeed et al., 2008). Not to mention, the increasing consumption and growing population have contributed to the amount of solid waste or disposal items generated globally as human demands on world resources have doubled over the last 40 years (Saeed et al., 2008). In reality, within nine days, Malaysian people can generate about 153,000 tonnes of domestic waste, equivalent of filling Kuala Lumpur Twin Towers twice (Mohamad et al., 2012). In fact, about 7.34 million tonnes of waste generated in the country are enough to fill up 42 buildings, and the amount of solid waste generated in this country is presently bordering acute levels. On the other hand, instead of wasting RM37.4 million of collecting and discarding its waste at the land-filled, Malaysia can recycle nearly 100 million tonnes of its waste.

Under those circumstances, since 1993, the Malaysian Ministry of Housing and Local Government has initiated its own recycling campaign (Omran et al., 2009). Hence, the Malaysian Government has given attention to this issue, and inspired recycling as a part of environmental activity as this behaviour offers one of the most

rational solutions for managing waste (Miller, 2005; Troschinetz and Milheic, 2009). However, Malaysia has no precise strategy or policy on recycling and waste disposal. In fact, Malaysian people still do not appreciate recycling. As a result, the recycling rate only increased from 1 to 2 percent in 1997 to merely 5 percent in 2001, which was still very low (Aini and Roslina, 2002).

Even so, in 2001, the Government reactivated the recycling campaign by gaining more publicity and cooperation from NGOs and community groups (Omran et al., 2009; Manaf et al., 2009). Again, the result was comparatively the same (Abdelnaser et al., 2006a; Abdelnaser et al., 2006b). The recycling rate however never exceeded 5.5% (Agamuthu and Fauziah, 2006), a situation that reflected the public's low level of awareness on recycling (Aini and Roslina, 2002; BERNAMA, 2005). The most compelling evidence is a recent study conducted by Mutang (2008) that shows that public participation in recycling is still very low. In fact, only three to five percent of solid wastes generated in Malaysia are recycled, and it is still far below the rate of 15 to 40 percent in other developed countries. It is not surprising as a present study by Ramayah et al. (2012) also shows that the level awareness of recycling among Malaysians is relatively low compared to its neighbour, Singapore.

Nevertheless, Malaysia is facing difficulty in encouraging its people to preserve the environment. The study by (Hong and Narayanan, 2006) reveals a low level of participation among Malay Muslims in recycling, whereas others (e.g. Chinese and Indian) show higher commitment in recycling than Malays. In fact, lack of public participation was the main reason of the failure of the recycling campaign in Malaysia in early 1990s and 2000s (Hong and Narayanan, 2006).

Beforehand, studies in Malaysia show that the public are reluctant to participate and take action in the recycling programme. In other words, recycling has been rated as the least choice among consumers compared to the other five categories of environmental consciousness including usage of unleaded petrol, saving water consumption, saving electricity, and avoiding risky products that may have a dreadful effect to the environment although they are in low price (Said et al., 2003). Moreover, in the same studies conducted by Said et al. (2003), the respondents were found to have moderate knowledge and lack of understanding of the causes related to environmental problems. Although the respondents identified waste as a part of environmental issues, they were not attracted to practise recycling. Comparably, the finding of this study was also similar with the finding by Othman (2000). The Malaysian Government has implemented a thorough campaign; however, only few Malaysians were actually practising recycling (Omran et al., 2009; Ramayah et al., 2012). Correspondingly, recent research (e.g. Treumann and Holland, 2013; Cole and Fieselman, 2013; Ramayah et al., 2012; Mohamad et al., 2012; Elgaaied, 2012) has shown empirical evidence that many consumers are aware of the importance of preserving the environment, but less effort is taken.

Responding to the magnitude of environmental challenges in Malaysia, developing an effective advertisement may offer a promising hope on what we are all facing today. Applying one of social marketing techniques such as message framing in advertising is vital to drive behavioural change. Like no other countries, developing promotional strategies particularly in promoting recycling in Malaysia requires special strategies. Culture, for instance, is a unique feature that requires intensive effort by social marketers (Biswas et al., 2000). In fact, the message of recycling

embedded in the advert must be adequately communicated and targeted to a specific groups in Malaysian society for maximum effectiveness (Omran et al., 2009; Hong and Narayanan, 2006). Moreover, scholars and practitioners expect that recycling in Malaysia has a long way to go, with major problems and obstacles to be solved, before a successful recycling programme can be in place.

Due to the wide gap of recycling attitude-action that still exists particularly in Malaysia, developing promotional strategies aimed at increasing waste recycling may be a challenge for social marketers. In fact, this effort should be seen as an on-going process (Ramayah et al., 2012). Therefore, it is crucial to implement a continuous recycling campaign especially to promote a meaningful progress towards sustainable lifestyles among the public (Peattie and Peattie, 2009). Indeed, a specific marketing strategy is essential to promote recycling among the Muslims in Malaysia (Said et al., 2003; Hassan et al., 2009; Mohamad et al., 2012) as protecting the environment is a responsibility and trust that must be borne by every Muslim. The following discussion will embrace more on how social marketing technique namely message framing strategy could be useful to bridge this gap.

The prediction and change of human behaviour impacting environmental quality represent a priority issue in the current scientific, political, and cultural agenda all over the world (Carrus et al., 2008). Moreover, research on application of behavioural theories in promoting environmental behaviours has gained popularity over the past two decades. Among the sporadic issues that have been conducted are encouraging energy efficiency and increasing recycling participation. These issues

have also gained popularity in recent years (Bator & Cialdini, 2000; Lehman and Geller, 2004; Pelletier and Sharp, 2008).

Although the interest in environmental research among researchers has increased, Lehman and Geller (2004) argue that the presence of research on promoting environmental behaviours in the literature has begun to decline, and the field is far from reaching its potential in solving real-world environmental problems. In fact, in a review of “Characteristics of Research on Green Marketing”, Chamorro et al. (2009) express their concern pertaining to the low number of publications in recycling behaviours. To date, research publications on environmental and recycling behaviour have received major attention due to the widespread of awareness and concern pertaining to environmental sustainability. Nevertheless, although there are still widespread of awareness and concern for the environment, individuals still rarely involve or act the way they should such as by getting involved in community programmes, reducing consumption, waste recycling, and increasing resource efficiency (Pelletier and Sharp, 2008; Kennedy et al., 2009). Without a doubt, this phenomenon has puzzled scholars for decades as hundreds of studies have unsuccessfully explained the discrepancy (Kollmuss and Agyeman, 2002).

After all, early discussion concludes low motivation of the public to practise recycling, especially among Muslim consumers. They claim that the responsibility for recycling is on the shoulders of municipality rather than individual. This reflection shows low morale value and consciousness of the Muslims towards the importance of recycling. Lack of awareness and exposure on this obligation towards the environment from Islamic perspective may possibly be reason for the low

participation among the Muslims to recycle. As stated in the al-Quran in surah al-Baqarah, verse 60, humans are chosen by Allah as caliphs to protect the earth and the universe from their act and manner. Moreover, many Muslim consumers are unaware of this obligation and feel less guilty of such behaviour. Most of them believe that recycling is a municipal responsibility rather than collective responsibility, and less emphasis on Islamic values in recycling campaign also contributes to the environmental degradation. After all, in order to achieve a sustainable environment and live in the future, each individual must change its own behaviour (McKenzie-Mohr, 2000).

2.3 Message Framing as a Marketing Communication Strategy

Promotion is the fourth tool that is needed to complete a social marketing plan. Promotion is also known as a persuasive communications and is engineered to harness the target audience to action. Successful communication strategies should focus on the content of the communications, determining what specific desired behaviour the campaign is focused on, selecting key facts and information to include in campaign messages, and predicting what the target audience will believe or feel regarding the messages (Kotler and Lee, 2011). However, social marketers face major challenges in phrasing the advertising content or messages to present to consumers. Therefore, a technique known as message framing has been suggested as a way to enhance advertising effectiveness (Cox and Cox, 2001; Zhang and Buda, 1999). Message framing could generate greater efficiency in social marketing campaigns and to an increased ability to affect the attitudes and behavioural intentions of the target audience. However, the successful development of a particular campaign relies on the social marketer's or communicator's understanding

of the importance of message framing. Along with facilitating the goal of “bringing about life-improving social change” (Kotler and Roberto, 1989), this technique could be the best way to “influence a target audience to voluntarily accept, modify, or abandon behaviour for the benefit of individuals, groups, or society as a whole” (Kotler, Roberto, & Lee, 2002).

From a social marketing perspective, the technique known as “message framing” theoretically considers construct meaning and shapes audience perception based on message composition its decoding by the viewer (Pelletier and Sharp, 2008). Some scholars believe that consumers react differently to different message compositions due to differences in framing the messages within or around the same objective information (Rothman et al., 1993). In fact, two different studies (Krishnamurthy et al., 2001) argue that message framing can be viewed as the presentation of semantically different but objectively equivalent message information. Additionally, a study by Winter et al. (2000) supports the concept that consumer perceptions can vary markedly depended on message compositions, with differences in this case observed between responses to messages on two different park signs: “Please don’t litter our environment”, and “Please keep our environment free”.

In the classical goal framing paradigm (Pelletier and Sharp 2008), framing can be categorised as positive and negative frames. Positive frames (or gain frames) underline the favourable behavioural outcomes of complying with the advocated behaviour, while negative frames (or loss frames) stress the unfavourable behavioural outcomes of noncompliance with the advocated behaviour (Levin and Gaeth, 1988).

A large amount of research has been reported on the message framing effect, including empirical evidence regarding the effectiveness of positively versus negatively framed messages. Studies of the effects of positive-negative framing in health persuasion indicate greater salience of negatively framed messages. For instance, positively framed messages were found to be less productive for breast screening self-examinations (Banks et al., 1995), mammography utilisation (Banks et al., 1995), oral hygiene (Tsai and Tsai, 2006) and regular exercise and fitness (Arora et al., 2006). Positively framed messages however have also been found to show greater salience in predicting women's use sunscreen (Detweiler et al., 1999; Rothman et al., 1993) and for anti-smoking interventions (Steward et al., 2003). Based on these diverse results, Rothman et al. (1993) conclude that these disparate findings suggest that negatively framed messages are more appropriate for detection behaviours, while positively framed messages may be more effective for preventive health behaviours.

In studies of environmental communication, negatively framed messages are better for appeals to recycle (e.g. Loro, 2007); and are more pronounced when they also emphasise the viewer as recipient of the behavioural outcome (e.g. Borah, 2011). Although Obermiller (1995) and Davis (1995) assert that negative framing is more predictive in the promotion of environmental behaviour, whereas Woodside and Singer (1994) argue that the effects of message framing persuasiveness may vary under different conditions. For instance, previous findings had relied on individual level involvement (Maheswaran and Meyers-Levy, 1990; Putrevu, 2010; Tsai and Tsai, 2006; Grau and Folse, 2007), product knowledge (Kim and Park,

2010; Kaczynski et al., 2005), information processing (Levin and Gaeth, 1988), and gender (Putrevu, 2010; Yunhui Huang, 2010).

Despite the acceptance of negatively framed messages, Nan (2007) argues that negatively framed messages have developed based on the notion of negativity bias, or the over weighting of negative information when making judgements, resulting in the greater persuasiveness of negatively compared to positively framed messages. In fact, negatively framed messages engender feelings of threat and fear, which sometimes over bias the negativity explanation. Meneses (2010) argued that positive framing could become the basis of the ecological ideology of the new millennium. This researcher argued that positively framed messages could counter the moral paradigm of a fragile ecology and lead consumers towards a more pro-environment orientation.

2.3.1 An Overview of the Framing Concept

From the point of view of de Vreese (2005), framing can be defined as “a process, and it outlines an integrated process model of framing that includes production, content, and media use perspectives.” This framing concept, which is part of a communication process, involves the “integral components of frame-building (how frames emerge), frame-setting (the interaction between media frames and audience preferences) and the individual and societal level consequences of framing” (Vreese 2005, p.32).

While others view a frame as a set of a communication process, Reese (2001: p.11) explains that “frames organize principles that are socially shared and persistent over

time that work symbolically to meaningfully structure the social world". In any case, framing is a directional approach to communication, a specific conduit of appeal towards a particular audience. That helps explain why Goffman (1974) claims that frames in communication enable an individual to identify and categorize information and occurrences within particular contexts. The concept of framing concerns how the "frames" elicit the meaning of messages in a meaningful way and how language, visuals and media content affect individual preferences (Tversky & Kahneman, 1981). Grasping them all together, they become "interpretative packages" that give meaning to an issue (Gamson, 1989).

2.3.2 Theories of Communication and Framing

Psychological and sociological theories including Social Cognitive Theory, the Theory of Reasoned Action, the Theory of Planned Behaviour, and Prospect Theory are highly relevant to marketing as well as other disciplines. In social marketing, promoting the consumer or individual to engage in pro-environmental behaviour becomes an essential part of the motivation towards behavioural change. Therefore, theory plays a crucial role as the backbone of the study, guiding researchers to move beyond the basics. Although theories are still bound by their limitations, theory gives us "language to share knowledge with other people doing similar things." Moreover, researchers must bear differences between studies in mind, with some theories likely working better for some studies than others, some studies complementing each other, and some making good candidates for integration. This can provide opportunities for researchers to fill in the gaps and contributions to the theory. Moreover, researchers and social marketers should think outside of the box,

beyond the wider environment (e.g., social factors, psychological factors or environmental factors) rather than remaining confined by theory (Eagle et al., 2013).

Promoting behavioural change is not an easy task, although researchers can make use of relevant theories (Kollmuss and Agyeman, 2002). Measuring behaviour has always been demanding as individuals are born to be unique and different. For example, a classical and early pro-environmental behaviours model proposed in early 1970s has received mixed opinions among researchers. However, in most cases, those findings were contradicted and the model was proven wrong (Kollmuss and Agyeman, 2002). Not surprisingly, a study by Owen (2000) in the United Kingdom found that non-governmental organisations had relied on this model in their previous environmental campaigns and strategies, in turn leading to their lack of success.

Rajecki (1982) studied the gap between attitude and behaviour and highlighted four causes: direct versus indirect experience (e.g., learning process or perceived learning experience), normative influence (e.g., how social norms or cultural tradition influence people's attitudes), temporal discrepancy (e.g., people's attitudes might change over time, leading to inconsistent results), and attitude-behaviour measurement. These results clearly show how difficult it is to design studies that can measure and compare attitudes and behaviours, especially as the last two items mentioned by Rajecki can easily become methodological flaws.

Having mentioned this, the following sections discuss theories such as the Theory of Reasoned Action, Prospect Theory, Identity Theory and Social Cognitive Theory. These basic theories are applied to motivate individuals to participate in social

marketing programmes. Numerous studies have been presented in the last decade linking psychology and the success of recycling schemes, with most studies aiming to identify the factors associated with individuals' decisions to engage in recycling behaviour (see Schultz et al., 1995). Different models highlight different variables related to the process, and TRA has been successfully applied to explain individuals' participation in recycling programs, offering a useful basis for modelling recycling decisions. Other authors (Stern et al., 1995; Stern et al., 1993; Klöckner and Oppedal, 2011; Bezzina and Dimech, 2011) have proposed to integrate concepts and variables from various models of environmental motivation. The following section will discuss the theories underlying the development of the structural model used in this study.

2.3.2.1 Theory of Reasoned Action

Derived in the setting of social psychology, the Theory of Reasoned Action (TRA) was proposed by Ajzen and Fishbein as a model for the prediction of behavioural intentions. Intentions are determined by two factors: the individual's attitude towards the specific behaviour and their subjective norms. For example, an individual might hold beliefs such as recycling is rewarding over the long-term, recycling is good, recycling takes too much work, or recycling is uncomfortable. Each of these beliefs can be measured, and each represents a belief about the consequences of a behaviour and its likelihood of producing desired outcomes.

Subjective norms can be defined as “the individual's perception of social pressure to perform or not to perform the behaviour” (Davis et al., 2009). In general, the “subjective norm controls that behaviour that is instigated by the desire to act as others think an individual should or socially worthy act” (Kalafatis et al., 1999). For

example, recycling causes feelings of self-respect or pleasure, while the failure to do something or act in this way may generate internal feelings of self-reproach based on this norm. In fact, the TRA suggests that a person's attitude and normative pressures directly influence behavioural intentions, which then influence the individual's actions. Ajzen and Fishbein (1980) argue that "people are essentially rational, in that they make systematic use of information available to them and are not controlled by unconscious motives or overpowering desires." Based on the assumption that people act rationally, Regis (1990) believes that the TRA is useful due to its simplicity and clarity. This model (Figure 2.1) has been the most dominant attitude-behaviour model, as it was developed using a mathematical equation that has enabled researchers to conduct empirical studies (Kollmuss and Agyeman, 2002). The TRA model is not without its critics (see Shepperd et al., 1988; Regis, 1990), and Ajzen later expanded the TRA model, introducing a new Theory of Planned Behaviour. However, the TRA model has still become the most frequently used predictive persuasion theory and one of the most extensively tested theories in social marketing (Eagle et al., 2013).

As noted by Lutz (2011), TRA and its successor TPB have been applied to a wide range of pro-environmental behaviours to better understand which individuals behave in which way. The theory has been proven to be a powerful approach to explaining human behaviour, and it can be applied to maximise the effectiveness of programmes of action (Eagle et al., 2013). For instance, the theory was found to support the role of norms in attitude-behaviour relationships (Astrøm and Rise, 2001; Johnston and White, 2003; Smith and Terry, 2003; Terry et al., 2000) in areas including sustainable agricultural practices (Fielding et al., 2008b), smoking habits

(Kovač and Rise, 2011; Moan and Rise, 2006), green organisational performance (Parker, 2011), health (Astrøm and Rise, 2001) and recycling (Chen and Tung, 2010; Davis et al., 2006; Mahmud and Osman, 2010; Nigbur et al., 2010; Ramayah et al., 2012; Tonglet et al., 2004; White et al., 2009). In fact, the TRA is one of the best supported social psychological theories with respect to the ability to predict recycling behaviour (Ramayah et al., 2012).

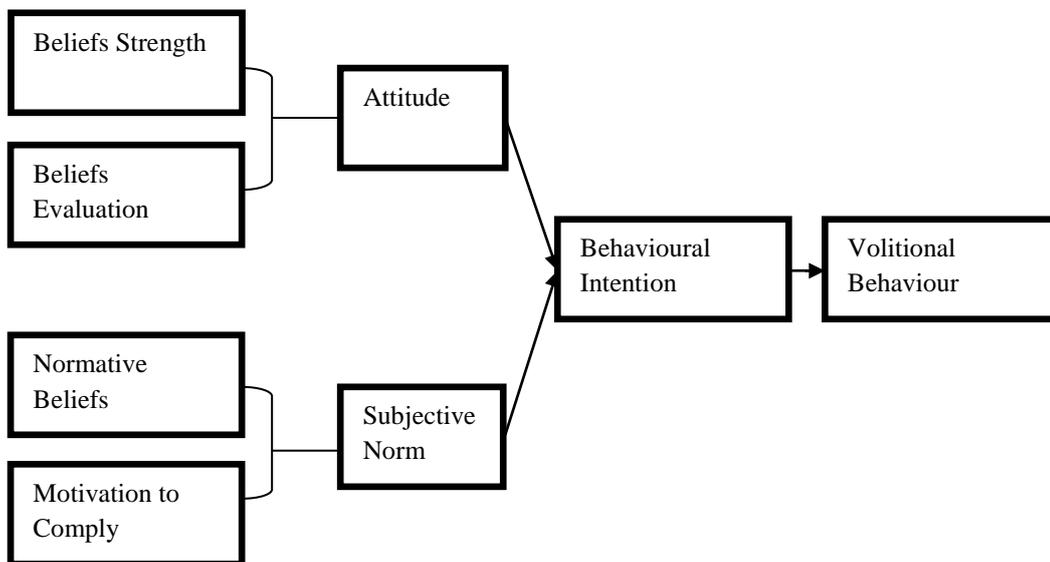


Figure 2.1: Theory of Reasoned Action by Ajzen and Fishbein (1991).
Source: Arnould et al. (2004) in *Consumers*.

2.3.2.2 Prospect Theory

Prospect theory is the most frequently used framework for studies of message framing (Meyerowitz and Chaiken, 1987; Tversky and Kahneman, 1981), as the concept of gain-loss framing was first examined using this theory. Originally proposed by Kahneman and Tversky (1979), this theory addresses decision making under conditions of risk and is designed to explain a common pattern of choice. According to Schneider et al (2001: p.257), “when people are given a choice between

two options, one with a certain and one with an uncertain outcome, gain-framed information elicits a preference for the more certain, low-risk option. In contrast, loss-framed information shifts preferences toward the probabilistic, more uncertain option to combat the aversion and anxiety produced by contemplating certain losses.” This theory puts forward a vivid and realistic view of decision making and the influence of framing.

Prospect theory examines two parts of decision making: first, the editing phase or framing effects. According to Kahneman and Tversky (1982), people usually make different choices based solely on the order of framing effects or their presentation. In fact, depending on how the message or question is framed, people can still make different choices about the same decision, contradicting any normative theory of decision making. Furthermore, “if people are showing that they were influenced by framing effects, they agree that they should not have been so affected by them” (Kahneman and Tversky, 1982: p.163). In other words, people want to believe that their choices are not affected by the frame, but in reality they are manipulated by the framing effects (McDermott, 2001). Framing is not necessarily a motivated phenomenon, but can rather be a purely cognitive occurrence. Framing is a psychophysical property of choice, but it can be used in an intentional way to structure and influence the choices of others without being specifically invoked (O’Keefe and Wu, 2012).

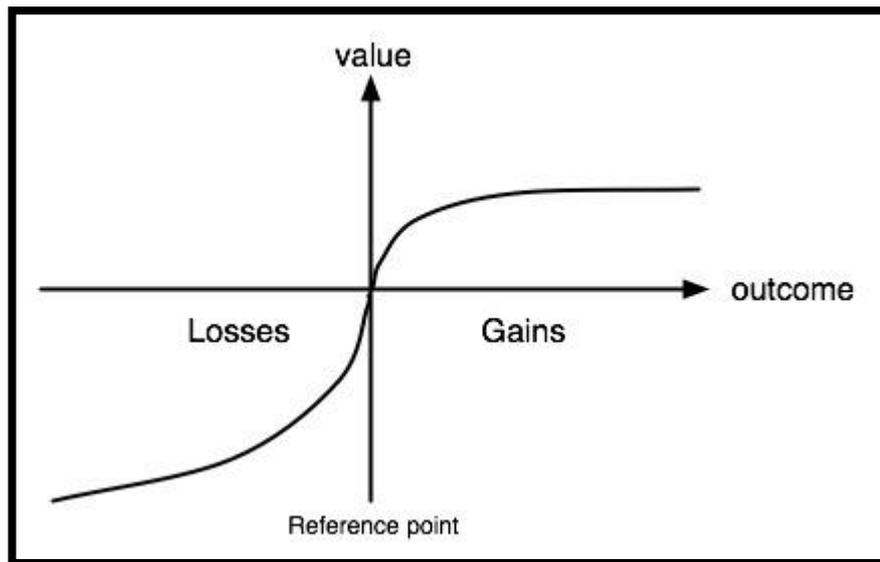


Figure 2.2: The Prospect Theory

The second part of decision making in the Prospect Theory framework is known as the evaluation phase. In this stage, the decision maker evaluates the options and makes a choice among them based on gain and loss once the prospects are framed (Figure 2.2). Health information can be framed in terms of benefits accrued by adopting a healthy behaviour (or a gain-framed message) or as the costs with not adopting a healthy behaviour (or a loss-framed message) (Edwards et al., 2001; Rothman et al., 2006; Salovey and Wegener, 2003; Schneider, 2006).

The choice of gain or loss framing depends on whether the function value changes in the positive or negative direction. For example, in Tversky and Kahneman's (1981) prospect theory, messages promoting low-risk outcomes are made more effective through emphasising the benefits of adherence (gain-framed), and messages involving risky behaviours made more effective through emphasising costs of non-adherence (loss-framed).

As health messages have profound effects on personally and economically significant health related choices and behaviours, the investigation of the influence and efficacy of health messages has become a topic of considerable interest in the cognitive and decision sciences (Bruine de Bruin and Fischhoff, 2000; Garcia-Retamero and Cokely, 2011; Kuhberger, 1998; Wilson et al., 1988). These studies evaluate messages emphasising the benefits of using condoms (to prevent sexually transmitted diseases, STDs) or the costs of avoiding this practice (e.g., failing to use condoms increases your risk of contracting STDs). They found gain framed messages more predictive for inducing preventive behaviours such as condom use and loss messages better for illness detecting behaviours such as STD screening. These findings indicate that well-constructed framings and visual aids are memorable, fast, highly effective, and ethically desirable means of risk communication.

As loss-framed messages are more predictive than gain framed appeals for disease detection behaviours, Meyerowitz and Chaiken (1987: p.506) noted that “these findings are consistent with prospect theory’s framing postulate by Kahneman and Tversky (1979), which asserts that loss framing maximizes risk-seeking behaviour.” Conversely, gain-framed appeals are more predictive for disease prevention behaviours, highlighting that fact that the underlying issue here is the perceived riskiness of the behaviour (O’Keefe and Wu, 2012).

Considering these findings overall from the perspective of prospect theory, the effectiveness of framing is controlled by the manner in which the choice problem is presented as well as by the norms, habits, and expectations of the decision maker (McDermott, 2001). The purpose of framing is to simplify the evaluation of choices

that are available to the decision maker. “This framing effect is done through the use of several types of procedures including such mechanisms as coding and combination” (McDermott, 2001: p.22). Framing is important not only because of its direct influence on the available choices but also because of its indirect effect on choice through the value and weighing functions of prospect theory.

2.3.2.3 Social Cognitive Theory

Aside from TRA and its successor TPB, another theory that is commonly used in studies of health communications and social marketing is Social Cognitive Theory (SCT) (Figure 2.3 and 2.4). This theory arose as a stem of Social Learning Theory (SLT), proposed in 1941 by Neal E. Miller and John Dollard. The problem of social learning was expanded by Albert Bandura in the 1960s and then developed into Social Cognitive Theory in 1986. SCT posits that learning occurs in a social context with a dynamic interaction (reciprocal determinism) among environmental, behavioural and personal factors (Bandura, 1986; Wood and Bandura, 1989). Unlike other models, the unique feature of the SCT is its emphasis on social influence and on external and internal social reinforcement. In fact, in support of the importance of moral development, social cognitive theory posits that multiple factors should be considered when developing a communications strategy: social, cognitive, and environmental (Santrock, 2008).

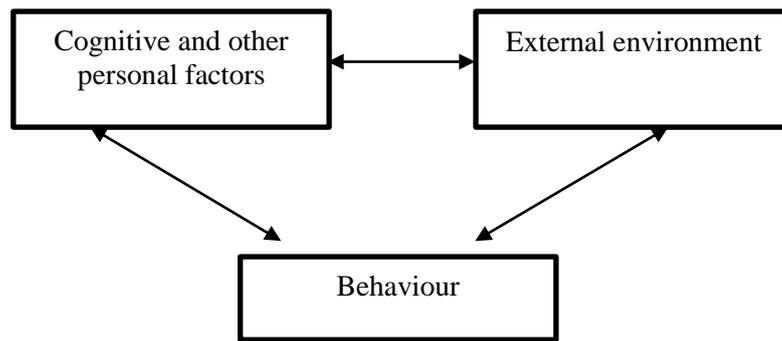


Figure 2.3: Social Cognitive Theory

Source: Eagle et al (2013) "*Social Marketing*,"(1st edn.), Pearson. Pg. 121.

According to Bandura (1997), “SCT considers the unique way in which individuals acquire and maintain behaviour, while also considering the social environment in which individuals perform the behaviour. The theory takes into account a person's past experiences, which factor into whether behavioural action will occur. These past experiences influence reinforcements, expectations, and expectancies, all of which shape whether a person will engage in a specific behaviour and the reasons why a person engages in that behaviour.” Furthermore, the central mechanism of SCT is “perceived self-efficacy”, which is governed by previous performance and experience (mastery), resulting from the comparison of one’s own capabilities with those of others (modelling) and from social persuasion. Although it is not shown in the model, Bandura (1989) argued that perceived self-efficacy functions as “ an important set of proximal determinants of human motivation, affect, and action which operate on action through motivational, cognitive, and affective intervening processes.” Glanz (2008: p.169), quoted here in Figure 2.4, summarises some of the concepts used in this theory.

Core Concepts in Social Cognitive Theory

Environment: Factors physically external to the person; Provides opportunities and social support

Situation: Perception of the environment; correct misperceptions and promote healthful forms

Behavioural capability: Knowledge and skill to perform a given behaviour; promote mastery learning through skills training

Expectations: Anticipatory outcomes of behaviour; Model positive outcomes of healthful behaviour

Expectancies: The values that the person places on a given outcome, incentives; Present outcomes of change that have functional meaning

Self-control: Personal regulation of goal-directed behaviour or performance; Provide opportunities for self-monitoring, goal setting, problem solving, and self-reward

Observational learning: Behavioural acquisition that occurs by watching the actions and outcomes of others' behaviour; Include credible role models of the targeted behaviour

Reinforcements: Responses to a person's behaviour that increase or decrease the likelihood of reoccurrence; Promote self-initiated rewards and incentives

Self-efficacy: The person's confidence in performing a particular behaviour; Approach behavioural change in small steps to ensure success

Emotional coping responses: Strategies or tactics that are used by a person to deal with emotional stimuli; provide training in problem solving and stress management

Reciprocal determinism: The dynamic interaction of the person, the behaviour, and the environment in which the behaviour is performed; consider multiple avenues to behavioural change, including environmental, skill, and personal change."

Figure 2.4: Core Concepts in Social Cognitive Theory

Source: Glanz et al. (2008), Health Behaviour and Health Education: Theory, Research, and Practice.

SCT is relevant for the design of health communication programs and has been widely used in health promotion. The SCT considers many levels of social ecology in addressing an individual's change in behaviour upon dealing with emotional and cognitive processes, and considers a variety of aspects to understand behavioural change. Although this theory could provide a foundation for the design of intervention strategies, it may be difficult for all the constructs of the SCT to apply to one issue (e.g., a public health problem), making it problematic for use in the development of a specific health program. In reality, SCT is one of the most difficult theories to grasp, exemplified by Baranowski et al.'s (1997) definition of SCT as "one of the most extensive and comprehensive theories to explain human behaviour." Although it is difficult to fully implement this broad-reaching theory, it is still relevant for the development of health communication programs.

2.3.2.4 Identity Salience Theory

The construct of identity salience is mainly used in social psychology and sociology, especially to explain marketing success in non-profit contexts (Arnett, German, & Hunt, 2003) such as recycling. The theory of identity itself focuses on the connections among the self, society, personalised roles, and role performance. This construct examines people's identity-related behaviours (Hogg, Deborah, & Katherine, 1995) by examining the relationship between the self and social structure (Serpe, 1987). Research suggests that identity theory can be used to provide a better understanding of exchange processes. For instance, if a person needs to feel like he is doing his part to conserve the environment, he may recycle to achieve a positive feeling.

According to Hoetler (1983), the term identity salience is defined as the relative importance of one specific role or identity for an individual. Generally, a role choice, particularly in social behaviour, involves choosing to undertake actions meeting the expectations of one role rather than another. The role choice is then assumed to be a consequence of identity salience (Rosenberg, 1979). In fact, identity salience has its roots in social psychology (identity theory) and sociology (social identity theory), both of which posit that people have several identities (Stets & Burke, 2000). For example, identity theory (self-identity) focuses on role (e.g., parent, blood donor, or recycler). In other words, self-identity also refers to salient and enduring aspects of one's self-perception (Sparks, 2000). The question of "Who am I?" leads people to describe themselves according to meaningful categories in terms of social roles, social types and socio-demographic characteristics (Bartels & Hoogendam, 2011). Differently from self-identity, social identity theory focuses on "we" as a reflection of self-identification with a social group or category.

Both identity salience and self-identification refer to an individual's association with a specific role and also form a set of identity standards that guide identity-relevant behaviours (Stets & Burke, 2000). Note that self-identity is distinct from group identity (Stets & Burke, 2000). As noted by Reed (2002) and Arnett et. al (2003), for people to identify multiple identities, the information concerning a specific identity should be accessible or activated in the consumer's mind. In other words, self-identity refers to the probability that an identity will be invoked in a given situation, i.e., identity salience (Bartels & Hoogendam, 2011). In fact, environmental behaviour such as recycling and waste management seem to be more salient or prominent to the public than organic consumption behaviour (J. Thøgersen & Ö

lander 2003; J. Thøgersen & Ölander 2006). Identity salience and self-identity share the same concept of self-identification.

Unlike social identity, people are more likely to hold self-identity in relation to environmental issues if they have a strong sense of environmental activism, regardless of their alignment with an environmental group. For instance, Sparks and Shepherd (1992, p. 392) noted that self-identity “reflects the extent to which an actor sees him- or herself as fulfilling the criteria for a societal role, such as someone who is concerned with green issues.”

A few studies have validated the role of self-identity (Fielding, et al., 2008; M. S. Hagger & Chatzisarantis, 2006; Nigbur, et al., 2010; Rise, et al., 2010). In fact, in the context of recycling, a number of studies have shown that self-identity explains the variance in intentions beyond TPB variables (Mannetti, Pierro, & Livi, 2004; Nigbur, et al., 2010; Terry, Hogg, & White, 1999). A recent study by Rise et al. (2010) evaluated the roles of self-identity and behavioural intentions in the theory of planned behaviour. The results supported those of an early study by Armitage and Conner (2001), highlighting the success of using self-identity to explain intentions and behaviour. Nigbur et al. (2010) offered useful findings and some practicable suggestions for pro-recycling interventions that could effectively appeal to self-identity by making people feel like recyclers. At the beginning of that analysis, the authors found that self-identity and the other three predictors (attitude, personal norms and perceived behavioural control) accounted for a greater percentage of the variance in intentions compared to only three predictors. These authors also noted that the influence of self-identity on behaviour was largely mediated by the strength

of behavioural intentions. These results fulfil O'Keefe's criteria of the additional predictor in TPB; 1) it makes a substantial effect or prediction of intentions rather than simply a statistically reliable increase; 2) demonstrated efficacy of the candidate variable (self-identity) across a wide range of behaviours (Canary & Seibold, 1984).

Like Canary and Seibold (1984), Callero (1985) also argued that participating in role-appropriate behaviour confirms an individual's self-identity. Moreover, the more important and salient an identity is, the greater the probability of role-consistent action. As such, a meta-analysis by Rise et al. (2010) presented evidence supporting the expectation that the concept of self-identity is an important predictor of the intention to engage in some behaviour. The present study aims to assess the role of self-identity in predicting the intention to recycle.

2.3.3 Prior Studies on Message Framing Strategy

In the classical framing paradigm, framing can be categorised as gain (positive) or loss (negative) frames. Positive frames emphasise the favourable behavioural outcomes of complying with the advocated behaviour while negative frames (or loss frames) stress the unfavourable behavioural outcomes of noncompliance with the advocated behaviour (Levin and Gaeth, 1988). Previous discussions have noted that the decision to adopt the gain or loss approach have profound effects on health related choices and behaviours, such as STD prevention (Garcia-Retamero & Galesic, 2011; Kiene et al, 2005), skin cancer prevention (O'Keefe and Wu, 2012; Shen & Kollar, 2011), mammography screening (Gallagher et al, 2011) and cervical cancer (Rivers et al, 2005).

While a large amount of research has been reported on the message framing effect for health related messages, few empirical studies have been carried out with a focus on social marketing for the promotion of pro-environmental behaviour. Persuasive messages regarding a diverse range of health issues have been studied such as blood cholesterol level test taking, skin cancer prevention, sexually transmitted disease prevention, and the use of mouth wash (Nan, 2007). A handful of prior studies on the message framing effect indicate that negative gained frames are more effective than positive ones (see O'Keefe and Wu, 2012; Nan, 2007; Meyers-Levy and Maheswaran, 2004; Finney and Iannotti, 2002).

In one experiment, Obermiller (1995) tested the effectiveness of environmental communications using sick baby or well-baby appeals depending on the prior salience of the issue. The “sick baby” communication strategy for environmental marketing or social marketing in general refers to a focus on the problem’s severity (Fine, 1990). Fine proposed the “well baby” approach as an alternative approach focusing on “an affirmation of the individual’s action and its potential for significant effect that one can do something to solve a problem”, as opposed to the “sick baby” appeal which works by increasing concern over the problem (Obermiller, 1995: p.55). The findings indicated that framing effects are issue dependent, with “sick baby” appeals (negative frames) as more effective approaches for the “low salience issue of energy conservation”, while “well baby” appeals (positive frames) were more effective for the “high salience issue of recycling” (ibid.p.62). Obermiller concluded that “when dealing with a problem that people regard as relatively unimportant or about which they are relatively unaware, the impact of a sick baby appeal may offer

advantages. Alternatively, when concern for an issue is high, the sick baby appeal may offer a redundant warning, or worse, cause a boomerang effect” (1995: p.66).

Another experiment on message framing by Davis (1995) explores how the framing of environmental communication influences attitudes towards recycling. Based on the analysis, this study concluded that negative framing was the most persuasive approach to the promotion of environmental behaviour, arguing that “intentions to participate in environmentally responsible behaviours are best fostered through communications which present simple, clear, and understandable actions presented in a context which stresses how the target will be personally, negatively affected if they continue to be inactive participants in environmentally responsible behaviours” (1995: p.295).

Despite the acceptance of negatively framed messages, Nan (2007) argued that negatively framed messages have been developed based on the notion of negativity bias due to the over weighting of negative information in the decision making process, resulting in greater persuasiveness for negative compared with positively framed messages. In fact, negatively framed messages engender feelings of threat and fear, which sometimes over biases the effects of negativity. Meneses (2010) argued that positive framing could become the basis of the ecological ideology of the new millennium. He argued that positively framed messages could counter the moral paradigm of a fragile ecology and encourage consumers to adopt a greater pro-environment orientation.

In contrast, a quasi-experimental study by Lord (1994) reached the intuitive finding that positively framed messages yielded the most favourable levels of beliefs and attitudes towards recycling, while negatively framed appeals relayed by a 'personal acquaintance' led to the largest rise in recycling behaviour. As the goal of these messages is on long term rather than immediate short term benefits, negatively framed messages that expose consumers or the public to the unpleasantness of the adverse consequences of failure to recycle were not preferable. Evidently, positively framed messages have a more favourable impact on attitudes toward recycling based on the logical outcomes of the enhanced likability and believability of the message. Lord concludes that "how consumer[s] respon[d] to appeals to voluntarily increase compliance with recycling programs is a complex phenomenon, with different levels of response motivated by different message and source approaches" (1994: p.353).

Meneses (2010) provided more insight into how positive arousal works in the process of recycling adoption, suggesting that future ecological campaigns should place a greater emphasis on emotional factors, making the desired behaviour feel cool and fun and remaining positive. Prestin and Pearce (2010) found that future campaigns promoting recycling should be cool to enhance positive attitudes and potentially affect greater behavioural performance. Messages must be properly framed to maximise the persuasive function of message framing.

As environmental concerns become increasingly important, social marketers need to be more mindful of the complications in using such multipart messages. According to Obermiller (1995), environmental communications faces three challenges, "firstly, the lack of resources to conduct sophisticated advertising campaigns or testing of

advertisements. Secondly is perceived constraints on acceptable types of appeals that might limit use of fear, humour, or anything other than straightforward presentation of information. Thirdly, the need to communicate with large amounts of information which most likely precludes many subtle communication appeals” (p. 55). Thus, designing an effective recycling communication requires the social marketer to think outside of the box and highlight other elements that might have been overlooked in previous appeals.

2.4 Designing Effective Recycling Communication Campaigns

To enhance the effectiveness of persuasive communication, a message should be constructed based on the process by which people manage and change their behaviour (Rothman et al., 2004; Rothamn et al., 2006; Rothman and Salovey, 2007). Messages must be relevant to the specific target audience to optimise the likelihood of the desired impact on an individual's behaviour, and it is important to explain the concept behind the desired behavioural change (Pelletier and Sharp, 2008).

Communicating and persuading individuals to act in an environmentally friendly manner is demanding, as people apparently view social behaviour and environmental behaviour from different points of view based on whether they perceive the message as directly applicable or rather view it as a general societal message (Kronrod et al., 2012). Environmental issues have become popular in the general public and communities as well as for corporate organisations. This attention and popularity is due to consumers' short-sighted lifestyles (Crane, 2000) that lead to pollution, climate change, and the depletion of energy sources (Michael et al., 2009). As concerns arose, this awareness suddenly focused attention on the current system of

production and marketing (Høgevold and Svensson, 2012), leading to the encouragement to recycle (Michael et al., 2009). Growing environmental concern has led recycling to become part of the marketing strategy for many products. In addition to production, marketers have also become aware of their social responsibilities towards consumers and the environment and begun to act on these issues in their corporate social responsibility events. Promoting recycling and establishing a distinct value profile for environmentally oriented consumers has proved to be difficult to study (Michael et al., 2009) due to cultural differences. As environmental marketing should encourage people to think globally and act locally (Gill, 2011), marketers must ensure that environmental practices and promotion are tailored to the local culture (Gill, 2011).

Consumers contribute to environmental sustainability by acting with greater environmental responsibility, changing their patterns of acquisition, use and disposal of goods and products (Haron, Paim, & Yahaya, 2005). However, it is not easy to encourage consumers to behave in an environmentally friendly way. Marketers face problems in promoting and bridging the gap between environmental concern and action and in breaking down consumers' barriers to action (Naidoo, 2010). To change behaviour, campaigns must be designed to consider why people behave the way they do (Fishbein et al., 2001), and they must be founded on a theoretical basis that both supports their development and serves as a basis for their implementation and evaluation (Valente, 2001). As such, media may shape and influence consumer behaviour by framing events and issues in particular ways.

2.5 Islamic Identity Framing as a Message Framing Strategy: The Role of Religion in Promoting Pro-Environmental Behaviour

This section begins by examining the role of religion as a cultural subsystem, and then explores the role of religion in promoting pro-environmental behaviour and the use of Islamic identity as a message framing strategy.

2.5.1 Religion as a Cultural Subsystem

From the perspective of marketing, culture can be defined as “the values, attitudes, beliefs, artifacts and other meaningful symbols represented in the pattern of life adopted by people who help them interpret, evaluate and communicate as members of a society” (Rice, 1993). As Rice believes that culture may affect and influence human behaviour, Geertz (1973) sees culture as a set of instructions, rules, recipes and customs that govern behaviour.

Culture is learned and not inherited. Hofstede et al. (2010) define culture as “the collective mental programming of the people in an environment. Culture is not a characteristic of individuals; it encompasses a number of people who were conditioned by the same education and life experience.” Hofstede et al. argued that culture is what individual members of a group have in common. For instance, gender roles, eating habits and dress habits may differ by country. Indeed, humans are incomplete without culture, meaning that a human would be incapable of directing his own behaviour (Geertz, 1973). Blackwell et al. (2005) believe that “the study of culture provides a number of answers why people behave the way they do. It affects the drivers that motivate people to take further action. Culture is recognised as a significant influence on buyer behaviour as it provides people with a sense of identity

and an understanding of acceptable attitudes and behaviour within society. As such, culture is the logical starting point for examination of consumer behaviour”.

Cultural values have implications for human behaviour, and previous studies have confirmed the strong influence of culture on consumer behaviour, particularly in shaping consumers’ lifestyles, motivations, attitudes and product choices (Howard and Sheth, 1969; Carman, 1987; Kluchohn, 1969; McCracken, 1986; Yau, 1988). Recent research has supported the view that culture is not only related to consumer products and services but also that it influences almost all daily activities (Yoo and Donthu, 2005; Moon et al., 2008; Durmaz et al., 2011). For instance, religion is an integral element of culture (Usunier and Lee, 2009). As religion is an integral component of culture, it has a great influence on shaping social attitudes, habits and values (Kamaruddin, 2007).

Culture has an extensive influence on various dimensions of human behaviour (Soares et al., 2007). Thus, this occurrence makes it difficult to define culture, which encompasses “the complex whole which includes knowledge, belief, art, morals, custom and any other capabilities and habit acquired by man as a member of society” (Taylor (1871) in McCort and Malhotra, 1993: p.97). In fact, culture often stems from a combination of religious beliefs, economic and political sentiments (Sekaran, 1983: p.68). All the above factors result in differences among cultures and influence the individuals in a society (De Mooij, 2011).

According to Arnould et al. (2004: p.518), “religion is a cultural subsystem that refers to a unified system of beliefs and practices relative to a sacred ultimate reality

and deity.” Although religion is a component of culture, it does not have an accepted theory or definition (Guthrie, 1980; Clarke and Byrne, 1993). Indeed, Eister (1974) also believed that “religion might not be definable in general terms,” while Mc Daniel and Burnett (1990) recommended that religion should be defined according to the research setting. The following definition of religion is adapted originally from Mc Daniel and Burnett (1990). The original definition has been tailored for the purposes of the present study, resulting in the following definition of Islamic religion:

“A belief in Allah (S.W.T) accompanied by a commitment to follow principles believed to be set forth by Allah (S.W.T).”

One part of religion is religiosity, which is also known as “the degree to which beliefs in specific religious values and ideals are held, practiced, and become a badge of identity for consumers” (Arnould et al., 2004: p.518). Islamic religiosity emphasises the importance of Islamic principles and values presented in the Qur'an (The Holy Book of Islam). Muslim people are guided by the Qur'an, which touches on virtually every aspect of life and society, providing guidance on diverse topics such as economics and banking, welfare and the environment (Esposito, 2002). As Islam is a complete way of life (Kavoossi, 2000; Azam, 2005), it provides guidance on the core issues facing society and individuals, including the rights and responsibilities of individuals and governments, the distribution of wealth, the obligations of men and women, and other issues (Azam, 2005). Every single aspect of living is explained in the Qur'an, and the Muslim people are obliged to follow the good and respectable behaviours advocated in the Qur'an and avoid the prohibited

behaviours. In fact, Islam views the spiritual, political, economic and social aspects of life as an inseparable unity that must be thoroughly imbued with Islamic values (Rice and Al-Mossawi, 2002).

Islam is more than a religion that guides the lives of Muslims in areas including dress, family, cleanliness, ethics and beliefs. Religious beliefs are a form of cultural capital that varies within and between nations (Arnould et al., 2004: p.518). World religions differ in terms of beliefs and practices. Religion is a useful segmentation variable as it affects human value systems. Religion is a significant segmentation and targeting criterion, especially in marketing, as it remains a powerful influence on human life (Wood et al., 2009).

2.5.2 Religion and Beliefs

Religion defines and explains the values underlying life for many (Al-Hyari et al., 2012). In other words, religions are the foundations on which belief systems and institutions are grown (Fowler, 2003). Fam et. al (2004) argued that such religious values can serve as powerful shapers of societal and individual norms and behaviours. In the context of environmental behaviours, religious values underpin concerns for the environment. Religious values however are complex, leading Sherkat (2007) to note that religious values can manifest in equally complex ways. Thus, it is worth including other variations of the religious framework, especially concerning environmental issues (Sherkat and Ellison, 2007) as in this study.

Religious belief involves a strong faith in powers that control human destiny. In addition to a set of beliefs binding the spiritual nature of man to a supernatural being,

religion involves a cultural sub-system that determines societal customs and norms (Mokhlis, 2009).

In Islam, Allah is the name of the One God, and Muhammad (peace be upon him-PBUH) is the prophet who was chosen to be His Messenger (Caner and Caner, 2009). In general, Muslims live their lives based on Islamic teaching and rulings derived from the Quran (the Muslim holy book), and the Hadith (a collection of anecdotes about the Prophet Muhammad's life) (Hashim and Mizerski, 2010).

In a review of "Islam The Way Of Life", Azam (2005) described "Islam as a religion that constitutes beliefs, rituals and social customs." For instance, Muslims follow and are guided by the teachings of the Qur'an:

"Righteousness is not only that you turn your faces towards East or West, but it is also to believe in Allah and the Last Day and the Angels, and the Books, and the Messengers; to spend of your substance, out of love for Him, for your kin, for orphans, for the needy, for the way-farer, for those who ask, and for the ransoms of slaves; to be steadfast in prayer, and practice regular charity, to fulfil the contracts which you have made; and to be firm and patient, in pain (or suffering) and adversity, and throughout all periods of panic. Such are the people of truth-those who are God-conscious" [2:177].

Additionally, Muslims' beliefs also rest on the Six Pillars of Iman, namely belief in Allah, belief in Al-Malaa'ika, belief in Al-Kitab (the Qur'an), belief in the prophets, prayers and salutations of Allah be upon them (the Messengers of Allah), belief in

Yawmil Qiyaamah (the Day of Rising/Judgement Day), and belief in Qada and Qadar.

While religion is an important element of many cultures, particularly so for Islam, with effects on consumer attitudes and behaviours, no studies from various disciplines (Mokhlis, 2009; Vitell, 2009; Muhamad and Mizerski, 2010; Khraim, 2010; Wilson. and Liu., 2011; Alam et al., 2011) have mentioned the Six Pillars of Iman as a way to determine the level of religiosity among Muslims. However, a study by Albelaikhi (1997) used the dimensions of belief and practice to measure religiosity by stressing positive attitudes towards God (Allah), his messengers, and his religion. Hirschman's (1983) assertion about religious studies remains applicable today. Religious beliefs have received little consideration due to the lack of awareness among consumer researchers regarding religious beliefs and behaviour; researchers' worries that the subject may be too sensitive to study; and researchers' underestimation of the importance of religious beliefs as variables.

In the context of the present study, Owen and Videras (2007) argued that culture as expressed by religious beliefs could contribute to the public good. These authors argued that religiosity is relevant for understanding attitudes and behaviours towards environmental protection. As such, religious beliefs could potentially influence consumers to recycle.

2.5.3 The Role of Religion in Promoting Pro-environmental Behaviour: General View

Lynn White (1967) accused Judeo-Christianity as complicit in environmental destruction and held it mainly responsible for the current environmental crisis. In fact, White (1967) expressed doubt about whether science and technology can solve environmental problems, arguing that people are becoming more arrogant towards nature. Even the greatest spiritual revolutionary movement in the United States at that time, the Franciscan movement, was unsuccessful in encouraging its followers to appreciate the environment. Unlike White (1973), Hoge (1991) did not believe that environmental degradation was triggered and influenced by Judeo-Christian teachings or by crises occurring in Greece and Egypt. Over time, many studies have not been able to support the strength of religious variables as predictors of environmental attitudes and behaviours, especially in America. In fact, the theoretical debates among American sociologists over whether Christianity has contributed to the destruction of the environment have been in progress for the last forty years and are still ongoing. However, a series of empirical studies conducted in America examining Judeo-Christians beliefs and attitudes in comparison with other traditions reached inconclusive results. Several studies found a substantial difference in beliefs and attitudes towards the environment between Jews and Christians compared with other religions, (Hand and Van Liere, 1984; Kanagy and Willits, 1993; Guth et al., 1995) while others found no significant differences (Greeley, 1993; Kanagy and Nelsen, 1995; Woodrum and Wolkomir, 1997).

Despite these pervasive debates, Hayes and Marangudakis (2001) claimed that little work has been done to examine the role of religion in determining environmental

attitudes. Their study focused on the impact of religion on attitudes towards the environment within Britain. Their analyses found little empirical evidence to directly support White's thesis. In other words, contrary to the claims of White, there is no direct link between adherence to a Christian belief and a domineering attitude towards nature.

Not surprisingly, White's articles were pioneering in the study of the relationships between religion and the environment, and they have received attention from many researchers. A few studies (White, 1973; Wiegel, 1977; Naes, 1989; Whitney, 1993; Kalland, 2002) support White's (1967) claims that Christianity encourages humans to participate in environmental destruction, while other authors (Fowler, 2003; Letcher, 2003; Yaacob, 2006) argue that religion is innocent, guiding humanity to act morally and responsibly towards the environment. Rice (2006) confirmed that religious teachings and religiosity are associated with pro-environmental behaviour, thus lending support to the importance of an Islamic environment.

Note that most prior studies on the interactions of religion with consumer behaviour have been dominated by Judeo-Christian religions (Hayes and Marangudakis, 2000; Hayes and Marangudakis, 2001; Biel and Nilsson, 2005; Sherkat and Ellison, 2007; Owen and Videras, 2007; Truelove and Joireman, 2009; Pepper et al., 2011). As such, little can be said about the robustness of previous findings in other religious contexts and cultural settings. A review by Yaacob (2006) demonstrated the dominance of Judeo-Christian religions in environmental studies, and little research has been conducted from an Islamic perspective. As for future investigations, Sherkat and Ellison (2007) suggest that it would be fruitful for future research to explore

variations in the religious framing of environmental issues among religions. Therefore, there is a need to identify how religion as a component of an individual's identity could influence that individual to recycle.

2.5.4 Prior Studies on Religion and Pro-Environmental Behaviour

Early discussions of religious influences on pro-environmental behaviour were dominated by Christian and Judeo-Christian perspectives. Previous research by Wolkomir et al. (1997a) assessed religious influences on environmentalism in view of denominational subcultures. These authors tried to explain the relationship between religious belief and environmentalism by exploring whether there was an identifiable feature of denominational subcultures and religious concern towards the environment as asserted by White. The perception of dominion was measured by asking subjects to respond to the statements "Humans were created to rule over the rest of nature" and "Plants and animals exist primarily to be used by humans." Other items with similar religious salience related to biblical literalism were included and measured using single item indicators. Salience, or the importance of religious belief, was measured by asking, "In your daily life, do you consider religion to be very important, somewhat important, not too important, or not important at all?" Biblical literalism was measured by asking "Tell me if you strongly agree, agree, disagree, or strongly disagree with the following statement: The story of Creation as written in the Bible is true."

In a review of "Religion and attitudes towards nature in Britain", Hayes and Marangudakis (2001) examined the impact of religion on environmental attitudes, with a specific focus on Abrahamic and Judeo-Christian beliefs. Throughout the

investigation, religious status was measured in the form of the following three typologies: (1) Abrahamic religious identification; (2) Christian religious identification; and (3) Doctrinal religious identification. The respondent's religious identification was indicated based on a range of possible religious affiliations such as Catholic, Protestant, Jewish, Muslim, Hindu, Sikh, Buddhist and no religion. Religious belief was assessed in terms of the degree to which individuals either believed in God, believed in a Higher Power but not a personal God, or explicitly stated that they did not believe in God. Interestingly, substantial differences in environmental behaviours were observed not only between the religiously affiliated and non-affiliated individuals but also among the specific religious denominations themselves. This study recommended further investigation of the role of denomination by considering a wide variety of cross-national or culturally diverse groups. Similarly to Hayes and Marangudakis (2001), Biel and Nilsson (2005) studied the link between religious values and environmental issues, also using two different measures of religious intensity: religious status and religious affiliation (belief in God and church membership, respectively).

In a review of "Pro-environmental Behaviour in Egypt: Is there a Role for Islamic Environmental Ethics?", Rice (2006) measures religiosity by asking respondents "how religious they perceived themselves to be" followed by assessing their religious belief related to environmental care through statements such as: "We know nature is God's creation so it's wrong to misuse it" and "My religion teaches cleanliness, so I feel obliged to keep my neighbourhood clean".

A study of the recycling practices of the urban poor in Kuala Lumpur recognised the role of religion but found that it had little overall effect for recycling activities among this Malaysian community (Murad and Siwar, 2007b). However, the construct of religion was not clearly elaborated in this analysis. The only measure used to explain religion was “My religion tells us to use resources carefully.”

Al-Khatib et al. (2009) mainly studied the link between the socio-economic status of the respondent and the respondent’s littering attitudes and practices. The item assessing the level of religious convictions was measured by self-assessment as “a person with strong religious convictions”, “a person with moderate religious convictions”, or “a person with weak or no religious convictions”.

A recent study by Mohamed et al. (2012) argued that the mainstream literature is extremely limited in addressing the role of religious values in waste management. However, the authors provide early evidence on recognising the role of religious communities in engaging public participation of recycling in Malaysia. This study did not conduct much measurement except for assessing the role of each religious affiliation in the urban community as they believed that this would have a huge impact on recycling activities.

The literature contains only a limited number of studies exploring the role of religion in the consumer disposition towards recycling from the Christian, Judeo-Christian or Islamic perspectives. Little research has been carried out in developing countries about consumers’ attitudes towards and behaviour concerning the environment. Most research has been conducted in Western and developed countries, and these results

might not be transferable across countries. For instance, no definitive investigation has explored the influence of religion on recycling behaviour in the context of Malaysia.

Religion is one of the most important cultural factors as it affects individual perception and behaviour. For those who believe in and practice religion, it has a significant impact and influence on their individual attitudes, values and behaviours, resulting in a societal impact as well. Religion's influence on recycling behaviour remains under-researched. The empirical findings reviewed in this chapter provide evidence of a gap in studies of religion and the environment, with a particular lack of available information on recycling behaviour. Despite the limited number of publications on environmental and recycling behaviour in relation to religion, an ample number of studies demonstrate the role of religion in consumer research and environmental research more generally.

2.5.5 Islamic Identity as a Message Framing Strategy

In a review of the "Generic Concept of Marketing", Kotler (Kotler, 1972) acknowledged that the focus of marketing has shifted over the years towards non-business arenas such as recycling, health services and fund raising. In recognition of this transition, Kotler updated the current concept of social marketing as "the use of marketing principles and techniques to influence a target audience to voluntarily accept, reject, modify, or abandon a behaviour for the benefit of individuals, groups or society as a whole" (Kotler et al., 2002).

An early study by Shrum et al. (1994) viewed the behaviour of recycling as a “product” that needs to be marketed to the general public and to consumers. Due to issues of solid waste in the early 1990s, recycling was perceived as the best solution rather than burning and burying the waste in the landfill (Shrum et al., 1994). Recycling was a central issue during that time, and most previous research on recycling viewed the problem as one of behavioural change. The recent increase in the number of articles studying recycling reflects to some extent the growing concern for environmental issues worldwide. To date, recycling remains a marketing problem (Latif et al., 2012) that needs to be explored from a variety of perspectives, including the religious perspective and particularly the Islamic perspective (Rice, 2006; Mohamad et al., 2012).

In a review titled "Pro-environmental behaviour in Egypt: Is there a role for Islamic environmental ethics?" Rice (2006) began a new chapter in Islamic studies related to environmental behaviour. The author investigated the pro-environmental behaviours of citizens in Cairo and studied the relationship between pro-environmental behaviour and demographic variables (beliefs, values, and religiosity). Religious teachings and religiosity were found to be linked with pro-environmental behaviour, thus suggesting an “Islamic environmental ethic” (ibid. 62).

Rice and Al-Mossawi (2006) presented a managerial decision-making framework based on Islamic values. This framework consists of four cultural dimensions, namely “relationships with people”, “time orientation”, “human nature orientation” and “activity orientation”. Each cultural dimension captures an element of Islamic values together with a justification, largely derived from the Qur’an. For instance, the

cultural dimension of activity orientation stresses environmental friendliness, cleanliness and good health. For instance, Rice and Al-Mossawi (2002: p.4) use “...*God loves not the wasters...*” (Qur’an 7:31) and its exegesis as a directive to people and businesses not to generate waste that may be harmful. They also cite several examples of Prophetic directives aimed specifically at protecting the environment and not causing harm to the earth.

Thus, Muslims should realise their responsibility towards the environment as a central Islamic value and as part of their roles as God’s representatives on earth, as looking after the earth is a central duty for every Muslim. Muslims should act morally, including to protect and nurture the environment (Ujang, 2008). In conclusion, Islam strongly emphasises Muslims’ social duties towards the earth, requiring Muslims to think and act morally according to the Qur’an. The extent to which religion influences Muslim consumers to recycle remains unknown and needs to be investigated, especially when considering social marketing initiatives.

Despite the increasing number of articles from the Islamic point of view, few studies have addressed the relationship between Islam and consumer behaviour (Khraim, 2010). The early discussion in this area has received vigorous contributions from scholars from a variety of disciplines. Few contributions have addressed religion’s role in consumer research, particularly in the promotion of recycling behaviour using social marketing concepts.

Developing an effective advertisement and communicating the correct message can be integral, as suggested by a variety of evidence. Studies considering the effect of

culture on message framing (Van Gorp, 2006; Orth et al., 2005; see Walsh et al., 2010). Researchers (e.g McKenzie-Mohr, 2000; Kennedy et al., 2009; Peattie and Peattie, 2009; Walsh et al., 2010; Carrigan et al., 2011; Kronrod et al., 2012) suggested the effectiveness of focusing advertising to specific target markets considering sub-cultural factors and providing assertive and accurate messages towards a specific target audience. The sub-cultural differences between Western and Asian cultures require social marketers and brand communicators to carefully design advertising content. Previous studies demonstrated the significant impact of Western and Asian sub-cultural differences on attitudes and intentions in response to comparative advertising (Polyorat and Alden, 2005), corporate web sites (Cho and Cheon, 2005) and controversial products (Fam et al., 2004; Waller et al., 2005). Cultural differences also exist within societies. For example, Khanfar (2009) investigated the cultural diversity in Gulf countries, identifying a significant influence of culture on the effectiveness of TV advertising, with language and religious differences greatly affecting advertising in the Gulf. Orth et al (2005) found that the cultural differences among four European countries also affected consumer responses to the framing of advertising messages. Equally important, previous studies on advertising effectiveness (Rice and Al-Mossawi, 2002; Fam et al., 2004; Waller et al., 2005; e.g De Run et al., 2010) found that religion as part of the subculture also played a significant role in influencing consumer behaviour and responses to advertising messages.

Previous findings on how cultural differences affect attitudes in response to advertising are crucial. National culture has a pervasive influence on message framing effects because “as a form of social communication, advertising is

considered to be particularly reflective of culture” (Wong et al., 1987). Researchers must not overlook the subtle effects of national differences such as religion and language that can influence consumer attitudes toward advertising effectiveness (Brumbaugh and Grier, 2006; Orth et al., 2005; Khanfar, 2009). Therefore, framing concepts based on religious views could be beneficial and should be explored in social marketing and environmental communication. In this context, researchers have quoted verses from the Quran to promote environmental behaviour via Islamic identity framing.

2.6 Moral Identity Framing

Morality is generally defined as the distinction between what should be done and what should not be done. According to Turney (2010) and Turner and Stets (2006), morality represents what is right or wrong, or good or evil, or acceptable or unacceptable in the cultural codes of a society. As the concept of morality has become the central tenet in identity or moral identity, Hart et al defined it as “a commitment to one’s sense of self to lines of action that promote or protect the welfare of others” (1998; p. 515).

Morality is a code of conduct put forward by any individual or any group. In other words, morality itself consists of two constructs: self-concept and social identity concept (Tajfel, 1959; Tajfel & Turner, 1979). According to Erickson (1964), each human being was born with his or her own moral identity which is embedded in the very core of one’s self. For a person whose self-concept is supported by his or her beliefs, the self-mechanism of moral identity can be the most powerful factor to translate from beliefs to moral action (Damon and Hart (1992)). The self-regulatory

mechanisms embedded within give people the ability to engage in thinking about right and wrong in every day actions, which requires consistency throughout their lives. This argument implies Erickson's view that one must be true to oneself and constantly attempt to maintain consistency between the moral self and action in the real world. Others claim (Blasi, 1984; Hart et al., 1999), that if a person's self-concept and moral identity are genuinely linked, then "attitude" tends to be steadily established. Aquino and Reed (1998) presumed that a stronger self-importance within a person's moral identity would attenuate the probability of identity adaptation to a myriad of situations and associations with moral behaviour.

On the other hand, moral identity can also be viewed as a concept of self within a social context which likely consists of "collectively shared moral characteristics" (Lapsley & Lasky, 2001, p. 121), making it reasonable to suggest that each person might have interests in common or share similar interests. Durkheim (1965) argued that morality brings people together through common systems that emerge from the collective effervescence that occurs when people congregate in groups. Based on this point of view, individual morality in social settings could emerge and influence a person's different roles and who they affiliate with. For example, a person may have the social reference of being a member of any political, religious, or ethnic group (Deaux, Reid, Mizrahi, & Ethier, 1995) or as a volunteer for any social welfare cause, which then reflects a social-cognition oriented definition of the self.

However, Blasi (1964) argued that being a moral individual depends on each person's level of self-conception. Not to overlap with Erickson's view, Blasi argued that each individual may experience different exposures and has a different personal

background that shapes a person's moral identity. Moral identities vary among people, and the self-importance of one's identity can change over time.

Despite the fact that each person has unique moral characteristics that make up his or her own moral identity, being a moral individual may but need not be part of a one's overall self-definition (Blasi, 1964). The moral characteristics or traits implied in this argument could be honesty, care, loyalty or respect (Haidt and Graham, 2009; Graham and Kesebir, 2010). While people's morality can vary, whether a person is compassionate or just fairly disposed towards moral behaviour, it should be noted here that "as long as the person attempts to see the world in terms of the proscriptive implications of moral characteristics linked to that social construction, it is hypothesized that the person has adopted moral identity as part of his or her social self-schema" (cf. Reed, 2002; quoted from Aquino and Reed, 2002, page 1424). Moreover, it is not necessary to measure moral identity to discover a person's unique moral traits (Aquino and Reed, 2002), but it is more important to trigger a "subset of moral traits linked to a person's self-concept" (ibid. 125). Experience, maturity (Hart et al. 1998) and the organisational or social contexts (Forehand et al. 2002; Weaver and Agle 2002) are more likely to influence a person's moral identity and increase awareness, responsiveness and engagement with moral behaviour (Aquino and Reed 2002; Blasi 1984; Younis and Yates 1999).

One such source of normative influence with motivational power is the moral norm, which refers to "personal feelings of . . . responsibility to perform, or refusal to perform, certain behaviour" (Ajzen, 1991, p. 199). The concept of moral norms has also been operationalised as perceived moral obligation or personal norms (see

Conner & Armitage, 1998). Previous research by Terry and colleagues (Fielding, et al., 2008; Hogg, et al., 1995; Smith & Terry, 2003; Terry, et al., 2000; White, et al., 2009) presented an alternative to support the concept of subjective norms, leading them to investigate a number of different alternatives such as group norms (social norms). Kallgren and Reno (1991) investigate the relationships between personal, descriptive, and injunctive norms. Some studies have validated the role of moral norms (Arvola et al., 2008; Ravis, Sheeran, & Armitage, 2009; van der Linden, 2011), while others (Harland, Staats, & Wilke, 1999; D. Parker, Manstead, & Stradling, 1995) provide evidence to explain the variance in intentions. On this basis, Desmond and Crane (2004) contend that morality, in the form of one or another variant of egoism or self-interest, has always been central to marketing thought (Desmond and Crane, 2004).

The effort to gain individual compliance with healthy living practices presents a unique set of marketing challenges. Developing effective methods for promoting pro-environmental behaviour is not a straightforward task and demands understanding individuals' attitudes and their receptiveness to marketing efforts aimed at changing this behaviour. Within this context, effective message framing appears to play a key role in affecting the attitudes and behavioural intentions of the target audience. While both approaches to framing have been studied for their individual main effects, the findings are mixed and do not offer clear advice for environmental studies. A significant number of articles highlight the fact that designing effective communication tools is vital. Furthermore, message framing effects and how consumer responses to each message or multiple messages have received limited empirical consideration.

2.7 Chapter Summary

Theory of Reasoned Action, Prospect Theory, Social Cognitive Theory and Identity Theory are many theories derived from psychology and sociology. Theories are prominent in the literature not only in marketing but also in any other discipline, because theories are useful in the development of a study. In social marketing, promoting consumers towards pro-environmental behaviour becomes an essential component of behavioural change. Therefore, theory plays a crucial role because it becomes the backbone of the study that could guide the researcher to further study. Although they have limitations and criticisms, theories give us “language to share knowledge with other people doing similar things.” Moreover, researchers must tolerate each study being different and few studies working better than others; some studies may complement one another or can be integrated. Correlations among studies could present an opportunity for the researcher to fill the gap and contribute to the theory. Moreover, researchers and social marketers should think outside of the box and beyond the wider environment (e.g., social factors, psychological factors or environmental factors) rather than be confined by the theory (Eagle et al., 2013).

This chapter also summarised important and relevant points from the literature on consumers’ recycling behaviour.

- i. Recycling is an activity that provides benefits to human well-being and offers the best option for sustaining the environment.
- ii. Past research on recycling behaviour has been conducted mostly in developed countries, thus there is a need to investigate this topic in developing countries such as Malaysia.

- iii. The Islamic campaign could encourage individuals to recycle; thus, a well-designed campaign could persuade individuals to recycle as part of their moral obligation towards the environment.
- iv. Further research on pro environmental behaviour with an Islamic approach is needed. Research on environmental behaviour revealed that moral thoughts and religiosity determine people's behaviour.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods and procedures of inquiry that are used in this study. The general objective of this study is to provide a comprehensive understanding of the roles of religion in recycling behaviour among Muslims. Thus, this chapter proposes the methodology to answer the research question and bridge the gap as discussed in the literature. This chapter contains an explanation of the methods and procedures of inquiry that are used in the current study. The chapter is divided into seven sections: 1) introduction, 2) research paradigm and philosophy, 3) research strategies, data collection and analysis methods, 4) goodness of measures, 5) time horizon, 6) ethical considerations, and 7) chapter summary. This research is primarily descriptive and explanatory (establishing a causal relationship between variables). This chapter is structured according to the suggestion of ‘the research process onion’ of Saunders et al. (2009), which is shown in Figure 3.1.

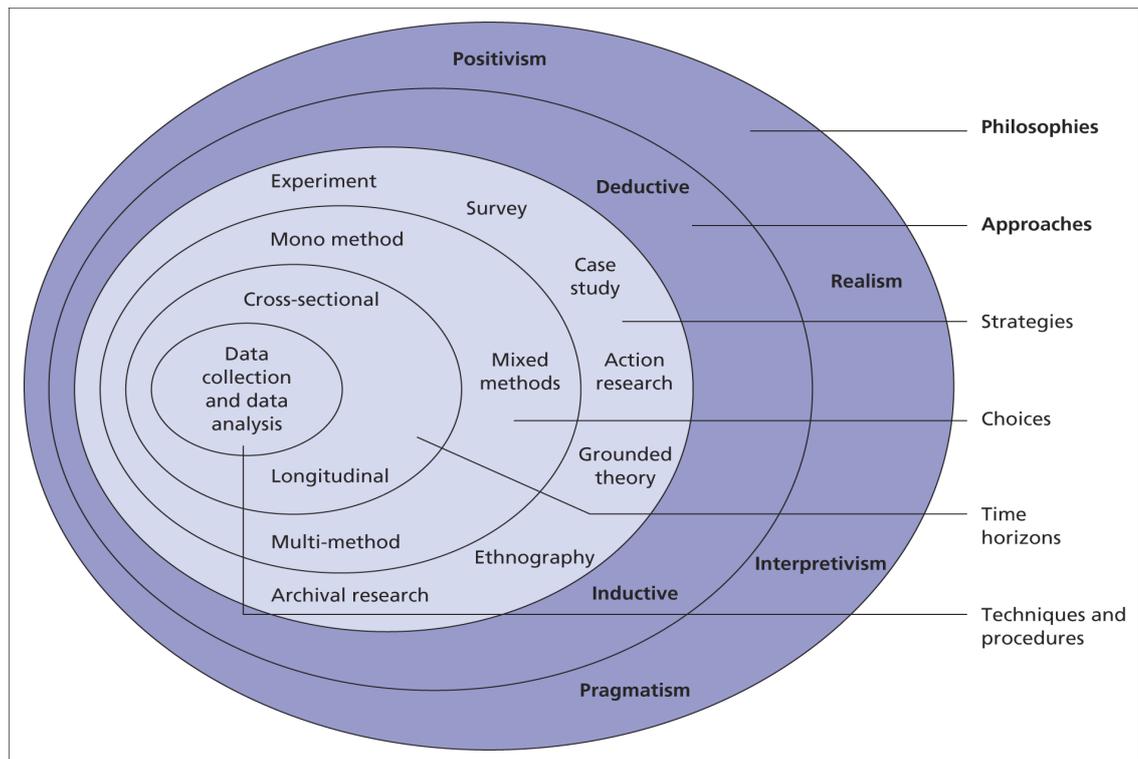


Figure 3.1: The research onion

Source: Mark Saunders, Philip Lewis and Adrian Thornhill 2012; 160

3.2 Research Paradigms and Philosophical Assumptions

A research philosophy is an emphasis on the nature of knowledge and the development of knowledge. Not as vivid as a theory of human motivation, a research philosophy mainly focuses on strategy when doing research (Saunders et al., 2009). A research philosophy is essential because it will help the researcher to view the world. It is unavoidable because it can provide a significant impact on the researcher's studies and investigations as long as the researcher gives full commitment to the choice of research strategy (Johnson and Clark, 2006).

For many years, positivism and interpretivism paradigms have represented researcher's philosophical stances especially in the social and behavioural sciences. Positivism, which is quantitatively oriented, uses numbers and a large sample to test theories.

Interpretivism, which is qualitatively oriented, uses words, meanings, and a smaller sample to build theories (Bryman, 1984; Guba & Lincoln, 1982; Tashakkori & Teddlie, 1998; Easterby Smith et al., 2002). According to Kumar (2011), quantitative study designs are specific, well-structured, explicitly defined, recognized, and have been tested for their reliability and validity, while qualitative research either does not have these attributes or has them to a lesser degree, is less specific, and does not have the same structural depth.

This concept of “basic beliefs” provides answers to several fundamental questions concerning different paradigms. According to Guba and Lincoln (1994, p. 108), researchers have different points of view about the nature of reality that they apply to a phenomenon and how the world operates (ontology). This point of view determines what constitutes acceptable knowledge in a field of study and the relationship between the would-be knower and what can be known. This leads to an answer to the methodological question of how can the would-be knower or inquirer go about finding out whatever can be known. Finally, the axiological question that is later added (Lincoln and Guba, 2000, pp. 168-9) entails the question, what is intrinsically worthwhile? Therefore, it is crucial to understand the nature of the research and decide on the appropriate research paradigm and research design because most theories in the social sciences are derived from selected philosophical paradigms. Thus, it is important for the researcher to be conscious of the research process and differences between philosophical assumptions (Burrell & Morgan, 2007; Saunders et al., 2009). Without a doubt, an understanding of research philosophies can guide and facilitate researcher to choose an appropriate research design (Easterby-Smith et al., 2002).

3.2.1 Research Philosophy in Marketing

Initially, early research held a positivist stance, in which most research relied on observation and experiment as their systematic methods (Smith, 1983). Not surprisingly, this philosophical stance was dominant in social and behavioural research, as it provides a clear framework for the research undertaken (Blanche et al., 2006). However, both quantitative and qualitative methods of research are well established in the present study, as there has been a gradual increase in interest in combining different methods (Creswell, 2003; Tashakkori and Teddlie, 2010; Migiro and Magangi, 2011).

Hanson and Grimmer (2007) have reviewed the uses of mixed methods published in major marketing journals, which involved 1195 articles published in 1993 and 2002. On the whole, the dominance of quantitative over qualitative methods was found in the study. In fact, Hanson and Grimmer (2007) believed “the main justification provided for use of qualitative methods was the ability to provide more insight or a deeper understanding of the phenomenon under investigation.”

A review by Harrison and Reilly (2011) found there has been an emerging interest among researchers employing a mixed method approach in research strategies and methodologies, although the coverage was still limited. The findings indicate 63 percent of the articles were skewed more toward quantitative lines of research, 7 percent prioritizing qualitative data and 30 percent prioritizing both equally.

Therefore, due to fact that researchers are more interested in “knowing more” in an empirical study and recognize the benefits of using both qualitative and quantitative methods (Harrison. and Reilly., 2011; Dallas and Martin, 2007; Weinreich, 2010), this

study proposes employing both methods, while using quantitative methods as the primary method. After all, it was suggested that future research integrating quantitative and qualitative methods in marketing lends depth and clarity to marketing programs (Weinreich, 2010).

3.2.2 Research Paradigm and Methodology Chosen

The research paradigm and methodology are an important issue in any study. Collis and Hussey (2009) define a research paradigm as “a framework that guides how research should be conducted, based on people’s philosophies and their assumptions about the world and the nature of knowledge.” Churchill (1979), proposed that it provides overall guidance to the researcher in collecting and analysing the data of a study. In fact, earlier research was based on positivism, and most of the research used observation and experiment as their systematic methods (Smith, 1983). As the trend continued, it had been widely used in social science research until today because positivism provides a clear framework for research.

Walliman (2005) also noted that knowledge is derived from positive information because “every rationally justifiable assertion can be scientifically verified or is capable of logical or mathematical proof.” Although this may be true, new research paradigms are also emerging as people’s ideas about the nature of knowledge and reality have changed over time. For example, interpretivism emerged in response to criticisms of positivism. This paradigm is highly subjective and focuses on exploring the complexity of social phenomena to gain an interpretive understanding that is not aligned with the researcher’s present study. However, Hughes and Sharrock (1997) noted one criticism of subjectivism, namely, that subjectivism is still unable to replace objectivism with a

better approach. Although this study uses both methods and the philosophy underlying this research falls between positivism and interpretivism, this researcher believes that the post-positivist paradigm best suits the current study, as truth as it exists can only be partially comprehended (Riley and Love, 2000). In fact, according to Cohen and Manion (1986), from a post-positivist point of view, “knowledge can be discovered through a less stringent scientific methodology which engages quantitative with some qualitative methods.” After all, it is important to find appropriate methods to achieve the aims of the study instead of arguing which paradigm is correct for research. This is to ensure the consistency of the philosophical approach and the theoretical framework of the study.

Without a doubt, understanding research philosophies, the issues of epistemology, ontology, purpose and approach are greatly important as they guide and facilitate a researcher to choose an appropriate research design. The following discussion will consist of two major ways of thinking about research philosophy: ontology and epistemology. Then axiology follows, which emphasizes the role of values in research choices. In brief, this will provide a better understanding of the nature of the research undertaken and choosing the appropriate research paradigm and research design.

3.2.2.1 Ontology

Saunders et al. (2012) describe ontology as the assumptions researchers make about how the world works. It also can be defined as the philosophical study of the nature of being, existence or reality. This study has a post-positivist paradigm based on its ontological standpoint; its view of reality is singular. In other words, ontology is a theory that hovers above in order to help explain (in a single reality) the findings in the

study (Creswell and Plano-Clark, 2011). Additionally, it is noted by Collis and Hussey (2009) that this study can be measured by using questionnaires (research instruments). Because a pre-exploratory qualitative phase might add to justifying the quantitative phase, it can be argued that a post-positivist critical realist ontology is being adopted. The actual philosophical position will be realised once the nature and extent of this pre-quantitative phase evolves.

3.2.2.2 Epistemology

Epistemology is concerned with what is acceptable knowledge in a field of study (Saunders et al., 2012). Similarly, Trochim and Donnelly (2007) define epistemology as “the philosophy of knowledge or of how you come to know.” Epistemology and methodology are correlated, as both are concerned with how you come to know. Yet, methodology is more concerned with practical issues, precisely because it is focused on specific ways or tools to know the world better. From the positivist view, researchers draw upon objectivist understandings of social life. In its broadest sense, this view is particularly related to quantitative research. As this study will view the world through the lens of positivism, this researcher will prefer “working with an observable social reality and that the end of the product of such research can be law-like generalisations similar to those produced by the physical and natural scientist” (Remenyi et al., 1998). Therefore, this researcher will observe the chosen phenomena to generate reliable data and then develop the hypothesis by using an existing theory. The results will lead to the future development of further research. This study is undertaken in a value-free way and with the assumption that the resources of the researcher are external to the data collection process and only slight alterations can be made to the data collected (Saunders et al., 2012). Following the assumption of Remenyi et al. (1998), “the

research is independent of and neither affects nor is affected by the subject of the research.” This research views the objects as ‘real’ and having a separate existence from the researcher. Thus, the study will be more objective because the data collected are less biased (Saunders et al., 2012). On the other hand, interpretivism draws upon subjectivist or constructionist epistemologies. Saunders et al. (2012) noted that interpretivist studies mainly focus on object feelings and attitudes, which are claimed as social phenomena with no external reality. In brief, the researcher believes human feelings are frequently measured, as this will provide the most objective data. The researcher will place more authority on such data and present it in statistical form rather than in the narrative style adopted by interpretivist philosophy.

3.2.2.3 Axiology

Saunders et al. (2012) define axiology as “a branch of philosophy that studies judgements about value.” The concerns of axiology might include what roles the values of the researcher might play during the research undertaken, which belong to the fields of aesthetics and ethics. Hence, researchers demonstrate axiological skills by aligning their values as the basis for making judgement and conducting research (Heron, 1996). This research follows positivist philosophy and holds that the researcher’s value has an impact on research activities. As the debate continues, there is no right or wrong philosophical stance. Saunders et al. (2012) conclude that it is important for the researcher to have a clear value position as it will help to choose what is ethically appropriate. As has been noted, this research has a post-positivist paradigm based on its ontological, epistemological and axiological standpoint. Table 3.1 shows the basic beliefs pertaining to the positivist, post-positivist and interpretive paradigms.

<i>Component</i>	<i>Paradigm</i>		
	Positivism	Post-positivism	Interpretivism
<i>Ontology</i>	Reality as objective and singular, apart from the researcher.	Critical realism- ‘real’ reality but only imperfectly apprehendable.	Reality as subjective and multiple from participants in a study.
<i>Epistemology</i>	Dualistic: The researcher is independent (detached) from that being researched.	Modified dualist/objectivist/critical tradition/community, findings probably true.	The researcher invariably interacts with that being researched.
<i>Axiology</i>	Value-free and unbiased (e.g. omit statements about values from the written report, using impersonal language).	Post-positivism allows for the use of natural settings and the collection of more situational information.	Value-laden and biased (e.g. active/voluntary reporting of the researcher’s values and biases, as well as the ‘value nature’ of information gathered from the field).)
<i>Methodology</i>	<p>Experimental or statistical control of variables; testing of hypotheses; extensive application of quantitative methods.</p> <p>Reporting facts-arguing closely from evidence gathered in the study.</p> <p>Analysis is based on statistical testing of theories.</p> <p>The quality criteria of the methodology are the conventional benchmarks of rigour: internal validity, external validity, reliability and objectivity.</p>	<p>Modified experimental/ manipulative/ critical multiplism/ falsification of hypothesis, may include qualitative approaches.</p> <p>The Likert scale and other closed question techniques (with or without accompanying hypothesis for verification) that are common in methods often employed in the service of the positivist and post-positivist paradigms.</p>	<p>Analytic-inductive (i.e. building of theory); extensive application of qualitative methods (e.g. participant observation studies, in-depth interviews).</p> <p>Reporting on meanings (as opposed to facts) by understanding what is happening.</p> <p>Analysis is based on verbal, action, and description.</p> <p>The quality criteria of the methodology are less specific: typically the trustworthiness and authenticity of the information furnished by informants (e.g. verification of facts before reporting). Generalisability is not envisaged.</p>

Table 3.1: Positivistic and Interpretive Paradigms.

Source: Orlikowski and Baroudi, 2002, Creswell, 2003; Guba and Lincoln, 1994, 2005; Henn et al., 2006

3.3 Research Strategies, Data Collection and Analysis Methods

Taking into account the suggestions of previous work, this study employed a sequential mixed method design because the researcher conducted a qualitative study phase, followed by a quantitative phase. Initially, this approach is used to “define the nature and scope of sequential quantitative or qualitative research. It may also be used to provide contextual background and to have a better understanding of the research problem, help in the formulation or drafting of research questions, interview questions and questionnaire items and the selection of samples, cases and participants” (Saunders et al., 2012: p.169). Moreover, “the use of mixed methods may allow for a greater diversity views to inform and be reflected in the study, and may establish the generalizability of a study or its relative importance” (Saunders et al., 2012: p.169). Hence, the fieldwork of the research was conducted in two phases: a qualitative study and a quantitative study (Table 3.2). The details related to each stage are reported in the following sections.

Research Phase

	Qualitative	Quantitative
<i>Data Collection Method</i>	▪ Personal interviews	▪ Experiment
<i>Research Instrument</i>	▪ Interview articles	▪ Questionnaire
<i>Data Analysis</i>	▪ Content Analysis	▪ Analysis of variance, CFA, SEM.

Table 3.2: Research Phase

3.3.1 Qualitative Study

Qualitative research is a vast and complex methodology, and it is typically the approach of choice for generating a hypothesis or new theories and achieving a deep understanding of issues (Trochim and Donnelly, 2007). To recap, the main purposes of this study are twofold: the designation of the environmental advert and the development of an integrative recycling communication model based on an Islamic approach. There is little prior knowledge and work on the development and design of recycling communication in the literature. Taking into account suggestions from previous studies (Afroz et al., 2010; Timlett and Williams, 2009; Vicente and Reis, 2007; Bezzina and Dimech, 2011; Hong and Narayanan, 2006; Davis et al., 2006; Meneses and Palacio, 2007; Meneses, 2010; Peattie and Peattie, 2009), the exploratory design is applicable to this study at this stage. In fact, this approach is applicable to the first purpose because one important task must be completed before embarking on the main study.

3.3.1.1 Online Interviewing

There are a number of principal ways to conduct qualitative research, especially during the exploratory stages of research. According to Punch (1998: p.174-175), “the interview is one of the main data collection tools in qualitative research” because it is a “good way of accessing people’s perceptions, meanings, definitions of situations and constructions of reality”. Moreover, it is a useful data collection method as it provides rich data, the opportunity to establish a rapport with the interviewees, and helps to explore and understand complex issues (Sekaran and Bougie, 2010). Specifically, online interviews were taken using Skype. The online interview is useful when the interviewee (minority and professional groups) are too distant to reach (Daymon and Holloway, 2011) or too difficult to contact (Gruber et al., 2008) for face-to-face interviewing.

Furthermore, this method is convenient and inexpensive compared to traditional interviews as there are no accommodation and travel expenses.

Like a traditional interview, an online interview allows the interviewer to clarify questions and clear doubts during the interview session as well as to add new questions. It is less likely that a question will be misunderstood. In fact, this method allows the interviewer to use visual aids to clarify points and also challenges the interviewer to read nonverbal cues from the interviewee. Furthermore, one of the advantages of conducting online interviewing is “more apparent in online individual interviews (one-to-one) than in online group discussions” (Pincott and Branthwaite, 2000: p.151).

Due to time and distance differences of both parties and the cost limitations of this study, online semi-structured interviews with the “experts” in the subject were performed. The interviews were conducted primarily to obtain information on the issue of interest (problem-centred interview) as “it is important that the interviewer makes clear his or her substantial interest and is able to maintain a good atmosphere in the conversation”(Witzel, 1989: p.249). Expert interviews have been known as a specific form of applying semi-structured interviews (Meuser and Nagel, 2002) as experts possess experience and are able to discuss a particular event or field (Darlington and Scott, 2002). Although a series of questions were formed and structured, the interview still offers flexibility for the experts to express their opinions freely (Bryman and Bell, 2007).

To recap, the aim of the interview is to discover the informant’s perspectives and general point of view. Overall, this research employed multi-stage purposeful sampling,

which involves expert sampling and purposive sampling. In this phase, the sampling technique employed in this study is purposive sampling, specifically among the experts. According to Kumar (2011), choosing expert sampling is based on the researcher's judgement to choose his/her respondents based on their ability to contribute to the study; and the respondents must be known experts in the field of interest, which is very appropriate for qualitative research studies.

3.3.1.2 Procedures and sample design

The approach to data collection in interviews involves four parameters as suggested by Miles and Huberman (1984):

- i. The setting (where the research will take place): Hull, United Kingdom and Klang Valley, Malaysia.
- ii. The actors/volunteers (those who will be interviewed): 12 representatives (6 NGOs) were interviewed
- iii. The events (what the actors will be interviewed about): they were interviewed about recycling programs in Malaysia and the current scenario (what should be done to motivate consumers to recycle in the communication context), with a primary focus on communication content.
- iv. The process (the evolving nature of events undertaken by actors within the setting): the interview events were discussed.

The online interviews began October 3rd and were completed on November 3rd, 2012. Owing to the program Skype, the interviews was taken by phone call, video and text-based. Four representatives from non-profit organizations and one from a government ministry responded to the interviews.

- i. Seri Sinar Charity Foundation (PASS)

- ii. Community Recycle for Charity (CRC)
- iii. Malaysian Environmental NGOs (MENGO)
- iv. Solid Waste and Public Cleansing Management Corporation (Perbadanan Pengurusan Sisa Pepejal dan Pembersihan Awam) (PPSPPA)
- v. Recycling Centre Wangsa Maju (ALAM FLORA)
- vi. Malaysian Nature Society (MNS)

3.3.1.3 Data Analysis Technique

This is a crucial and exciting stage in conducting qualitative research as the researcher discovers themes and concepts embedded in the interview. The purpose of data analysis is to hear and recognize what the data say. This process provides a description of the stories. To gather the data easily, this researcher used a coding method to digest the meaning of the whole stories. During the phone, audio and video interviews, the researcher had to take written notes on the information that was highlighted by experts during the interview sessions. The interviews were conducted in Bahasa Malaysian and English. After the transcription process, the transcript document underwent translation. Soon after, the coding process began, bringing together similar ideas, concepts or themes discovered in the process.

To recap, the general theme basically emerged from the problem-centred interviews, which mainly focused on the communication content of recycling campaigns. At this exploratory stage, the researcher found interesting results pertaining to the recycling campaigns practiced or designed in Malaysia. The findings also support themes that emerged from the literature to see the potential of religion in pro-environmental behaviour.

3.3.2 Quantitative Study

From the social sciences view, “quantitative study designs are specific, well structured, have been tested for their validity and reliability and can be explicitly defined and recognised” (Kumar, 2011), which contrasts with study designs in qualitative research. Quantitative study designs are often based on deductive rather than inductive logic. To ensure accuracy in measurement and classification, quantitative study designs must be rigid, fixed, more structured and predetermined (Kumar, 2011). A comprehensive analysis by Hunter and Leahey (2008) shows that two-thirds of the 1274 articles published in American sociology journals between 1935 and 2005 have used quantitative methods. As the trends continue, quantitative methods have been widely used in social science research until today because quantitative research offers a clear framework for the research undertaken (Saunders et al., 2012).

One of the strengths of quantitative research is that the data produced can be generalized to a larger population. In addition, Creswell (2009) noted that quantitative approach is statistically capable of measuring behaviour and attitudes. At the beginning of most quantitative research, quantitative data in a raw form offer less meaning to most researchers. As a result, after all data have been processed and analysed, they provide valuable information that can be presented in graphs, statistics and charts. It is believed that any research that involves numerical data or contains data can be quantified to help researchers meet research objectives and answer research questions (Saunders et al., 2012). Further, Saunders noted that the quantitative analysis technique can “establish a statistical relationship between variables to complex statistical modelling.” Collis and Hussey (2009) also acknowledged quantitative research as efficient because it can test hypotheses and is applicable to the positivist paradigm.

However, to achieve the objectives and conduct this research successfully, it requires both methods, qualitative and quantitative methods complementing each other. Aaker et al. (1997: p.78) claimed “it is very rare for only one data collection method to be perfectly suited to meet a research objective. A successful choice (...) is achieved by combining several methods to take advantage of their best features and minimise their limitations”. The study used a prospective design with two waves of data collection. After conducting interviews and analysing the content (which is discussed in detail in Chapter Four), experimental studies were undertaken next to meet the following research objectives.

- i. To identify the effects of each treatment on negative and positive group framed messages.
- ii. To identify the effects of each treatment on advert effectiveness.
- iii. To examine the relationship of ad (framing) believability on ad attitude, recycling attitude and the intention to recycle.

3.3.2.1 The Experimental Studies

The experiment is “a form of research that owes much to the natural sciences, although it features strongly in psychological and social science research” (Saunders et al., 2012: p.174). According to Kerlinger, “an experiment is taken to mean a scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variable or variables for variation concomitant to the manipulation of the independent variables. An experimental design, then, is one in which the investigator manipulates at least one independent variable” (1986: p.293). Generally, this research design is undertaken to “establish a cause and effect relationship beyond the possibility of the least doubt require the creation of an

artificial, contrived environment in which all of the extraneous factors are strictly controlled” (Sekaran and Bougie, 2010: p.114).

This research follows a quasi-experimental design, specifically a post-test-only randomized experimental design. Despite its simple structure, this design is one of the strongest of all research designs and one of the best approaches for assessing cause-effect relationships (Trochim and Donnelly, 2007). Some studies only expose an experimental group to a treatment and measure its effects without a control group; this is the weakest experimental design. According to Sekaran and Bougie (2010: p.243), this is due to “no comparison between groups, nor any recording of the status of the independent variable as it was prior to the experimental treatment and how it changed after the treatment.” In a classic experiment (Figure 3.2), although two groups (experimental and control) will be exactly same in all aspects relevant to the research, only the experimental group will be exposed to the treatment or manipulation, whereas, in the other group, no such intervention is made (Saunders et al., 2012: p.175).

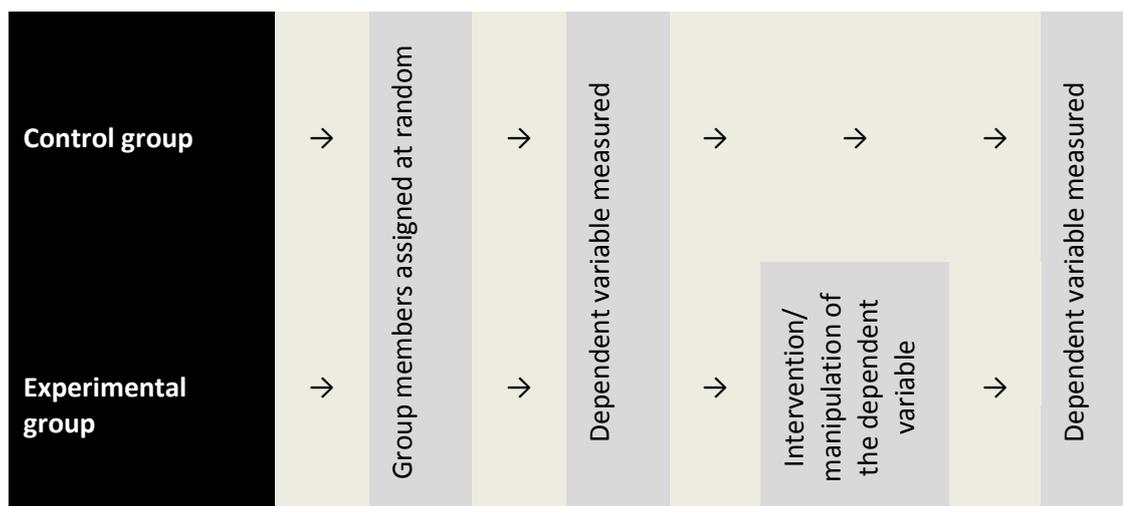


Figure 3.2 : A classical experiment strategy

Unlike other research designs, this type of design necessarily has a control and manipulation concept; the causal effects can be tested in this study. Manipulations, as defined by Sekaran and Bougie, are for “creating different levels of the independent variable to assess impact on the dependent variable” (2010: p.228). The manipulation involved manipulating the independent variable, which is also known as the treatment. The manipulation of the independent variable can be carried out by introducing different levels of treatment to different groups. Carrillat and d'Astous (2012) performed an experiment to investigate consumer responses when sponsorship and advertising are both present. A total of 149 participants were randomly assigned across the experimental conditions. In this experiment, a 2 (event sponsorship: yes/no) x 2 (in-kind sponsorship: yes/no) x 2 (type of event: rugby/soccer) mixed factorial design was conducted in which the “number of different sponsorship activities by the same sponsor (i.e., one or two) in a sport event was varied in the context of an ongoing advertising campaign” (ibid. p. 85). The event sponsorship and in-kind sponsorship were used as between-subject factors in this design in order to make sure that the participants could not make inferences about the manipulations concerning the presence or number of different sponsorship activities. Based on the experiment, findings show that “when brand advertising is used during a sporting event, it is more beneficial for the brand to either be the official sponsor of the event or to be the official provider of products that are integrated in the event than to apply these two sponsorship strategies at the same time” (Carrillat. and d'Astous., 2012: p.562).

There are a few more issues that need to be highlighted. In addition to threats to the internal and external validity of experiments, one of the most compelling issues that a researcher must take care to control for is the contaminating exogenous or nuisance

variables. One way to control contaminating variables is to assign a group of participants randomly to different groups. Without predetermination, every member will have an equal chance of being assigned to each group. According to Sekaran and Bougie (2010: p.231), “the randomization process allows distributing the confounding variables among the groups equally, the variables of age, sex and previous experience (the controlled variables) will have an equal probability of being distributed among the groups.” They also added, “If these variables do indeed have a contributory or cofounding effect, researcher has controlled the cofounding effects (along with those of other unknown factors) by distributing them across groups” (p. 232). In short, this technique is more effective than the “matching group” technique in any given situation while conducting experiments.

3.3.2.2 The Experimental Instrument

In many situations an interviewer’s presence is not essential because a questionnaire can be filled in by the respondent rather than by an interviewer. Nevertheless, as noted by Tull and Hawkins (1990), this type of research instrument can provide insights into people’s beliefs, attitudes, values and behaviour. A structured questionnaire was prepared for use in the field survey.

In spite of the various available versions of measurement scales found in the previous literature, it is relevant to include the most appropriate items that fit well in the research context. The following sections will describe in detail the process undertaken in developing the survey instrument.

3.3.2.2.1 Measurement Format of Items

Designing a questionnaire requires a strong problem definition and clear objectives in order to indicate which type of information the questions must answer. In fact, accuracy and relevance are the two basic criteria a questionnaire must have in order to achieve the researcher's purposes; thus, questionnaire design requires a systematic plan. According to Sekaran and Bougie (2010), questionnaires can be categorized into two types; an open-ended questionnaire, which poses some problem and asks the respondent to answer in his or her own words, and a closed-ended questionnaire, in which the respondent is given specific, limited alternative responses and asked to choose the one closest to his or her own viewpoint (Zikmund, 2003). For this study, the researcher used a close-ended format because it could help respondents to answer quickly, take less time to administer, it is easy to process, reduces interviewer bias, and provides a greater uniformity of responses (Kinnear and Taylor, 1996).

Moreover, the present study attempts to measure the attitude of the respondents, which is "a person's ideas, convictions, or liking with regard to a specific object or idea" (Iacobucci and Churchill, 2009). In measuring attitude, an itemised rating scale, such as a Likert scale, allows the respondents to provide their answers (feelings or attitudes) to the questionnaire. The present study used this scale to assess the respondent's position towards the targeted behaviour by choosing among a limited number of categories. For example, a person's attitude might be positive if he or she either agreed with a favourable statement or disagreed with an unfavourable statement. Then, the respondents' total score is computed in order to determine the respondent's attitude by summing the scores for all statements.

A Likert scale is one of the multiple-item scales widely used in consumer research (Sekaran and Bougie, 2010). This agree-disagree approach to measuring attitudes has for decades been ubiquitous in questionnaires of all types: academic studies in fields ranging from political science to product design, market research, government surveys and opinion polling. Unlike others, this scale represents simplicity and versatility, which explains why this approach is ubiquitous in survey research. Moreover, it is easy to construct and administer and a pleasingly simple way of gauging specific opinions that allows respondents to express the intensity of their feelings (Zikmund, 2003; Iacobucci and Churchill, 2009; Burns, 2000). Burns (2000) illustrates the strength of this scale, namely, that it could produce more homogeneous scales, increases the probability that a unitary attitude is being measured, and, therefore, validity (construct and concurrent) and reliability are reasonably high.

3.3.2.2.2 Composition of the Questionnaire

The questionnaires were designed with a cover letter from Hull University to explain the purpose of the experiment. The cover letter also provided assurances regarding the time to complete the questionnaire and explained that the confidentiality of the respondent's answers and personal details were for research purposes only. The questionnaire used closed-ended questions and was divided into several sections to assess all of the different independent variables that affect recycling behaviour. All variables in the questionnaire, with the exception of questions related to general demographic information, were measured on a 7-point Likert-rating scale. These measures formed part of a larger data set, and only the measures relevant to the current study are given here. The measures used are described in Table 3.3.

<i>Section</i>	<i>Variables</i>	<i>No of items</i>	<i>Scale</i>	<i>Main source</i>
A	Advert		-	Author
	Framing interventions		7-point scale	
	• Positive-negative	4		Maheswaran and Meyers-Levy (1970)
	• Islamic identity	2		Quran (7:31)
	• Moral identity	2		Aquino and Reed (2002)
	Framing believability	10	7-point scale	Beltramini and Evan (1985)
B	Recycling attitude	6	7-point scale	Tonglet et al. (2004) Knussen et al. (2004)
	Ad attitude	3	7-point scale	Lutz et al. (1983)
	Recycling intention	3	7-point scale	Terry et al. (1999) Cheung et al.(1999) Nigbur et al. (2010) Bezzina and Dimech (2011) Park and Ha (2012)
C	Demographics		Categorical format (multiple choice)	Author

Table 3.3: Structure of the questionnaire

Based on Table 3.3, a questionnaire was designed and included to gather information about advert believability, advert and recycling attitudes, and the future recycling intention of respondents. The questionnaire consisted of 30 items. Positive, negative, Islamic identity and moral identity framing messages can be summarised below:

- i. Positive framing: If you recycle, you could preserve the environment, your quality of life in the future but also your friends, family and the community.
- ii. Negative framing: If you do not recycle, you could harm the environment, your quality of life in the future but also your friends, family and the community.
- iii. Islamic identity framing: “Do not waste (resources) extravagantly.” (Aayah No. 31, Surah Al-A’raf, Chapter No. 7, Holy Qur’an).
- iv. Moral identity framing: People that recycle are caring.

Independent variable and manipulation

For the manipulation check, participants rated themselves using 7-point Likert scales on four positive-negative items adopted from Maheswaran and Meyers-Levy (1970), while for the Islamic and moral identity scales, both scales were constructed by the author based on previous studies. Positive and negative measures of framing included: “The pamphlet contended that recycling activities lead to positive consequences”, “The pamphlet stressed the positive results of engaging in recycling behaviours”, “The pamphlet stressed the negative results of not engaging in recycling behaviours,” and “Information in the pamphlet directed attention to the negative consequences of failing to engage in recycling activities” (four items). For Islamic measures of framing, the developed frames included: “The advert includes Islamic messages related to engaging in recycling behaviours” and “The advert does not include Islamic messages related to engaging in recycling behaviours” (two items). Finally, moral identity measures of framing included: “The advert demonstrates the morality of engaging in recycling” and “The advert does not demonstrate the morality of engaging in recycling” (two items).

Dependent variables

The first section included a set of 10 items intended to measure framing believability for the different framing of each experimental group. These items were measured on a 7-point bipolar adjective scale and items were adapted from Beltramini and Evan’s Advertising Believability (1985). In the second section, to assess attitudes toward recycling, participants were asked to rate each page anchored by a six item 7-point Likert-type scale (1= strongly disagree to 7=strongly agree) (Tonglet et al., 2004). The next section measured the attitude to the ad. This variable was measured on a three-item 7-point Likert-type scale (1= strongly disagree to 7=strongly agree) adapted from (Lutz

et al., 1983). To measure ad effectiveness, future recycling intentions were measured on a three-item 7-point bipolar scale anchored by “very likely/very unlikely” (1. “How likely is it that you will follow the recommendations in the advert in the future?”, 2. “To what extent is the advert likely to influence you in future decisions to follow the recommendations?”, and 3. “I am more likely to follow the recommendations after reading the pamphlet than before”) (Loroz, 2007).

Demographic

This section attempts to obtain demographic details about the profile and background of the respondent. Importantly, the response formats used for all demographic variables are presented in categorical format. Respondents are asked whether they are involved in recycling or not.

3.3.2.3 Procedures and sample design

3.3.2.3.1 Translation and pilot test

To highlight, the questionnaire underwent editing and translation processes before a pilot study was pursued. Pre-testing a questionnaire is an essential part of the questionnaire development process (Reynolds et al., 1993; Reynolds and Diamantopoulos, 1998; Churchill, 1999), and an adequate pre-test of the instrument is important before data collection begins (Churchill, 1999). A pilot test was undertaken with a small-scale group of 120 respondents. The purpose of this was to ensure that respondents have no problem understanding and answering questions (Fink, 2009). Moreover, this also ensures the validity of the constructs and reliability of the data that will be collected. Based on the feedback from the pilot test, questionnaires were refined, and a revised questionnaire was developed. Table 3.4 below presents a detailed list of

results for reliability as obtained from the pilot study. The reliability estimates actually range from .71 to .89, more than the required 0.7 cut-off criterion that is generally regarded as sufficient for empirical research (Nunnally & Bernstein, 1994), indicating that the selected scales are relatively reliable.

Constructs	Cronbach Alpha
Framing believability	0.89
Ad attitude	0.77
Recycling attitude	0.84
Intention	0.73
Manipulation checks	0.71

Table 3.4: Reliability Cronbach’s Alpha (Pilot Study)

3.3.2.3.2 The experiment

This study employed a 2 (positive vs. negative: yes/no) X 2 (Islamic identity framing: yes/no) X 2 (Moral identity framing: yes/no) between-subjects experimental design. Hence, eight groups (two control groups, six experimental groups) were required in total. The participants were final-year business students at the Universiti Teknologi MARA (UiTM).

The UiTM is the only public university comprised of a majority of Muslim students (nearly ninety percent) and became the largest university in Malaysia in terms of size and student enrolment. It is home to 120,000 Bumiputeras and international students across four satellite campuses and 12 branch campuses (UiTM, 2013). As this study required eight hundred and eighty Muslim students (representing Muslim consumers) to participate in the experiment on the same day and time frame, the researcher purposely chose this institution due to easy access to a large enough subject pool. Also, this design sometimes “requires random assignment in some institutional settings such as a school

or university; it is more likely to utilize persons who would be aware of each other and of the conditions to which you have assigned them” (Iacobucci and Churchill, 2009).

Nine well trained assistant moderators were recruited to assess, respond and control the group experiment (involved nearly nine hundred respondents). They took responsibility for organizing the experiment and this included booking all equipment and the room. Before the experiment, the entire assistants were briefed about their role. The experiment was conducted in three lecture theatres (same size and condition) on the same day and time frame. On their arrival, they were welcomed and each of the respondents was then randomly assigned to either of the one of eight experimental conditions. At the appointed time, the assistant moderator also outlining its purpose, reassuring participants of the confidentiality of the proceedings and requesting students not to interrupt each other. The participants were then provided a booklet that contained a recycling advertisement and questions. Participants were instructed to view the advert and complete the questionnaire attached at the end of the booklet. Participants were reminded to check for missing answers and were thanked after they returned the booklet. Accordingly, the basic frames of the pamphlet page were all the same between the eight experimental groups. Moreover, the pages were the same, the only differences being the different combinations of advertising components. Each pamphlet was purposely designed without any image or picture in order to avoid potential confounding effects from pre-existing attitudes. Pamphlets with positive or negative text as the only message framing were designed as the control group; pamphlets with different combinations of message framings were designed as the experimental groups. The experiments were successfully executed on February 7, 2013. The entire array of experimental groups involved is presented in Table 3.5.

Group	Components (framings)
Control group 1A	Positive
Experimental group 2A	Positive, moral identity
Experimental group 3A	Positive, Islamic identity
Experimental group 4A	Positive, moral identity, Islamic identity
Control group 1B	Negative
Experimental group 2B	Negative, moral identity
Experimental group 3B	Negative, Islamic identity
Experimental group 4B	Negative, moral identity, Islamic identity

Table 3.5: The experimental groups

3.3.2.3.3 Sampling strategy and sampling size

As noted, this study uses multi-stage purposive sampling. In this phase, purposive sampling is best able to answer the research questions and meet the objectives of the study. Purposive sampling sometimes becomes necessary to obtain information from specific target groups. Therefore, it is appropriate for investigating recycling in a natural setting and reaching a representative sample of Malaysian Muslim consumers.

Determining the sample size involves a consideration of the research objective, the size of the population, the desired level of confidence, the desired error level, and the cost and time constraints. Krejcie and Morgan (1970) developed and simplified a sample size decision table, while Roscoe (1975) in Sekaran and Bougie (2010: p.296) proposed the rules of thumb for determining the sample size as follows (see Table 3.6):

- i. Sample size must be larger than 30 and less than 500 to be appropriate.
- ii. If the samples are divided into subsamples, a minimum of 30 samples is necessary for each category.

- iii. In multivariate research, the sample size should be several times (ten times or more) as large as the number of variables in the study.
- iv. For simple experimental research with tight experimental controls, a small sample of 10 to 20 is possible.

Importantly, it is appropriate for the researcher to consider factors such as cost, time, and data availability for sampling before deciding on the sample size. Moreover, the researcher is required to follow the statistical techniques used in this study. In experimental design, where a study may be divided into different treatment groups, there may be different sample sizes for each group. This researcher chose to use the structural equation model for data analysis and, thus, chose to have a sample of 110 for each experimental group for data collection and questionnaire distribution (see Table 3.7).

Population size (N)	Sample size (s)
20000	377
30000	379
40000	380
50000	381
75000	382
>1000000	384

**Table 3.6: Sample size for a given population size by Krejcie and Morgan (1970)
Source: Adapted from Sekaran and Bougie (2010: p.296)**

Statistical analysis**Sample size**

Structural equation model (SEM)	<ul style="list-style-type: none"> ▪ Sample size of 50 can provide valid results. ▪ A minimum sample size of 100-150 is recommended to ensure stable Maximum likelihood estimation (MLE) solution. ▪ Sample size in a range of 150 to 400 is suggested.
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Table 3.7: Statistical techniques with minimum sample size requirements Source: Hair et al. (2010)

3.3.2.4 Data Analysis Technique

For the purpose of data analysis and hypothesis testing in the present study, several statistical tools and methods were employed using the Statistical Package for the Social Sciences (SPSS). The following discussion provides details on the instrument employed in analysing and interpreting the data for this study. Choosing which type of data analysis to use depends on the research objective and also must be aligned with the nature of the data to answer the research questions. To test the hypotheses, analysis of variance (ANOVA) and structural equation modelling were conducted.

Designed by R.A. Fisher, ANOVA is used to analyse the differences between group means. In its simplest form, ANOVA provides a statistical test of whether or not the means of several groups are equal and this test very useful in comparing three or more means (groups or variables) for statistical significance. A statistically significant effect in ANOVA is often followed up with follow-up tests. The post hoc tests are taken once the researcher has already obtained a significant omnibus F-test with a factor that consists of three or more means and additional exploration of the differences among

means is needed to provide specific information on which groups are different from which other groups or to test various other focused hypotheses and which means are significantly different from each other. Tukey's HSD post-hoc test will help to find the differences between means of all groups and the difference score to a critical value (HSD- honestly significant difference) will be compared to see if the difference is significant.

Structural equation modelling (SEM) is somewhat similar to a multiple regression, and it is indeed more complex than regression. This statistical method is part of the statistic model family because it explains the relationship amongst multiple variables (Hair et al., 2010; Hair et al., 2006). Researchers find that this type of data analysis is very useful particularly in the social and behavioural sciences. SEM is very helpful to the researcher in solving research problems because each model specifies the phenomenon under study in terms of cause and effect variables and their measured indicators (Jöreskog and Sorbom, 1993). In fact, the specification above suits the function of SEM, as Hair et al. (2010) highlight two major issues with SEM: first, measurement, which considers what is to be measured, how to measure and the conditions of reliability and validity and, second, the causal relationship among variables and the explanation of complexity and unobserved variables.

Moreover, the SEM technique is preferable because this study employs a variety of variables and it facilitates interval scales in the questionnaire that has been constructed (Hair et al., 2006: p.1995). The data were analysed by using the SEM software AMOS. This type of measurement model not only considers the relationships between measured and latent variables but also helps to reduce the measurement and structural error by

using Confirmatory Factor Analysis (CFA). Moreover, CFA is useful to test models with multiple dependent variables, such as a model with mediating variables, and to address non-normal data and incomplete data.

Rule of thumb

To achieve one of the CFA primary objectives, assessing the construct validity of a proposed measurement theory, the size of factor loading is one important consideration. According to Hair et al. (2010), a good rule of thumb is that standardized loading estimates should be 0.50 or higher and ideally 0.70 or higher. Furthermore, a good model must achieve or fulfil the following minimum indices of goodness of fit (Table 3.8).

Measures	Threshold Values
Absolute Fit Level	
RMSEA	Less than 0.08
GFI	0.90 and above
P-Value	>0.05
Incremental Fit Level	
NFI	0.90 and above
NNFI	0.90 and above
CFI	0.90 and above
RFI	0.90 and above
Parsimonious Fit Level	
CMIN/DF	Less than 3

Table 3.8: Goodness-Of-Fit indices

3.4 Goodness of Measures

Data analysis is essential as it provides meaning based on the data. In general, it involved steps such as editing and coding the responses, screening the data and selecting the appropriate data analysis strategy (Iacobucci and Churchill, 2009). The

purpose of editing is to ensure the quality standards of the raw data produced; thus, it requires inspection and correction of the questionnaire.

3.4.1 Validity

Validity is “the degree to which a test measures what it is intended to measure” (Gay, 1987). As has been discussed earlier (see section 5.4.1), there are two types of validity: 1) content validity and 2) construct validity. Construct validity or factorial validity testifies to how well the results have been achieved by employing the measure of fit related to the theories based on which the test was designed. This can be done by measuring convergent validity and discriminant validity.

3.4.1.1 Convergent Validity

Convergent validity is very important in research as it refers to the specific construct that covers or share a high proportion of variance (Hair et al., 2006). As noted by Sekaran and Bougie (2010), convergent validity is “established when the scores obtained from two measurement instruments that share the same concept are highly correlated” (ibid. p.321). This type of validity can be checked through confirmatory factor analysis (CFA).

3.4.1.2 Discriminant Validity

According to Sekaran and Bougie (2010), discriminant validity is established when, according to a “theory, two variables are predicted to be uncorrelated” (ibid. p. 42). Discriminant validity, as explained by Fornell and Larcker (1981), can be “examined by comparing the correlations between constructs and the square root of the variance extracted from a construct” (ibid. p. 75). Likewise, variance extracted (VE), as defined

by Hair et al. (2006: p.584), is an “amount of (shared) or common variance among the indicators or manifest variables for a construct” also used to demonstrate discriminant validity. Moreover, the average variance extracted (AVE) is compared to the correlation square of the concerned interrelated variables. As suggested by Hair (2010), “the AVE, which reflects the overall amount of variance in the indicators accounted for by the latent construct, must exceed 0.50; thus, it validates the constructs employed” (ibid. p. 251).

A valid questionnaire will allow accurate data to be gathered, and reliable data means that it has been collected consistently (Saunders et al., 2012). Foddy (1994: p.17) discusses validity and reliability in terms of the questions and answers; he explains that “the question must be understood by the respondent in the way intended by the researcher and the answer given by the respondent must be understood by the researcher in the way intended by the respondent.” Hence, it is recommended to test the questionnaire in order to validate the items and the whole scale. As noted by Sekaran and Bougie (2010), though validity is necessary, it is not a sufficient condition of the test of the goodness of a measure. In other words, it must achieve both validity and reliability.

3.4.2 Reliability

Although a questionnaire is a useful data collection tool, questionnaires are not without their limits (see Murray, 1999; Marshall, 2005). As has been discussed above, there are readily applicable ways in which a questionnaire can be improved. Like validity, reliability is another important “tool” to enhance the quality of questionnaire design. Zikmund (2003: p.300) defines reliability as “the degree to which measures are free

from error and therefore yield consistent results.” Braun et al. (2012: p.3) describe reliability as “the need for a questionnaire to yield consistent results if used repeatedly under the same conditions with the same participants and therefore to be relatively unaffected by errors of measurement.”

There are various criteria to measure reliability: 1) repeatability using the test-retest method; and 2) internal consistency. The test-retest method requires the researcher to administer the questionnaire using the same scale to the same respondents. The respondents answer the same questions twice at separate times to test for stability. However, this method is not applicable to the present study as it requires more time and cost. Furthermore, this method “may create difficulties as it is often difficult to persuade respondents to answer the same questionnaire for the second time” (Zikmund, 2003, p. 74). As such, it may affect the change in attitude of the respondent when answering the questionnaire (Zikmund, 2003; Saunders et al., 2012). In fact, Saunders et al. (2012) recommended this method as a supplement to other options.

Internal consistency, as discussed by Zikmund (2003), concerns the homogeneity of the measure. Internal consistency, involves “correlating responses to each question in the questionnaire with those two other questions in the questionnaire.” (Saunders, 2009, p. 59). A common method to measure internal consistency is known as Cronbach’s alpha (coefficient alpha). This statistic measures the internal consistency of a questionnaire by comparing the variance of the total score with the variances of the scores on the constituent items (Braun et al., 2012). Braun et al. (2012) describe this measure as a useful indicator of the reliability of an instrument. It is a reasonable indicator because it does not have right-wrong (binary) marking schemes and it can be applied to

questionnaires that use scales (Oppenheim, 1993). This method has been widely used by other researchers because it is appropriate for marketing and consumer behaviour research.

According to Nunnally (1978), reliability is "the consistency of the measurement or the degree to which an instrument measures in the same way each time it is used under the same condition with the same subjects". Moreover, the reliability of a measure is essential as it tests the consistency and stability of an instrument. One commonly used method to test the reliability of an instrument is the application of Cronbach's alpha using SPSS. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability (Sekaran and Bougie, 2010). Values less than 0.60 are considered poor, in the range of 0.70 are acceptable, and over 0.80 are good (Sekaran and Bougie, 2010). In addition, composite reliability, developed by Werts et al. (1974), was used to measure the reliability of a construct in the measurement model. Composite reliability, which presents the degree to which the construct indicators indicate the latent construct as recommended by Gefen et al. (2000), should exceed 0.7.

3.5 Time Horizon

This study was constructed within a limited time and was intended to be executed within a time frame. Therefore, a cross-sectional time horizon was considered most appropriate for this study. According to Easterby-Smith et al. (2008), most cross-sectional studies are associated with the survey strategy of collecting data at a particular point in time. The time horizon of a survey is designed according to the research aims and independently from research strategy (Saunders et al., 2009). Cross-sectional designs can also be used in conjunction with both experimental and correlational studies.

Experimental research is the gold standard for answering questions about cause-and-effect relationships. Experimental studies involve the manipulation of one or more factors, or variables, and observation of how these manipulations change the behaviour under investigation.

3.6 Ethical Considerations

In the context of research, Saunders et al. (2009:183) defined ethics as “the appropriateness of one’s behaviour in relation to the rights of those who become the subject of one’s work or are affected by it.” Similarly, Cooper and Schindler (2008) define ethics as the “norms or standards of behaviour that guide moral choices about one’s behaviour and relationship with others.”

Many ethical issues arise during the process of carrying out a study, starting with how researchers conduct and design their research, then gather, process and store the data, and write up and present the research findings in a right and accountable way (Saunders et al., 2012). Based on the definition above, the participants in this study were given priority from an ethical perspective. In fact, the researcher is not advised to force any subject to take part in the research. In other words, it is reasonable to ask for consent or authorization from the subject and provide sufficient information regarding what is required if a subject agrees to take part and the duration of time when research is conducted. Furthermore, a researcher is responsible for the subject’s safety, and it is important to avoid physical risks, psychological harm and stress to the subject (Collis and Hussey, 2009).

It is important for the researcher to offer confidentiality and anonymity to all subjects because confidentiality provides protection for all sensitive information and anonymity offers freedom to the subjects to express themselves without revealing their names and positions. This research is also concerned with the issues above concerning the moral and responsible behaviour and conduct of the researcher. The subjects of this research are mainly Muslims consumers of different background. Before research was undertaken, researcher informed each subject of his or her rights. In addition, the researcher was also bound by the university's code of ethics which provides a statement of principles and procedures for ethical conduct.

3.7 Chapter Summary

This chapter has presented the research design adopted, the mixed method, which involved qualitative and quantitative methods. The multistage sampling technique was employed for this study with six NGOs participating in interviews and more than 800 respondents in the experiment based on the rule of thumb and interval confidence. This design also addressed validity issues by conducting a pilot study. The chapter also discussed the population, sample size, and the survey procedures. In the data analysis section, the statistical techniques employed for analysing the data were discussed. The minimum sample size requirements and methods by which data were organized and collected were also displayed. The requirements of multivariate analysis were established, examined and discussed, and finally, ANOVA and SEM were proposed as the main statistical techniques for this research study.

CHAPTER FOUR

THE QUALITATIVE FINDINGS

4.1 Introduction

This chapter outlines the interview findings. This chapter provides the data gathered from face-to-face interviews and their findings. The interviews provide confirmation on how Islamic identity could potentially be the key to encouraging Muslims to participate in pro-environmental behaviour. Furthermore, this chapter offers point of view on the general opinion regarding alternative ways to persuade Muslims to be part of the recycling programme in Malaysia.

4.2 The Conceptual Framework and Hypotheses Development

The environmental psychological research has received given significant attention to pro-environmental behaviour. Despite this increased interest, there are factors that have not been addressed in message framing strategy (besides positive-negative framed messages), such as the role of religion (as Islamic identity framing) and moral identity in predicting recycling intention. The review of literature found a number of gaps that can be summarised as a lack of advertising or communications design aspects being incorporated, such as message framing with other forms of competitive framing (i.e., for Malaysian context a detailed assessment of Islamic identity), which will be discussed further in the conceptual model.

The purpose of the present study is to design an Islamic advertising campaign to promote recycling behaviour and to assess the effects of message framing, specifically Islamic message framing, in the prediction of the recycling campaign's success. To

examine its effect towards advertisement effectiveness, several framings—positive and negative framing, moral identity framing, and Islamic identity framing—will be combined. Further investigation will extend the findings on how Islamic and non-Islamic message framing affects Muslims’ attitude towards the recycling advertisement. A conceptual model is proposed that integrates framing concept with advertising design and impact on recycling behaviour and attitude development (Figure 4.1).

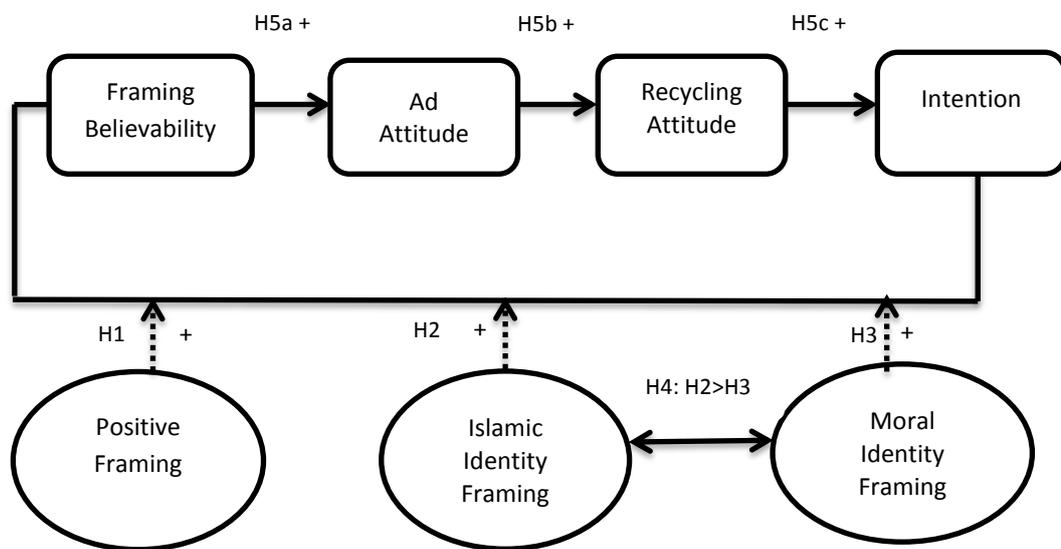


Figure 4.1: The Research Framework

4.2.1 Framing Believability

Interest in green research has become substantial, with most recent studies exploring perceptions or attitudes towards corporate green claims and green products. However, the interest is somewhat limited in studies regarding green advertising and the degree of consumer response towards environmental advertising and promoting pro-environmental behaviour. Despite the large body research on advertising (mostly green products), one key that plays a significant role and effectiveness in social marketing campaigns has been overlooked—the believability of advertising messages.

Beltramini (1982) proposed the concept of advertising believability, which he suggests is the extent to which an ad evokes sufficient confidence in its truthfulness, making it acceptable to consumers. An early study by Maloney (1963) suggested that “advertising believability represents the net effect of advertising upon mind of the reader, listener, or viewer” (ibid. p. 54). He added, “an advertisement is ‘believed’ when it leaves the consumer with that attitude, belief, or intention towards the product which the advertiser intended that she or he should have after exposure to the advertisement.” (ibid. p. 54).

In line with Beltramini and Maloney, Richards (1990) also contends that “once an ad is comprehended it may or may not be believed . . . belief, therefore, is the appropriate measure of actual deception.” Furthermore, Kamins (1989) also stated “quite simply, if the advertisement is not believed, research shows that its effectiveness is restricted.” Hence, without a doubt, believability is an important indicator of the effectiveness of a communication, as it impacts consumers’ deeper beliefs and is more significant to outcome behaviour (Atkin and Beltramini, 2007; Beltramini, 2006; Vlieger et al., 2013).

Over time, the relevance of believability to social marketing issues has been applied to green products (Tucker et al., 2012; Chang, 2011), direct-to-consumer advertising (Atkin and Beltramini, 2007; Beltramini, 2006), alcohol consumption (Park et al., 2011; Glazer et al., 2010) and anti-smoking campaigns (O’Cass and Griffin, 2006). Moreover, the message believability of political ads during elections has a significant effect on voter behaviour (O’Cass, 2002, 2005; Cwalina et al., 2005). As such, the purpose of advertising is not only to reinforce one’s attitude towards the product or issue but also change attitude or persuasion (Maloney, 1963).

However, although the assessment of advertising believability and effectiveness in previous studies may not be robust, it has shed some light on the issue by providing the opportunity for scholars and academics to explore and go beyond the simplistic measure (Atkin and Beltramini, 2007). Believability of the advertisements is important, but assessing the potential contribution of advertisements on consumers' beliefs is much more imperative and vital. The believability of advertising itself centres and focuses on the message and its content (Gauzente and Roy, 2012; Archer-Brown et al., 2012; Sweeney et al., 2012).

Based on these opinions, this study has been designed to investigate the relevance of framing believability towards recycling behaviour from the Muslim consumer's point of view in Malaysia. Indeed, few opinions were expressed during the interview pertaining to framing believability and recycling campaign.

One volunteer, who is one of the directors from PASS, stated:

“The key of successful advertisement is the message itself. Public should be exposed and convinced with reliable message.”

Moreover, MENGO also voiced that:

“The content credibility of recycling campaign can be improved with extensive and frequent explanation by responsible parties and they must also make sure that the message reaches all walks of life.”

One director from Alam Flora, for instance, echoed a similar sentiment:

“The society needs encouragement, thus the campaign, the message must be able to stimulate the public itself...this is important as this will show the credibility of the message that we want to deliver...this is not just telling them about what to do or how to recycle. This is about encouraging them to make the action.”

Even so, based on this point, CRC has also expressed their concern about how the content of the current recycling advertisements affects the Malaysian’s public attitude towards the advertisement itself.

“I have to admit that recycling campaigns in Malaysia are not popular among the citizens and these campaigns fail in changing their attitude to practise recycling.”

PPSPPA echoed a similar sentiment:

“The number of campaigns organised is not sufficient and the campaign contents are not imposing considerable impact on people and are easily forgotten.”

MENGO also voiced that:

“Current message or campaign content is not that strong to give positive impact. Moreover, the exactly same message is repetitively used since a long time ago and it is just wasting the government's money because the campaigns are obviously ineffective.”

PASS shared their opinion:

“If the current message not enough to trigger their intention to recycle, alternative messages should be introduced. Not only must the NGOs, the government work corroboratively to ensure that we could deliver the same messages to the public.”

4.2.1.1 Positive versus Negative Framing

From a social marketing point of view, one feature in communication that has concerned many researchers as well as practitioners is message framing. Message framing in the marketing context appears to have a significant impact in persuasive communication, which essentially helps to understand how individual attitudes and behaviours are shaped. Based on the previous discussion (Section 4.3.2), believability is highly related to the ad's content (framing) and structure. This is commonly used as an indicator to understand the viewer's ability to predict and comprehend the message. In general, framing can be divided into two types: positive (gain) and negative (loss). As we discussed in previous chapter, positive framing highlights the noble results of complying with the advocated behaviour (or emphasises the advantages of compliance), while negative framing stresses the unfavourable behavioural outcomes of noncompliance with the advocated behaviour.

A chorological meta-analytic research on framing in health communication shows the importance of framing strategy in health communication research. A study by O'Keefe and Jensen (2007, 2009) on prevention behaviours and detection behaviours found loss framed messages to be more salient than gain framed ones for health related behaviours. Gallagher and Updegraff (2012) found the opposite effect.

Indeed, views of negative and positive framing effects were expressed by several of the volunteers and practitioners interviewed. One practitioner (MENGO), for instance, stated that:

“It is important to note that advertising comes in negative and positive framing. It is subjective to tell which one is the best, but practically, I think we should focus on

nurturing consumers with positive values of engaging with recycling or any other pro-social behaviour.”

Another volunteer (PPSPPA) also expressed that:

“Some of our society's most important messages have come through advertising, like “Think before you throw”. Not only the main tagline is important, but the overall messages, whether it is in positive or negative framing should spark the audience/recipient’s attitude. We have been bombarded by negative framing such as threat of not recycling, for example. I think it is time to change.”

A practitioner who was also managing the recycling centre (Alam Flora) commented that:

“I have no idea why we have to scare people with such negativity (information or content). Why not go for something positive...by giving hope to the future, embrace the future for our next generation. Positivity leads to happiness and success.”

Another volunteer from MENGO, for instance, simply stated:

“In reality, most of us would prefer to hear positive messages rather than negative messages...in any occasions. In fact, persuading people to be part and engaged in pro-environmental or social behaviour, positive messages able to spread positive vibes of motivation and inspiration that will reach millions of people.”

A volunteer from CRC echoed a similar sentiment:

“Positive thoughts that came from the positive messages can actually create real value in your life, your work, and your health. Why go for something that might scare

people? We are here to encourage them to engage with something good. Make them feels good....don't intimidate the audience.”

Negative framing has been established based on the notion of negativity bias, such as negative information in judgements and emotion (threat and fear feeling) (Nan, 2007); however, it is believed that positive framing could counter the moral paradigm of a timorous ecology so that consumers can become more oriented towards pro-environment behaviour. In this context, positive framing could become the basis of ecological ideology in the future (Meneses, 2010).

Based on the views expressed by practitioners and volunteers, it is evident that positive framing believability will exert a strong and positive influence on consumer attitude. Therefore, 2 hypotheses (1 and 5a) states:

H1. Positively framed messages have a more positive influence on (a) framing believability, (b) attitude towards the ad, (c) recycling attitude, and (d) recycling intention than negatively framed messages.

and,

H5a: If ad messages are framed positively, framing believability has a more positive relationship towards ad attitude than if negative framed.

4.2.1.2 The Identity Framing

Believability or credibility in communication, according to McGuire (1976) not only centres on the message content but also on receiver characteristics. The receiver characteristics, in this context, refer to identity salience (self-identity). The identity concept is a construct that is mainly used in social psychology and sociology,

particularly to explain marketing success in a non-profit context (Arnett et al., 2003). Research suggests that the identity concept can be used to provide a better understanding of exchange processes. The following discussion on Islamic identity and moral identity emphasises the potential of the identity concept as a framing strategy in communication.

4.2.1.2.1 Islamic Identity Framing

Like any other identity concept, the Islamic identity can be viewed as a self-concept, self-referencing, and self-affiliation (e.g., religious affiliation). Within consumer research, “religious affiliation or the adherence of individuals to religious groups has been termed an ascribed status” (Essoo and Dibb, 2004). Like an individual’s race and nationality, religious affiliation affects the individual’s life decisions, education, family size and wealth accumulated (Hirschman, 1983). In fact, Hirschman (1983) viewed religious affiliation as “cognitive systems”, which suggests that members of a particular religion may possess common cognitive systems of beliefs, values, and behaviours that may influence that group’s behaviour. This perspective reflects Gurvitch’s (1971) explanation of the cognitive system as a “set of beliefs, values, expectations and behaviours that are shared by members of the group”. For instance, members of an Islamic group or Muslim family are viewed as possessing common cognitive systems that have an influence on the behaviour of that particular religious group.

Making sense of how religion impacts on human behaviour is not simple (Muhamad and Mizerski, 2010). For example, Guthrie (1996) views religion as an “abstract concept that challenges scholars in defining the term” (ibid. p. 31). According to Delener (1989), religion represents “a unified system of beliefs and practices relative to

sacred things”, while religiosity is “the degree to which beliefs in specific religious values and ideal are held and practiced by an individual.” (ibid. p. 75).

Additionally, Sheth and Mittal (2004) note that just like family, religion has been an example of a reference group that exercises substantial influence on consumers’ values, customs, and habits. In fact, religion supports socialisation by encouraging consumers or individuals to accept positive morals and principles by providing an institution where family members of a group (e.g., parents) can shape their young members (e.g., children) to find synergy or their place in society (Terpstra and David, 1991).

In line with Essoo and Dibb, Muhamad and Mizerski (2010) defined religious affiliation as a “categorical measure of the religion to which one is affiliated.” They discussed both major religions, such as Christianity and Hinduism, and “different sects or schools of thought within a religion, such as Shiah and Sunni for the Islamic religion” (ibid. p. 42), as examples. Thus, if a person is born Muslim, that person will be bound into the Muslim tradition and, through the social and individual integration of values (i.e., Jumaah pray for Muslim males, fasting during Ramadan), will develop a religious identity or affiliation. This perspective suggests that affiliation with a particular religion may influence the choices of behaviour among its members (Schiffman and Kanuk, 2009).

Early research by Hayes and Marangudakis (2001) studied the impact of religion among those with Christians and non-Christians beliefs on environmental attitudes in Britain. They found that there is no difference between both religious groups in terms of their attitudes towards nature, as each of the religion groups can play a roles in environmental

conservations and preservations. However, the results may contradict White's thesis (see White, 1967), which has created much theoretical debate among philosophers, historians, and religious scholars in perpetuating environmental degradation in the West. White, who charged Judeo-Christians with being environmental destructors and being responsible for the current environmental crisis, became a pioneer in religious and environmental studies.

Based on this view, the concept of self-identity or self-referencing in this context plays important roles in the persuasive strategy for getting consumers to relate to message information in the advertisement, for instance, their individual self-structures (Burnkrant and Unnava, 1989; Burnkrant and Unnava, 1995; Lee et al., 2002; Martin and Christina, 2004; Escalas, 2007). Like any other identity concept, self-referencing occurs when one processes information by relating it to oneself or one's personal experiences (Burnkrant and Unnava 1995). In fact, in marketing, research suggests that self-identity or self-referencing can be appealed to through the design of an ad, such as by the exposure of message content or images (e.g. Martin and Christina, 2004; Lee et al., 2002; Martin et al., 2007). As individuals or consumers may relate the message or ad content to themselves, in this context, this study believes that self-identity or self-referencing (e.g., as a Muslim) represents a useful tool to persuade people to associate themselves with the ad messages (Islamic messages), as such engaging in pro-environmental behaviour (e.g., recycling).

Indeed, the prospective framing of Islamic identity was proposed during the interview by highlighting the potential of Islamic framing as part of message content. One practitioner from MNS, for instance, stated that:

“The content of the message itself should be highlighted and refreshed by the government and campaigners, which never been or not really done as far as I concerned. As an Islamic country, I think this is the time that we introduce and insert the Islamic elements in future advertisement....targeted specifically for Muslims audience.”

Other volunteer from MNS echoed the same opinion:

“For me, the campaign and the advert look the same every year specifically the structure of the content. We should bring up and mixed with some “spice” to make the advert more alive, significant, and thriving. The “spice” or the “X-Factor” that we’re looking for could be from Hadith and Quran verse.”

MENGO noted interesting views:

“To improve the message as well as the advert content, I might say to use something that closes to public’s heart or identity. Why not try to intervene with Islamic element, which I think has a big potential to attract Muslims consumer to recycle, for example.”

MNS echoed the same opinion:

“Here in Malaysia, advertisers used the Islamic element to promote Islamic products or brands. Why not promoting social and environmental behaviour? This is something that we as NGOS as well as the campaigners should explore and think in future.”

PPSPPA also expressed a similar thought:

“I think, in my opinion, current advert on recycling does not involve religious elements which I think could be used to convince Muslim consumer, particularly to change their attitude and start the recycling habit.”

Therefore, based on the previous discussions and views expressed by practitioners and volunteers, it is evident that Islamic Identity framing will exert a strong and positive influence on consumer attitude. Therefore, hypothesis 2 states:

H2. Islamic identity framing has a more positive influence on (a) framing believability, (b) attitude to ad, (c) recycling attitude, and (d) recycling intention than non-Islamic identity framed messages.

4.2.1.2.2 Moral Identity Framing

As noted by McGuire (1976), believability or credibility in communication depends on receiver characteristics. Being a moral person (moral identity), for instance, is part of the individualities that can be related to the person's self-concept or self-view (Guimond et al., 2006). This self-concept is defined in terms of close relationships (Cross et al., 2002). For example, those individuals with high moral values are more likely to regard close relationships as important for self-expression and their sense of self. In contrast, individuals with low moral values are less likely to consider the needs and wishes of others.

Previous studies have described moral identity as one type of self-regulatory mechanism that drives morality (e.g. Damon and Hart, 1992; Blasi, 1984; Erikson, 1964). By positing a clear motivational basis for moral action in a person's self-identity, Aquino

and Reed put it, “the motivational driver between moral identity and behaviour is the likelihood that a person views certain moral traits as being essential to his or her self-concept” (Aquino and Reed, 2002: p.1425).

On the other hand, there were few suggestions to highlight the element of moral identity in future framing. A volunteer from Alam Flora highlighted the moral values in advertisements:

“Themes like 'Think before you throw' and 'Recycling is everybody's job' are most frequently used by the government authorities to be printed on posters, pamphlets, or recycling campaign advertisements all over the country. Highlights more on moral values, maybe?”

Then, he supported of his colleagues:

“Yes, potentially, but I think the government had focuses on highlighting the moral values, in the advert, indirectly, to create awareness of recycling. Nothing is wrong promoting moral values, but I think that was not enough.”

PASS expressed their views by sharing the same opinion:

“Promoting moral values (by performing recycling) is also important...which related to our moral identity as part of our social obligation towards nature. Being a moral person or not, one have to decide.”

Moreover, CRC believed that:

“If one person looks him or herself as a moral person, I believed he or she will automatically know his or her responsibility. Moral person do good things; big and small.”

Based on the views expressed by practitioners and volunteers, it is evident that moral identity framing will exert a strong and positive influence on consumer attitude.

Therefore, hypothesis 3 states:

H3. Moral identity framing has a more positive influence on (a) framing believability, (b) attitude to ad, (c) recycling attitude, and (d) recycling intention than non-moral identity framed messages.

Notably, self-concept is multidimensional (e.g. Markus and Kitayama, 1991; Carroll et al., 2007; Marsh and O'Mara, 2008), and one of the dimensions is individualist-collectivist self-values (e.g. Chiao et al., 2009; Chen, 2013; Schwartz et al., 2008) (others: extroversion-introversion (Wheeler et al., 2005; Back et al., 2009) and femininity-masculinity (e.g. Nelson et al., 2006)). A study by Wang and Mowen (1997) suggests that self-concept dimensions warrant attention as an important factor related to advertising effects, as such the individualist/collectivist dimension. In other words, the concept of morality as self-identity can be characterised by heterogeneous norms or cultures.

However, previous studies show that moral identity is more related to Western cultures (individualistic cultures) (Reed 2002; Aquino and Reed, 2002; Bedford and Hwang, 2003; Martin Sökefeld, 1999), not in collectivistic cultures. Based on the previous

discussion, we can conclude that moral identity can be a powerful foundation for self-identity formation. If one views identity as highly self-important, that person's moral identity will be linked to salient beliefs, attitudes, and behaviours (Cheryan and Bodenhausen, 2000; Forehand et al., 1999; Shih et al., 1999).

Erikson's (1964) conceptualisation of identity refers to being true to oneself in action, and is similar to Hart et al.'s definition of moral identity as "a commitment to one's sense of self to lines of action that promote or protect the welfare of others" (1998: p.515). However, a study by Tittle and Welch (1983) found that religious identity could become more salient when competing with secular social identities, as the identity becomes weak and unstable due to the absence of univocal and salient sense of identity in community or organisation itself.

Indeed, views of the difference between Islamic identity and moral identity framing effects were also expressed by several volunteers and practitioners interviewed. One practitioner (Alam Flora), for instance, stated that:

"Malaysia is a multi-racial country, different approach is needed to persuade consumer to recycle. To persuade Muslim consumers to recycle, it would be powerful to have Islamic touch in the message content instead of using basic message content. I believe that Islamic approach is way better than just promoting moral values."

Other volunteer from Alam Flora echoed a similar sentiment:

"Yes, I ...between morality and Islamic values, in this scenario, Islamic values potentially could trigger consumers, especially Muslim recyclers and non-recyclers to

think their responsibility to the environment. It is written in Quran, people might need to remind that doing well to the environment is also part of Muslim's duty."

MNS, for instance, expressed the differences:

"Morality is a norm. It is like you can decide to be or not to do your social obligation to the society. But from Islamic perspective, as a Muslim, it is more than your responsibility to the community or human being. It is about your responsibility and relationship with God (Allah S.W.T)."

Moreover, MENGO highlights morality from Islam's perspective:

"Holy Quran is the constitution of morals in Islam. The moral values that we discuss here are already embedded in Islam. Islamic moral code is to create an Islamic personality that lives by its deep faith of loving, conscious submission to God and is nourished by His divine love. These features motivate the actions of this personality and help us understand and accept the dignified role that has been given by God to Man as His trustee on earth, which gives it a meaningful feeling of its existence." (ibid. p. 18).

One officer from PPSPPA echoed the same opinion:

"It is different when we promote the moral itself without the Islamic values. From Islamic perspectives, Islamic values aim to determine human activity in a Muslim society, to promote and control their behaviour to the benefit of the whole society and its individuals, and to bring for all individuals a good conclusion in the other life...and relationship with the Creator. Islamic identity is much more significant than moral identity."

As previous studies suggests that the cultural setting plays a significant role related to advertising effects as moral identity posits more significant in Western culture, therefore hypothesis 4 states:

H4. Islamic identity framing has a more positive influence on (a) framing believability, (b) attitude to ad, (c) recycling attitude, and (d) recycling intention than moral identity framing.

4.2.2 Ad Attitude

So much interest of finding ways to develop an effective advert has been shown by the advertisers as they increasingly compete for consumers' attention. As a result, much attention has been committed to testing advertising stimuli for measures of ad effectiveness. Moreover, a growing number of empirical studies have documented the significant explanatory power of ad attitude (Lutz et al., 1983; Cacioppo and Petty, 1985; Batra and Ray, 1986; Spears and Singh, 2004; Obermiller et al., 2005; Nan and Heo, 2007; Praxmarer and Gierl, 2009).

Ad attitude is not about consumers' attitudes towards advertising in general, but it pertains to a particular exposure to a particular ad. Hence, ad attitude is construed as a "situational bound construct, an attitudinal reaction to the ad generated at the time of exposure" (MacKenzie and Lutz, 1989). In other words, it has been construed as perhaps less evaluative (and cognitively based) and instead more closely related to constructs associated with research on mood states (Aaker et al., 1986).

Aad, a widely used consumer attitudinal response construct, can be defined as a "pre-disposition to respond in a favourable or unfavourable manner to a particular

advertising stimulus during a particular exposure occasion” (MacKenzie and Lutz, 1989: p.49) or as “an individual’s evaluation of and/or affective feelings about an advertisement” (Park and Young, 1986). This conceptual definition is consistent with Fishbein’s and Ajzen’s definition of “attitude in the sense that it views ad attitude as comprising solely an evaluative or affective response to the commercial stimulus and does not refer to cognitive or behavioural responses” (1975: p.216).

In marketing studies, ad attitude plays a particularly important role as an important mediator of advertising response, especially in most advertising-experimental settings. For instance, in the context of brand information processing, previous studies suggest how important the impact of ad attitude is in advertising design (Lutz and Swazy, 1977; Praxmarer and Gierl, 2009; Tsai, 2007; Nan and Heo, 2007; Spears and Singh, 2004). The perfect mixture of well-defined theoretical background of multi-attribute attitude models (Fishbein and Ajzen, 1975) with a strong managerial relevance to the advertiser has generated substantial research in ad attitude (Biehal et al., 1992). Two influential articles by Mitchell and Olson (1981) and Shimp (1981) have inspired other scholars to study the effects of attitude towards an ad on consumers brand attitudes, brand choice and purchase intentions (C. and M., 2005; Spears and Singh, 2004; Biehal et al., 1992; MacKenzie and Lutz, 1989; MacKenzie et al., 1986; Praxmarer and Gierl, 2009; Nan and Heo, 2007). Not to mention, the impact of ad attitude also appeared in political advertising (Robideaux, 2013), controversial products (Kim et al., 2004), offensive advertising (De Run et al., 2010) and green messages in hotel and tourism (Kim and Kim, 2014).

The role of ad attitude is critical as consumers' usually may direct their attention to brand features or advertisements (Lutz et al., 1983). Moreover, meta-analysis by Brown and Stayman (1992) and a general review by Muehling and McCann (1993) support the influence of ad attitude on brand attitudes. However, as noted by Lutz and his colleagues, the results of ad attitude on brand attitude will be influenced by how the elements in the advertisements (e.g., framing) were manipulated or set under different conditions. The unique influence of attitude towards the ad on brand attitude often has been viewed as simply reflecting the impact of peripheral persuasion. The authors' research challenges such a conception. Ad attitude is shown to have a significant influence on brand attitude even in the absence of peripheral persuasion. The feasibility and usefulness of decomposing ad attitude into evaluations of particular ad elements are also explored (Miniard et al., 1990).

In the context of green and social marketing advertising, the ad attitude particularly will have the same effect, as several volunteers expressed the same sentiment over the influence of ad attitude towards recycling attitude. One volunteer from MENGO for instance stated that:

“The believability of an issue such as recycling advertisement will influence ad attitude towards recycling attitude. However, it is easier said than done. It is a challenger for the government and campaigner to have such a noble and robust advert to impact the audience attitude toward recycling.”

Another volunteer also expressed:

“If the audience perceived the message as believable or credible, this will lead to positive response toward the ad attitude which then influences the audience view toward

recycling attitude. Again, it is depending on how the frame or message were manipulated and played.”

A practitioner who was also managing the recycling centre (Alam Flora) commented that:

“Latest statistics suggest low involvement among Malaysian in recycling activities. We hope that with the right message this will at least trigger the audience attitude toward recycling. Recycling is easy. Recycling is a long-term investment. It is for the sake for our next generation.”

Furthermore, the volunteers and practitioners were asked about the different effects of positive and negative framing used in the advertisements and how these could impact the audience’s attitude towards recycling.

A volunteer from PASS commented that:

“Social advertisement may have little influence in changing people negative attitudes. However, positive and believable sources may possibly motivate or reinforce healthy behaviours, which imply that if a message is believed it will influence attitudes in a positive direction.”

Other volunteer from CRC echoed the same opinion:

“Social marketing campaigns can have such positive effects on target populations. As a practitioner, I personally prefer to promote positivity of doing recycling instead of putting too much pressure of the risk not doing it.”

MNS, for instance, expressed the opinion:

“We want to encourage not only adults but also young recyclers to be part of this activity. I believed with continuous support and positive messages of doing it will induce them to have a long-term commitment of doing recycling.”

Based on the opinions expressed by the practitioners and volunteers, it is evident that ad attitude has a positive relationship towards recycling attitude. From a social marketing and health communication view, the attitude towards advertising is an important construct in advertising research, as it has an impact on changing attitude and predicting behaviour (Fishbein and Cappella, 2006; Fishbein, 2000). Furthermore, the construct also represents both social and economic aspects of advertising (Anderson et al., 1978). Based on previous discussions, a positive attitude towards recycling needs to be linked to an individual’s beliefs that “recycling is worth doing”. The positive ad attitude may be translated into a positive recycling attitude when people are persuaded that believing means doing it (Snyder and Kendzierski, 1982). Therefore, hypothesis 5b,

H5b: If ad messages are framed positively, ad attitude has a more positive relationship towards recycling attitude than if negative framed.

4.2.3 Recycling Attitude

Research on attitudes and beliefs found to be the most studied in social psychology include conservation behaviours, recycling in particular. In fact, many authors adopt TRA and TPB as the theoretical basis to identify the factors to explain the behaviour (Mahmud and Osman, 2010), which has successfully sought to understand a wide range of environmental behaviours, such as recycling (Davis et al., 2006). In fact, according to TRA, “individuals who hold positive attitudes towards environmental activism, think

that there is normative support for engaging in activism, and perceive that they can easily engage in activism, should they have strong intention to perform the behaviour” (Fielding et al., 2008a). As such, a positive attitude of oneself would lead to the belief that recycling behaviour could conserve natural resources and reduce wasteful use of landfills. These personal attitudes are based on “individual perception of the activity being right or wrong, good or bad, useful or not useful, desirable or undesirable, pleasant or unpleasant and interesting or boring” (Ramayah et al., 2012: p.142). Notably, Chan (1998) believed that personal attitude was an important determinant of behaviour.

Several empirical studies reveal that an individual’s attitude can influence recycling behaviour, such as Simmons and Widmar (1990), who studied the role of altruistic attitudes and attitudes and beliefs as determinants of recycling participation. Surprisingly, research on attitudes and conservation behaviours has generated varied findings as well. For instance, other researchers (Cook and Berrenberg, 1981; Stern and Oskamp, 1987; Shrum et al., 1994) found few studies on attitudes showing little or no relationship results and others show a significant relationship to pro-environmental behaviour. This finding is consistent with Ajzen’s and Fishben’s (1977) view. However, if the studies measured the relationship between attitude and tendency towards specific behaviours (e.g., recycling) the results will show a stronger correlation (Isaacson et al., 2011; Sidique et al., 2010; Tan, 2011).

Since the 1970s, the studies of recycling and environmental concern have flourished within marketing literature. Despite the increased attention, Alwitt and Pitts (1996) suggested that a thorough understanding of recycling behaviour is still necessary, as it

will bridge the attitude-behaviour gap. Even today, the gap still exists (Anthony A. Leiserowitz et al., 2006; Padel and Foster, 2005; Veleva, 2010), and it is significant to consider specific attitudes towards recycling (McCarty and Shrum, 2001; Valle et al., 2005; Valle et al., 2004). Without a doubt, research regarding the impact of recycling campaigns on attitude is still insufficient (Chung and Leung, 2007; Kollmuss and Agyeman, 2002; Takiyama, 2008), particularly in developing countries such as Malaysia (Latif et al., 2012).

The following opinions were expressed during the interview by the practitioners and volunteers on the general scenario of recycling and attitude towards recycling in Malaysia. Moreover, several of them expressed their concerns on how the government tackles the situation. For instance, PASS commented:

“The point I am trying to convey here is that the Recycling campaign organised by the Department of National Solid Waste Management that cost the government hundreds of millions ringgit was just for nothing because it failed to create awareness in the public and it was not even executed efficiently.”

CRC shared the same frustrations:

“The planning was not done seriously and no follow-up actions were taken by the responsible departments. Until now, the government has to spend hundreds of millions ringgit to establish new landfills or to upgrade existing landfills to support the increasing amount of garbage.

MENGO also expressed the same sentiment:

“The government or responsible ministry must act immediately to handle this issue before it becomes worse and uncontrollable, and before the government has to spend a very big amount of money to establish new landfills just to accumulate the waste.”

Based on the expressions above, an effective recycling programme and continuous efforts from the government are needed. From a social marketing perspective, Snyder and Kendzierski (1982) suggest that an individual must be aware of the relevance of the attitude to the particular situation to link attitude change with behaviour. A study by Mosler and Martens (2008) on the attitude change towards environmental protection involved a community of 10000 simulated individuals. Like any other experiment design, different cues were used to see how different campaigns affected respondents' attitudes and intentions (i.e., among controlled population, green and non-green). Specifically, in the context of positive and negative framing, the volunteers were asked about the relationship between recycling attitudes and intention to recycle.

According to TRA, an individual's performance of a specific behaviour is determined by one's behavioural intention to engage in it, “where behavioural intention is a function of ‘attitude toward the behaviour’ (i.e., the general feeling of favourableness or unfavourableness for that behaviour) and ‘subjective norm’ (i.e., the perceived opinion of other people in relation to the behaviour in question)” (Chang, 1998, p. 35). In other words, intention could be understood as an immediate antecedent to behaviour (Icek Ajzen, 2002), as the theory “predicts intention to perform behaviour by consumer's attitude toward that behaviour rather than by consumer's attitude toward a product or

service. Additionally, a consumer's intention to perform a certain behaviour may be influenced by the normative social beliefs held by the consumer" (Hansen et al., 2004; p 540). TRA is without this limitation, and TPB adds 'perceived behavioural control (PBC) as a determinant of behavioural intention.

Like any other studies in psychology and marketing, TRA and TPB are widely used in environmental research to predict intention (Nisbet & Gick, 2008). Armitage and Conner (2001) explain why a wide range of intentions and behaviours can yield satisfactory results, especially in predicting recycling behaviour (Knussen & Yule, 2008; Nigbur, et al., 2010; Nisbet & Gick, 2008; Ramayah, et al., 2012; Valle, et al., 2005). In fact, several authors found that individuals will intend to change their behaviour only when they feel positive and competent towards performing the desired behaviour (Chen & Tung, 2010; Nisbet & Gick, 2008; Rise, et al., 2010).

From a social marketing perspective, particularly in how message campaigns could affect consumer or individual attitudes and intentions, the findings remain insufficient but still helped researchers develop a clear picture on how different framings (i.e., positive and negative framing) may exert their influence on persuasion through different pathways (Shen and Dillard, 2007). There are few studies of framing that really analyse the effects of framing on information acceptance (or brand perceived), attitude and intention. For instance, an experiment by Van Triet et al. (2010) in health promoting messages shows that positive and negative framing have a significant effect on respondents' attitudes and intentions, but in a different way. Positive framing significantly correlated with information acceptance and attitude, whereas negative framing significantly correlated with intention. Moreover, a study by Hevey and Dolan

(2013) related to skin cancer prevention posits that positive-gained messages were most predictive on sun-protective intentions for approach-oriented individuals, whereas negative or loss gained messages had most salience on avoidance-oriented individuals. These approach-orientated individuals are persuaded to engage in prevention behaviours by positive messages; conversely, negative messages are more persuasive in encouraging those who are avoidance-orientated.

PPSPPA commented that:

“I strongly believe that Malaysian people can be educated and can follow the advice from the government if awareness campaigns or approaches are continuously conducted. Positive recycling attitude will definitely trigger their intention to recycle.”

Alam Flora also shared the same optimism:

“The attitude of people can be changed if recycling awareness campaigns are continuously held and if they are responsible.”

The positivity continued as MNS commented that:

“Recycling is aiming to alert the society to love and appreciate the environment. All parties must participate and great co-operation among Malaysians is really needed. We are hoping that everything will be better year by year.”

MENGO also echoed the same expectation:

“To perform recycling is a piece of cake, right? Hopefully, this will trigger their intention and action to recycle and think that is for our future.”

Previous research suggests that advertisements that are believed may impact the target audience's attitudes and intention to comply with the messages (Gauzente and Roy, 2012; Brus, 2011, Dec 22.; Grodzińska-Jurczak et al., 2006; Prestin and Pearce, 2010; Cheng et al., 2011; Park et al., 2011; Maibach, 1993; Cole and Fieselman, 2013). Within the context of social issues, it is expected that messages whose content is factual and believed by individuals will positively impact attitudes towards the issue and intention. Based on the previous opinions and discussion, hypothesis 5b states:

H5c: If ad messages are framed positively, recycling attitude has a more positive relationship towards recycling intention than if negative framed.

4.2.4 Intention

According to TRA, an individual's performance of a specific behaviour is determined by oneself behavioural intention to engage in it "where behavioural intention is a function of 'attitude toward the behaviour' (i.e. the general feeling of favourableness or unfavourableness for that behaviour) and 'subjective norm' (i.e. the perceived opinion of other people in relation to the behaviour in question)" (Chang, 1998, 41). In other words, intention could be understood as an immediate antecedent to behaviour (Icek Ajzen, 2002) as the theory "predicts intention to perform behaviour by consumer's attitude toward that behaviour rather than by consumer's attitude toward a product or service. Also, a consumer's intention to perform a certain behaviour may be influenced by the normative social beliefs held by the consumer" (Hansen et al., 2004; p 540). TRA is without its limitation and TPB adds 'perceived behavioural control (PBC) as a determinant of behavioural intention.

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From social marketing perspective, particularly in how message campaign could affect consumer or individual attitude and intention, the findings remained insufficient but yet still helped researcher to have clear picture on how different framings (i.e. positive and negative framing) may exert their influence on persuasion through different pathways (Shen and Dillard, 2007). There were few studies of framing really analyse the effects of framing on information acceptance (or brand perceived), attitude and. For instance, an experiment by Van Triet et al. (2010) in health promoting messages shows that positive and negative framing have significant effect on respondent's attitude and intention but in a different way. Positive framing significantly correlated with information acceptance and attitude whereas negative framing significantly correlated with intention.

4.3 Chapter Summary

The present study posits the role of self-identity in predicting intention to recycle. This study will demonstrate how ad messages congruent with viewer self-concepts generate better ad attitude and recycling attitude as well as higher recycling intentions. As

suggested by Chang (2007b), the role of competing frames should be explored. Likewise, Borah (Borah, 2011), in her recent studies, believed that future studies should deal with mixed frames. As the key of the advertisement's believability is also held in the message's content and structure of the message framing, NGOs have also shared their suggestions and opinions to improve future communication by highlighting the potential framing of Islamic identity framing and moral identity framing.

Therefore, for this study, Islamic identity framing and moral identity framing were introduced and used as competent framing. This not only bridges the gap in message framing strategy but also highlights the potential of using competent framing in communication strategy. Islamic identity framing is based on religious affiliation (i.e., Islam) which is purposely selected for Muslims in Malaysia. On the other hand, moral identity framing is used purposely to see how this ego-related behaviour works or blends well with Muslim community behaviour in Malaysia. Overall, this study definitely focuses on how these framings affect Muslims' behaviour, particularly in the recycling behaviour setting. The framing itself emerges as a "moderator", which might cause different results towards Muslims' attitudes and intentions. Based on previous studies, it is hypothesised that positive framing will have positive effect on ad attitude, recycling attitude and intention. Moreover, Islamic identity framing is expected to have positive and significant results on ad attitude, recycling attitude and intention to recycle. Finally, moral identity is hypothesised to have a less favourable effect compared to Islamic identity on ad attitude, recycling attitude and intention to recycle due to the Malaysian cultural setting.

CHAPTER 5

THE QUANTITATIVE FINDINGS

5.1 Introduction

This chapter summarises the empirical results and findings of this study. The sequence of the chapter follows the sequence of hypotheses development and testing.

5.2 Data Screening and Preliminary Analysis

Data screening is the process of ensuring that the data collected is clean and ready for further statistical analysis. At this phase, identifying data errors, such as missing data and outliers, and normality are necessary because all of these factors can affect subsequent analysis. This strategy was adopted to ensure the accuracy of the results in the main analysis (Tabachnick & Fidell, 2007).

5.2.1 Missing Data

Missing data can be a major threat to many researchers because it has the capability to negatively affect the results of any empirical research (Cavana et al., 2001). To avoid missing data, respondents were asked to re-check their answers at the time of survey collection to ensure that respondents answered all questions. The findings from the descriptive analysis show that there was more than 5% missing data in the experimental study. If variables contain missing data in 5% of the cases or fewer, the missing data can be ignored (Meyers et al., 2006) or, alternatively, missing values can be replaced by with the mean or median of nearby points or via linear interpolation. However, this researcher goes for the default option of listwise deletion (as in SPSS regression) due to the poor feedback (missing data). Eight hundred and fifty out of eight hundred and

eighty (one hundred and ten per group) surveys were useful, and the deletion process did not have a major effect on the number of samples for each group. Maintaining an equal number of respondents in each group is important in experimental design (Maxwell and Delaney, 2004).

5.2.2 Identification of Outliers

An outlier is a data point that is significantly different from the remaining data. In the data mining and statistics literature, outliers are also referred to as anomalies, discordants, abnormalities or deviants (Aggarwal, 2013). According to Hawkins (1980), “An outlier is an observation which deviates so much from the other observations as to arouse suspicions that it was generated by a different mechanism.” Obtaining a coherent analysis requires the researcher to detect outliers in the first steps. Outliers sometimes may contain useful information about abnormal characteristics of the systems and entities, or oftentimes they are considered an error and noise (Aggarwal, 2013). Errors due to mistakes in coding that lead to extreme values and combinations of high and low values contributed to the outliers. Ultimately, the determination of whether to retain or delete the data depends on the researcher’s identification of whether the data are helpful or harmful (Hair et al., 2010).

At the outset, outliers were examined by identifying extreme scores in box plots to check the univariate outliers. This type of graphic is a reliable 'at a glance' procedure for detecting deviations from normality and outliers (Sirkin, 2006). A box plot (or whisker plot) is a “graphic display that summarizes the distribution of a numeric variable by showing the median and quartiles as a box and the extreme values as whiskers extending from the box” (Trochim and Donnelly, 2007: p.277). Based on the box plot

analysis, the output showed the existence of different combinations of high and low scores in the data 121, 201, 495 and 631. To ensure there was no error in the data processing, the data were carefully reviewed once again. Afterwards, it was confirmed that there was no human error involved. All of the data were retained because the gap differences between the mean and 5% trimmed mean in the descriptive analysis were small, which indicates that no outliers appear in these data (Pallant, 2007).

However, multivariate detection methods were carried out to detect unique or extreme outliers. This method is best suited for examining a complete variate, such as the independent variables in regression or the variables in factor analysis (Hair et al., 2010). The interpretation purposes, the Mahalanobis Distances measure, calculate the distance of particular scores from the centre cluster of remaining cases. This measure allows for significance testing, and it provide a single value for each observation no matter how many variables are considered. Threshold levels for the D^2/df measures for this study are 0.001 and cases with a value exceeding 4 (due to large sample size) were considered multivariate outliers. In this study, 21 cases out of the total of 880 respondents were classified as outliers because their value of D^2/df is greater than the threshold value as indicated in the table of chi-square statistics. Subsequent to the treatment of these outliers, the final regressions in this study was done using the remaining 859 samples in the data.

5.2.3 Assumptions Underlying Statistical Regressions

The final step in examining the data involves testing for the assumptions underlying the statistical bases for multivariate analysis: checking for normality, homoscedasticity, linearity and multicollinearity. A further test of the statistical assumptions in

multivariate applications is needed due to the complexity of the relationships and the complexity of the analyses. After all, a researcher must be aware of any assumption violation and the implications they may have when estimating and interpreting the results.

5.2.3.1 Assumptions of Normality

Before applying statistical methods that assume normality, screening continuous variables is an important step in every multivariate analysis. The normality test of a variable can be assessed by referring to skewness and kurtosis either in statistical tests (numerically) or visual inspection (graphically). Skewness is a measure of symmetry distribution, and a skewed variable (positively or negatively skewed) exists when cases pile up on one side (left or right, not in the centre of the distribution) and produce a long tail (on the opposite side) (Tabachnick and Fidell, 2012). Kurtosis represents the peakedness of a distribution as either too sharp (kurtosis values above zero, with short and thick tails) or too flat (kurtosis values below zero, with long and thin tails) (Tabachnick and Fidell, 2012). The distribution is normal when the values of skewness and kurtosis are zero, and most likely it is the data that are not normally distributed when the value is further from zero.

Additional statistical tests, such as the Kolmogorov Smirnov test and Shapiro Wilk test, are another way of seeing whether the distribution as a whole deviates from a comparable normal distribution. According to Field (2013: p.144), this test purposely “compare the scores in the sample to a normally distributed set of scores with the same mean and standard deviation.” The distribution of the sample is normal only when the test indicates it is non-significant ($p>0.05$), and if the test indicates it is significant

($p < 0.05$), then the distribution is significantly different from a normal distribution. Statistical tests have the advantage of making an objective judgement of normality but the researcher must be sensitive to the sample size used when dealing with the normality test. As the sample size grows larger (at least 30 or more), the sampling distribution tends to be normally distributed.

This study has conducted visual inspections of the data through stem and leaf plots, a normal Q-Q plot, and a box plot to determine the data skewness and kurtosis to ascertain the normality of the data. Furthermore, Kolmogorov-Smirnov tests were conducted, which have also provided evidence of the normality of the data used in this study.

The test begins with testing the overall distribution of each variable. The scores (Appendix D) present the combination of normal and not normal distribution. For framing and intention scores, the K-S test is highly significant, indicating that distributions are not normal as it shows the values $p < 0.05$, which indicate the data are outside the range of the specified value of normality assumption. The test of normality for attitude toward the ad and recycling attitude, however, does not appear in the significant range, indicating the normal position of data. The assumption test of normality in this study was not a serious violation of the multivariate test because in large samples the test can be significant even when the scores are only slightly different from a normal distribution.

Additionally, as this experimental study contains groups of data, it is also important to test the normality of distribution for each variable across the group (Field, 2013). The

outcomes of the Kolmogorov-Smirnov test are presented in a table (Appendix D). Based on the table, the variables split according to eight experimental groups and represent interesting scores between the groups. Again, the data shows a combination of normal and not normal distribution across the group. As the sample size for each group is fairly good, the sampling distribution will tend to be normal in samples of 30 or more, and normality is likely to be rejected with large samples even when the deviation is slight (Tabachnick and Fidell, 2012). This is consistent with the point of the central limit theorem as the sampling distribution will take the shape of a normal distribution regardless of the shape of the population from which the sample was drawn (Field, 2013).

5.2.3.2 Assumptions of Linear and Homoscedasticity

Another underlying assumption in regression analysis is that there is a straight-line relationship between two variables. According to Hair et al. (2010), the linearity of this relationship between independent and dependent variables means that a change in the independent variables is associated with changes in the dependent variables. If the relationship is non-linear, it should be ignored. In fact, the occurrence of non-linearity has been argued to increase the chances of committing a Type I or Type II error. To verify and assess the relationship between two variables, the linearity of the bivariate relationship can be examined through a residual scatter plot by plotting the standardized predicted value against the residual. The plot indicates the relationship between framing believability, recycling attitude, ad attitude, and intention in terms of the linearity assumption. In this plot, the linearity assumption was met, as the plot indicates the residual scores were concentrated in the centre along the 0 point. To meet the

assumption of linearity, the residuals should scatter around 0 or most of the scores should be concentrated in the centre along the 0 point (Flury & Riedwyl, 1988).

Homoscedasticity “is related primarily to dependence relationships between variables” (Hair et al, 2010, p. 251). It is desirable because “the variance of the dependent variable being explained in the dependence relationship should not be concentrated in only a limited range of the independence values” (Hair, et al. 2010). For this relationship to be fully captured, “the variance of dependent variable values must be relatively equal at each value of the predictor, or the relationship becomes heteroscedastic when the dispersion is unequal” (ibid. 252). To test the constancy of the residuals across values of the independent variables and fulfil the linearity assumption, a visual inspection of the residual scatter plots was conducted. The scatter plots does not exhibit any nonlinear pattern to the residuals, and the findings also indicate homoscedasticity in the multivariate case.

5.2.3.3 Multicollinearity

Multicollinearity occurs when variables are too highly correlated. The presence of high correlations, 0.90 and higher, is the indication of substantial collinearity. This is due to the combined effect of two or more other variables. To assess multicollinearity, two common measures, tolerance and variance inflation factor (VIF), are considered. Tolerance is defined “as the amount of variability of the selected independent variable not explained by the other independent variables” (Hair et al, 2010, p. 225), while VIF is calculated as the inverse of the allowance value. A cut-off threshold is a tolerance value of 0.10, which corresponds to a VIF value of 10 (Hair et al, 2010). Table 5.1 represents the collinearity measures of tolerance and VIF.

Variables	Tolerance	VIF
Framing Believability	.944	1.059
Ad Attitude	.774	1.291
Recycling Attitude	.812	1.232
Intention	.576	1.736

Table 5.1: Testing for Multicollinearity on Assessment of Tolerance and VIF Values

5.3 Description of Respondents' Profiles

Participants were recruited from the Universiti Teknologi MARA (Shah Alam branch). All students were undergraduate business majors in their final year. The majority of students were between 18 and 24 years old, which represents 97 percent of the total sample. The university is not only the largest university in Malaysia but also has the largest number of students specifically in the main branch. The Faculty of Business Management is the largest faculty with the largest number of students enrolled in the university. The researcher had access to use 850 students, with 55 percent of them female and 45 percent male. As the sample was drawn from full-time students, the probability of having 100 percent of students with single status was high because none were married. 26.6 percent of the respondents passed their matriculation level to enter the bachelor program, while 73.4 percent of the respondents hold at least a diploma or STPM. An additional question regarding respondent participation in recycling (i.e., at the dormitory or back home) was asked, indicating that 718 of the respondents participate (at least newspaper/paper recycling) while the others do not. A summary of the demographic characteristics of the study sample is presented in Table 5.2.

Variable	N	%
Age		
18-24	621	97
25-29	19	3
Gender		
Male	412	45
Female	468	55
Marital Status		
Single	880	100
Education Level		
Matriculation	170	26.6
Diploma/STPM	470	73.4
Recycling participation		
Yes	618	96.6
No	22	3.4

Table 5.2: The sample demographics summary

5.4 Goodness of Measures: Assessing Validity

Validity is the ability of a measurement instrument to measure the theoretical concept under consideration (Nelson, 1982); thus, it requires researcher to distinguish what design to measure and what not to measure. Smith (1991: p.106) defines validity as “the degree to which the researcher has measured what he has set out to measure.” Babbie (1989: p.133) describes validity as “to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration.” According to Kumar (2011), there are two types of validity that are applicable to the present study. These are content validity and construct validity.

Content validity refers to the ability of a scale or measuring instrument to measure what it is intended to measure. With content validity, the researcher must check which measurement questions in the questionnaire provide adequate coverage of the investigative questions (Saunders et al., 2012). In other word, researchers must ensure the link between the research instrument and the objective of the study (Kumar, 2011).

Thus, thorough reviews of the literature are carried out before the design of the questionnaire. Equally important, a pilot test is suggested to ensure the reliability and validity of the questionnaire. Piloting is carried out before the questionnaire is administered to the research sample. This stage is essential because it helps researchers to identify any items, specifically instructions or wording, that may cause confusion, to check the applicability between data and the analysis method and then to allow the researcher to rewrite the questionnaire (Youngman, 1978). Additionally, based on the piloting stage, the researcher must be able to certify whether the items and questions have covered the full range of the attitude being measured.

Another criterion to assess validity in questionnaire design is construct validity. Construct validity refers to the ability of a measure to confirm a network of related hypotheses generated from a theory based on the concepts (Zikmund, 2003). This type of validity is established during the statistical analysis of the data. In fact, it has been described by Kumar (2011) as a sophisticated technique for establishing the validity of an instrument due to its statistical procedures. Construct validity is assessed through convergent validity and discriminant validity. Convergent validity is established when the scores obtained with two different instruments measuring the same concept are highly correlated. Discriminant validity refers to the ability of some measure to have a low correlation with measures of dissimilar concepts. Both types of validity will be assessed by using factor analysis, a multivariate technique that confirms the dimension of the concept that has been operationally defined, as well as indicating which of the items are most appropriate for each dimension (Sekaran and Bougie, 2010).

It is important to make sure that the instrument is indeed accurate and measures the concept that the researcher set out to measure. The scales could have errors and be imperfect prior to the measurement of the attitudinal variables. Thus, the researcher is required to assess the goodness of the measures developed in order to ensure the accuracy of results. Hence, factor analysis and correlation matrix analysis were performed to assess the validity of the data. Factor analysis is a well-established and appropriate tool to identify the construct adequacy of a measuring device (Cooper and Schindler, 2003).

5.5 Factor Analysis

Factor analysis is a “statistical technique that is applied to a single set of variables when the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another” (Tabachnick and Fidell, 2012: p.607). According to Hair et al. (2010: p.105), “a strong conceptual foundation needs to support the assumption that a structure does exist before the factor analysis is performed.” Researchers attempt to determine what theoretical constructs underlie a given data set and the extent to which those constructs represent the original variables (Henson & Roberts, 2006; Kieffer, 1999); factor extraction techniques, namely, principal factors (principal axis factoring), have been appropriate for accomplishing this goal. Unlike any of the other factor extraction techniques, principal axis factoring extracts the maximum orthogonal variance from the data set by addressing each succeeding factor, and the results conform to the factor analytic model in which a common variance is analysed with the unique and error variance removed (Tabachnick and Fidell, 2012).

To achieve the objectives of factor analysis that are mentioned above, a number of initial steps must be taken prior to computing the factor analysis for all of the variables to ensure that the critical assumptions in the factor analysis are satisfied.

In designing a factor analysis approach, calculating the input data to meet the specified objectives of grouping the variables or respondents is the first initial step before pursuing the factor analysis. The correlation matrix of the variables that correlate very highly ($r > 0.80$) is calculated, as well as the singularities (variables that are perfectly correlated should be avoided, and the researcher might need to consider eliminating one of the variables before proceeding (Field, 2013)). However, mild multicollinearity is not a major problem for factor analysis, but it is still important to avoid extreme multicollinearity (variables that are highly correlated).

Regarding the sample size, determining the sample size is crucial, and this determination requires the sample size to be sufficiently large when performing the factor analysis; otherwise, the correlation coefficients tend to be less reliable because they are estimated from small samples. In this experiment, data are available initially from 880 samples, which satisfactorily exceeds more than the 300 cases that are necessary to achieve the “comfort zone” (Tabachnick and Fidell, 2012); Comrey and Lee (1992) also provide a guide on the sample sizes, considering 50 to be very poor, 100 to be poor, 200 to be fair, 300 to be good, 500 to be very good and 1000 to be an excellent sample size.

Hair et al. (2010) believed that the critical assumptions that underlie factor analysis are more conceptual than statistical. In addition to the statistical basis for the correlations of

the data matrix, the researcher must meet the statistical requirements for a proper estimation of the factor structure. This requirement can be met by referring to the anti-image correlation matrix. To ensure that the data matrix had sufficient correlations as indicated by anti-image correlation, it is important to study the anti-image correlation in detail because it is extremely informative. Another method of determining the appropriateness of factor analysis is through the Bartlett test of sphericity. This test is a statistical test that indicates whether sufficient correlations exist among the variables to justify proceeding. In this case, a significant Bartlett's test of sphericity of $p < 0.05$ is required to indicate that the correlations between the items are sufficiently large for factor analysis (Bartlett's test is highly significant if $p < 0.0001$) (Tabachnick and Fidell, 2012). On the other hand, the measure for quantifying the degree of intercorrelation among the variables and the appropriateness for factor analysis is the measure of sampling adequacy (MSA). The cut-off point for MSA must exceed 0.50 for both the overall test and for each individual variable. Values of less than 0.50 should be omitted or deleted from the factor analysis one at a time (Hair et al., 2010).

The next step becomes the most important tool in interpreting the factors. Considerations must be noted in selecting the rotational method, although no specific rules exist or have been developed to guide the researcher in selecting a specific rotational technique (Hair et al., 2010). Although orthogonal rotation is the most widely used type of rotational method, oblique rotation methods with direct oblimin techniques offer a continuous range of correlations between the factors. This approach was used based on theoretical grounds because the factors might correlate in such a way that they are not independent. In other words, "it is best suited to the goal of obtaining several theoretically meaningful factors or constructs, because, realistically, few constructs in

the real world are uncorrelated” (Hair et al., 2010: p.116). In fact, Tabachnick and Fidell (2012) stated “factor extraction should be accompanied by rotation because it is useful for the interpretability and scientific utility of the solution.”

The task of interpreting a factor-loading matrix definitely helps the researcher to identify the structure among the variables. Assessing the factor loadings can be accomplished by following the rules of thumb. According to Hair et al (2010), values that are greater than 0.50 are necessary for practical significance, and the factor loadings of 0.30 to 0.40 are minimally accepted. To be considered to be significant, “a smaller loading is needed given either a larger sample size or a larger number of variables being analysed. A larger loading is needed given a factor solution with a larger number of factors, especially in evaluating the loadings and later focus”(Hair et al., 2010: p.118). After all, the process of factor interpretation involves both objective and subjective judgements. The ultimate goal of defining the best structure in the set of variables should never be forgotten.

Note that this study will perform structural equation modelling, and as recommended by many scholars, this study performs two analyses: EFA, to purify and validate the measurement scales, and confirmatory factor analysis (CFA), to validate the pre-existing measurement within the context of the current study (Bryne, 2010; Hair et al., 2006).

5.5.1 Factor Analysis (manipulated items)

A principal axis factor analysis was conducted on the 7 items with an oblique rotation (direct oblimin). The output shows that the Kaiser-Meyer-Olkin measure verified the

sampling adequacy for the analysis, with KMO=0.67. Additionally, all of the KMO values of the individual items were greater than 0.60, which is well above the acceptable limit of 0.50 (Field, 2013). As a general rule of thumb, a minimum of 0.50 is recommended (Kaiser, 1974), while Hutcheson and Sofroniou (1999) values of 0.50 to 0.70 are mediocre, values of 0.70 to 0.80 are good, values of 0.80 to 0.90 are great and values of above 0.90 are superb. The Bartlett Test of Sphericity $X^2(28) = 1613.635$, $p < 0.001$, indicated that the correlations between the items were sufficient. Because the data value is 0.67, which falls into the range of being mediocre or average, we can be confident that the sample size is adequate (Field, 2013) and the data are suitable for the analysis (Tabachnick and Fidell, 2012).

An initial analysis was run to obtain eigenvalues for each factor in the data. Four factors had eigenvalues that were over Kaiser's criterion of 1, and in combination, they explained 80.46% of the variance. The scree plot was ambiguous and showed inflexions that would justify retaining either 3 or 4 factors. In this study, we retained 4 factors because of the large sample size ($n=850$) and the convergence of the scree plot and Kaiser's criterion on this value. Table 5.3 summarise the factor loadings after rotation. The items that cluster on the same factor suggest that factor 1 represents manipulation checks of positive framing, factor 2 represents manipulation checks of Islamic identity framing, factor 3 represents manipulation checks of moral identity framing, and factor 4 represents manipulation checks of negative framing.

Cluster/Framing	Manipulation Items
1. Positive framing	<ul style="list-style-type: none"> ▪ “The advert stressed the positive results of engaging in recycling behaviours”. ▪ “The advert contended that recycling activity leads to positive behaviours”
2. Islamic identity framing	<ul style="list-style-type: none"> ▪ “The advert includes the Islamic messages of engaging in recycling behaviours” ▪ “The advert does not include the Islamic messages of engaging in recycling behaviours”
3. Moral identity	<ul style="list-style-type: none"> ▪ “The advert did not demonstrate the morality of engaging in recycling” ▪ “The advert demonstrates the morality of engaging in recycling”
4. Negative framing	<ul style="list-style-type: none"> ▪ “The advert stressed the negative results of not engaging in recycling behaviours” ▪ “Information in the pamphlet directed attention to the negative consequences of failing to engage in recycling activities”

Table 5.3: Factor (item) loadings based on pattern matrix

5.5.2 Factor Analysis of Main Variables

Next, factor analysis (Appendix E) for all of the variables was performed to identify the underlying factors (summarisation). A principal axis factor with an oblique rotation of 22 items from the survey was conducted on data that was gathered from 850 participants. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was factorable (KMO=0.888), with all KMO values of individual items being well above the acceptable limit of 0.50 (Field, 2013). The Bartlett’s Test of Sphericity shows significance at $p < 0.001$.

Furthermore, direct rotation using an oblimin direct procedure was performed as is “best suited to the goal of obtaining several theoretically meaningful factors or constructs because, realistically, very few constructs in the “real world” are uncorrelated” (Hair et al, 2010, p. 198). Because the test performed a direct oblimin rotation of the solution, loadings of less than 0.30 were excluded, and the analysis yielded a seven-factor

solution with a simple structure (factor loadings \Rightarrow .40). Four factors with eigenvalues of over 1.0 were retained, which accounted for 67.9 per cent of the total variance; solutions that account for 67.9 per cent of the explained variance are considered to be satisfactory from a social sciences standpoint (Malhotra and Birks, 2006; Hair et al., 2010).

The scree test of eigenvalues plotted against factors was performed to assess the adequacy of extraction and a number of factors (Cattell, 1966). The scree test not only allows for extracting factors but also gives researchers a chance to see the scree plot more clearly. The shape of the plot is used to determine the number of factors that are retained. According to (Tabachnick and Fidell, 2012), a line is drawn at a point where the slopes change in a certain way, which determines the number of factors to be retained. To the left of the line, the number of factors falls, and there is a bend at the cutoff. Those factors to the left will be extracted. In this study, a single straight line was drawn at the point where a line drawn through the changes in slope comfortably fits the first eigenvalues; this approach verifies the number of factors to be retained. Therefore, there appear to be four factors in the data. The first factor represents *Framing Believability* and explains the highest proportion of observed variance in the data set (31.6%). This factor contains ten items that all relate to the participants' personal believability toward message framing. The second variable explained 17.9 per cent of the variance and was labelled *Recycling Attitude*. This factor is added onto the reported participant's level of agreement as to whether recycling is responsible, useful, good, hygienic, rewarding, and sensible. The next factor adds three items that represent *Intention* and explains a 12 per cent proportion of the observed variance in the data set.

The final factor that is loaded is related to the participant's *Ad attitude* and represents a 9.7 percent proportion of the observed variance.

5.6 Reliability Test

The reliability of the measure was conducted for the data on the responses in the main study. Cronbach's Alpha test was exercised to examine the reliability of the questionnaire that is expected to produce satisfactory levels or the reliability prior to running any other tests. The Cronbach's Alpha coefficient for each variable is presented in Table 5.4. In this study, the reliability was assessed using Cronbach's alpha with SPSS 19. According to Hair, the commonly accepted lower limit for Cronbach's Alpha is 0.70, but Sekaran (2000) argued that it can be decreased to the minimum accepted level, which is 0.60; otherwise, the instrument is poor. Based on Table 5.4, the construct of framing the believability scores the highest with $\alpha > 0.95$, with recycling attitude 0.85, ad attitude 0.72, intention 0.70 and manipulation checks for framing 0.67. From the table, the internal consistency of the data is within the range of 0.70 to 0.9; therefore, most of the scales exceeded the minimum standards for reliability.

Variable	α
Framing believability	0.95
Ad attitude	0.72
Recycling attitude	0.89
Intention	0.70
Framing (manipulation)	0.67

Table 5.4 : The reliability results

5.7 Manipulation Check on Message Framing

To assess whether the framing manipulation was perceived as intended, the participants' perceptions regarding the advert were examined to confirm the perceived differences in the message-framing effects. Depending on the assigned version of the advert, the participants rated the advert on a 7-point Likert scale. The greater the perceived difference between the two groups, the more successful the manipulation (the rating for the positive group should be higher or differentiated compared with the negative group). One-way analysis of variance examined the scores for the manipulation checks.

The results from Table 5.5 (Appendix F) reveal that the manipulation of the priming framing (the positive and negative groups) was successful because the test was significant. A significant main effect of frame was shown in the positively framed measure, and respondents in the positive group also responding significantly greater than those within the negative group ($F_{(1,848)}=2015.85, p<.001$, positive and negative means =6.14 and 3.08, respectively]. On the other hand, when measuring the negative framing composite, a significant main effect of frame was found, with subjects in the negative group responding significantly higher than those in the positive group [$F_{(1,848)}=580.59, p<.001$, negative and positive means =5.03 and 3.26, respectively].

A further manipulation test was conducted for each treatment across groups (Table 5.6, Appendix F). The manipulation for the message framing between the 8 groups found a significant difference [$F_{(7,842)}=289.71, p<0.001$]. A test on the single framing of positive, negative, Islamic identity and moral identity between the 8 groups found a significant difference [$F_{(7,842)}=210.34, p<0.001$, $F_{(7,842)}=57.54, p<0.001$, $F_{(7,842)}=179.67, p<0.001$ and $F_{(7,842)}=94.72, p<0.001$, respectively].

Thus, the manipulation checks for each framing in the main group (i.e., positive and negative) and between groups were successful, which suggested that the participants in each group judged the advert as intended and responded correctly, and all paragraphs (i.e., the treatment) reflected the appropriate manipulations within the experimental control. A further test was conducted to test the homogeneity of the variances between the groups. Based on the result, the value of Sig. for each framing group shows that there was not a significant difference, which indicates that the variances between the groups were equal.

To recap, this experiment has eight groups: two control groups and six experimental groups. The experiments were divided into two main groups: the positive groups (1A, 2A, 3A and 4A) and the negative groups (1B, 2B, 3B and 4B). Specifically, group 1A and 1B were the control groups and had received a copy of the recycling advert that contained only positive and negative message framing without any additional or combination framings (e.g., Islamic identity framing and moral identity framing), while the remaining groups had received additional framings (i.e., treatments). As such, Groups 2A and 2B received additional framing of moral identity framing and groups 3A and 3B received Islamic Identity framing, while groups 4A and 4B received framings of both Islamic and Moral Identity.

5.8 Testing Hypothesis 1

Before testing the hypotheses, it was important to establish that positively framed and negatively framed messages did indeed evoke different affective states. To recap, the first objective in this study is to examine the effect of message framing on the respondent's recycling behaviour. Hypothesis 1 is as follows: *Positive framed messages have a*

positive influence on (a) framing believability (b) attitude to ad (c) recycling attitude and (d) recycling intention.

5.8.1 Analyses and Findings for Hypothesis 1a

H1a: There is a statistically significant difference in the effectiveness of the treatment on the respondent's believability on framing messages between the experimental groups. Specifically, respondents will have different believability toward the message for different combinations of message framing.

The descriptive analysis is presented in Table 5.7 (Appendix G) which resulted from the one-way procedure for the respondent's framing believability data. Stimulating starts for which the findings came from the control group in the positive group (1A; mean 4.03), the scores were higher than in the negative group (1B; mean 3.44). Under the second treatment of moral identity framing, the mean score for both groups (2A and 2B) shows a significant increase to 4.45 and 4.05, respectively. Respondents from the positive group respond well with the moral identity framing compared to the negative group. On the other hand, groups 3A and 3B, who respond to Islamic identity framing in the positive and negative groups, score significantly higher compared to the other group thus far (mean= 5.87 and 5.34, respectively), which indicates an extreme response from the respondents toward the Islamic element that is emphasised in the advert. Finally, groups 4A and 4B, who respond to the combined framing of moral and Islamic identity, resulted in a marginal drop compared to groups 3A and 3B. From the result, group 4A scores 5.38 and group 4B scores 4.93, which indicates a combination of moral and Islamic framing in a positive frame response that is strong compared within a negative frame.

In Figure 5.1, the graph shows a linear trend at the beginning, and a gap exists between the mean score of both control groups (1A and 1B). Then, the gaps between the main groups continuously inflate as each experimental group receives a moral identity and Islamic identity framing, respectively. There were also marginal decreases in the positive and negative groups when the experimental group responded to the combination advert of Islamic and moral elements at the same time.

Overall, the results of the one-way analysis of variance indicated that the respondents have different believability toward messages when there are different combinations of message framing. As expected, the additional framing on the positive and negative groups had a significant effect across the experimental groups. ANOVA indicated that positively framed messages elicited a significantly more positive response than did negatively framed messages.

These results justified testing the hypotheses. This finding accepts H1a as a positive framing that dominantly affects the respondent's framing believability compared to negative framing. Although the gap between the positive and negative group is small, the results from each experimental group for the framing believability were found to be significant [$F_{(7,842)} = 27.43, p < 0.001$]. Based on these results, the means between the groups are not equal, and this circumstance requires a post hoc test to be taken that is based on Tukey's HSD.

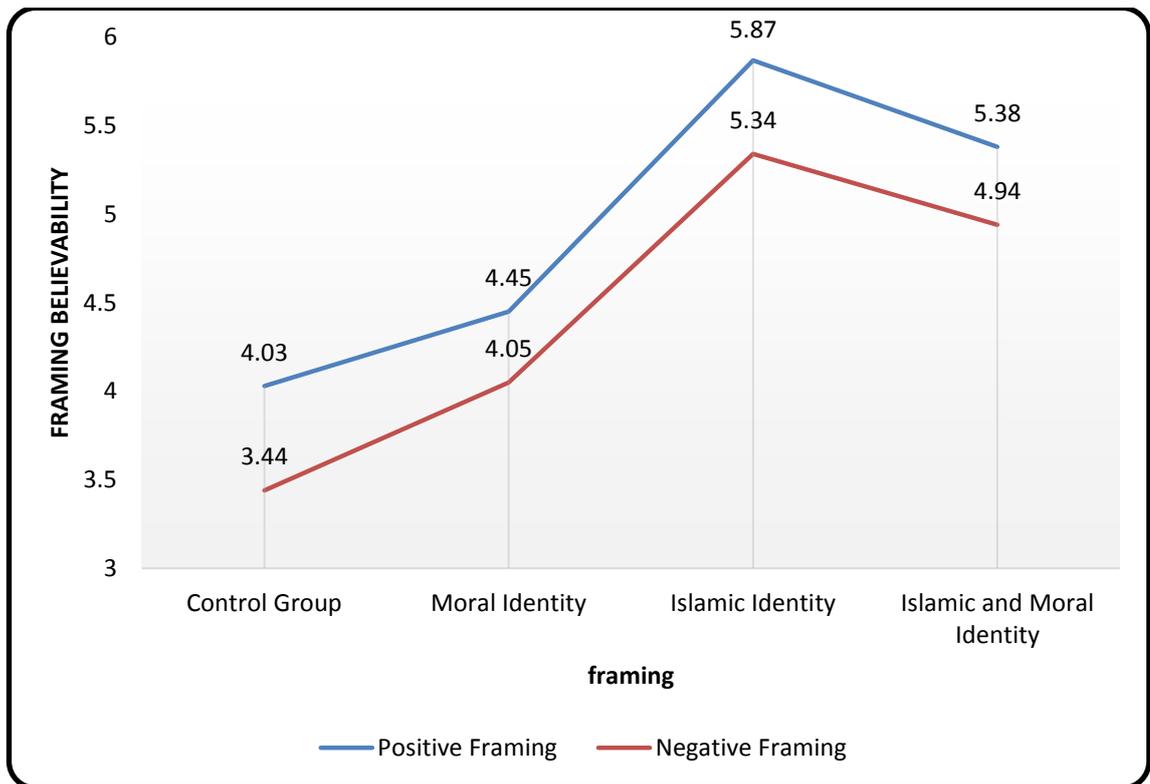


Figure 5.1: Mean framing believability between the positive and negative framing group

Table 5.8 presented (Appendix G) the Multiple Comparison table to distinguish which group appears to have a significant difference against the other experimental groups. This multiple comparison table provides evidence of how framing believability is perceived differently in each group. For example, it is clear that group 3A (positive framing + Islamic identity framing) appears to have a significant difference against the other experimental groups. Additionally, the control group (from positive framing group=Group 1A) has a different mean compared to the other experimental groups. However, the results show that there is no significant difference between 1A and the other two groups, which is from the negative framing groups, 1B and 2B, which indicates that there is no difference in the psychological effects of the framing believability among the subjects toward the advert (framing). However, the framing believability score for this group is higher than for group 1A (mixed framing is better

than single framing, either in the positive or negative). Furthermore, no significant difference between groups 2A and 4B was found, which indicates that subjects within these groups perceived equal (no mean differences) believability toward the adverts. Remarkably, these two groups, which belong to positive and negative groups, show that the adverts with positive framing and moral identity framing had perceived equal believability as adverts with negative framing, Islamic identity and moral identity. In fact, experimental group 4A, which represents advert with positive framing, Islamic identity and moral identity framing, has equal means (no significant difference) with experimental group 3B (which represents adverts with negative framing and Islamic identity framing), which indicates that subjects in both groups perceived that there was the same believability in the two groups. However, in general, this study evidently proved that experimental group 3A (positive framing and Islamic identity framing) shows significant differences against all of the groups, and this result shows that none of the other groups perceived the advert to be equal to the others. Furthermore, this group (3A) scored significantly higher than the other, which shows that the subjects in this group perceived higher believability on this particular advert compared to others (such as moral identity and other mixed framing).

Evidently, the Homogenous Subsets output is produced by a request for post hoc tests and addresses the same questions as the Multiple Comparison table for post hoc analysis, i.e., which pairs of groups have significantly different means on the dependent variable. For each requested post hoc test that does provide homogenous subset results, the groups are listed in the order of ascending means. The arrangement means that what is listed under each subset comprises a set of means that are not significantly different from one another. Subsets 1 and 5, which contained the experimental groups 1B and

3A, respectively, are significantly different from all of the other groups because they do not appear in a subset together with any of the other groups. The relevant literature appears to support the conclusion that the tests that are available in the multiple comparison table generally have better properties than the homogeneous subset tests and are the preferred focus for post hoc analysis.

5.8.2 Analyses and Findings for Hypothesis 1b

H1b: There is a statistically significant difference in the effectiveness of framing effects on the respondent's ad attitude between the experimental groups. In other words, respondents will have a different ad attitude for different combinations of message framing.

The results from the ANOVA of the mean scores indicated that there was a significant effect of each treatment on the attitude toward the advert [$F_{(7,842)}=20.62$, $p<0.001$] because positive framing has an impact on the ad attitude; thus, H1b is accepted. The combination of positive and Islamic identity framing displays the strength and credibility of the advert, which elicited a more positive impact on the attitude toward the advert. As seen in Table 5.9 and Figure 5.2, the means for the four advertising response measures were consistently higher than the others in the negative group. Within each condition, the respondents in the positive group were relatively more positive and had favourable responses to each treatment compared to the negative groups. Table 5.9 (Appendix G) reveals the mean score for each group. Group 3A, which represents the combination of positive and Islamic identity elements, were the highest ($m= 5.54$). The homogeneity of the variance assumption has been met because the value of *Sig.* shows more than 0.05, and the results Levene's test were found to be significant.

Based on the results in Figure 5.2, the line that joins the means appears to indicate a linear trend in that as the treatment changes, so does the mean level of the attitude toward the advert among the respondents. Additionally, it is clear that the gap between the two priming groups constantly increases, and both reached the highest level when groups 3A and 3B responded to an Islamic element in the advert. Despite having a slight decrease after receiving the third treatment, the gap between the positive and negative became wider because this group responded to a combination of moral and Islamic identity elements.

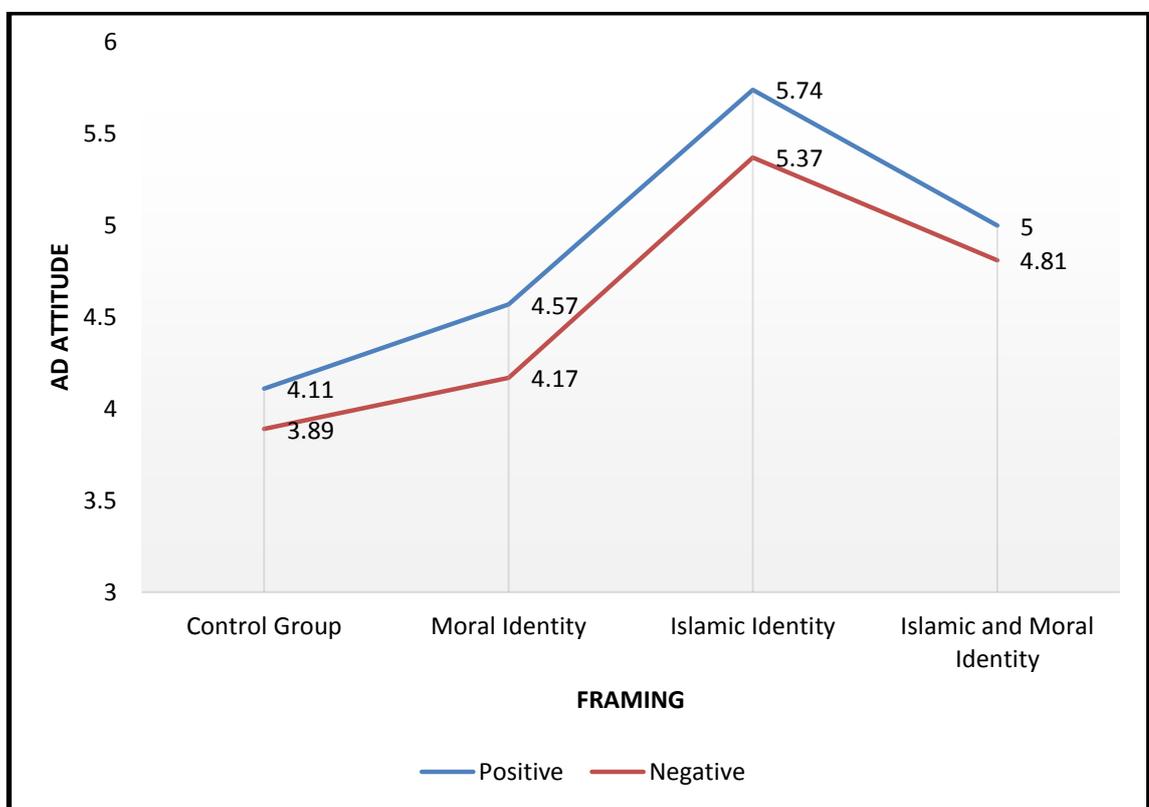


Figure 5.2: Mean ad attitude between the positive and negative framing groups

Because the ANOVA indicated a significant difference between the experimental groups, further analysis was performed to distinguish which group appears to have a significant difference compared with the other experimental groups. Therefore, multiple

comparison analysis and homogenous subsets were analysed and are presented in Table 5.10 (Appendix G). From the table, there were four subsets that emerged for which the means were ordered, i.e., subset 1 had the lowest mean and subset 4 had the highest. The results allow us to conclude that the experimental groups 1B, 1A, 2B and 2A had no significant differences because the subjects in these groups perceived the same level of likeability (ad attitude) toward the advert. However, these groups are significantly different against other groups (and other subset groups) because they do not appear in a subset together with any of the groups. Similar to subset group 1, the experimental group in subset groups 2, 3 and 4 appear to have their own “group”, which distinguishes them from the other subset groups. Again, experimental group 3A appears to have the highest mean and appears to have no significant differences only with experimental group 3B, from which it can be concluded that the subjects in this group perceived the same likeability toward the advert with positive framing and Islamic identity framing as the advert with negative framing and Islamic identity framing. On the other hand, the score appears to be satisfactory yet not convincing with respect to showing how strong the combination of moral and Islamic identity in one advert of positive or negative, respectively, as opposed to a recycling advert with a single treatment (i.e., Islamic identity in a positive or negative advert). However, the result is sufficient to improve the cause and effect of the framing and could influence the respondent’s attitude.

5.8.3 Analyses and Findings for Hypothesis 1c

H1c: There is a statistically significant difference in the effectiveness of the treatment on the respondent’s attitude toward recycling between the experimental groups. Specifically, the respondents will have different attitudes toward recycling for different combinations of message framing.

The descriptive analysis and results of ANOVA are presented in Table 5.11 (Appendix G). The results of the one-way analysis of variance (ANOVA) indicate that there were significant differences among the experimental groups [$F_{(7,842)}=17.34, p<0.001$].

As expected, the additional framing has a significant effect across the experimental groups, especially on the respondent's attitude toward recycling. At the beginning, the respondents who were not in any treatments in the positive (1A) and negative (1B) groups had scores with means of 4.23 and 4.02, respectively. There are slight increases in the mean scores that were found in both groups (2A and 2B) because this group received the additional element of moral identity in the recycling advert. As anticipated, because groups 3A and 3B received an advert that contained the Islamic element, the gap between the two groups was more apparent. As anticipated, the mean score in group 3A rose significantly, reaching the highest score (mean 5.25) among the eight groups that represented the respondent's attitude toward recycling, while the mean score in group 3B also increased steadily to 4.73. The final group received the framings of both the moral and Islamic identity element, and interestingly, the mean score for the two groups slipped back to 5.05 and 4.46, respectively. Figure 5.3 visualises the mean score across the experimental groups.

On the other hand, multiple comparison analyses and homogenous subsets were used to confirm which groups have significantly equal and non-equal differences. Table 5.12 (Appendix G) illustrates that experimental group 3A (positive framing and Islamic identity framing) has significantly different means against the other experimental groups, which proves that the subjects in this group perceived the highest recycling attitude compared to the other advert. In fact, the subjects in the negative group who

received the Islamic identity framing appear to have the same response toward the recycling attitude. Based on the homogenous subset, this study provides evidence on how the subject's recycling attitude was influenced by framing. For example, the results show that there is no difference between the experimental groups 1B, 1A and 2B because these groups were found to have no significant difference. In negative or positive framing, the additional framing of a moral identity against a positive framing (the control group) did not have a different effect at all. However, the results still provide a significant difference between the experimental groups among the subsets.

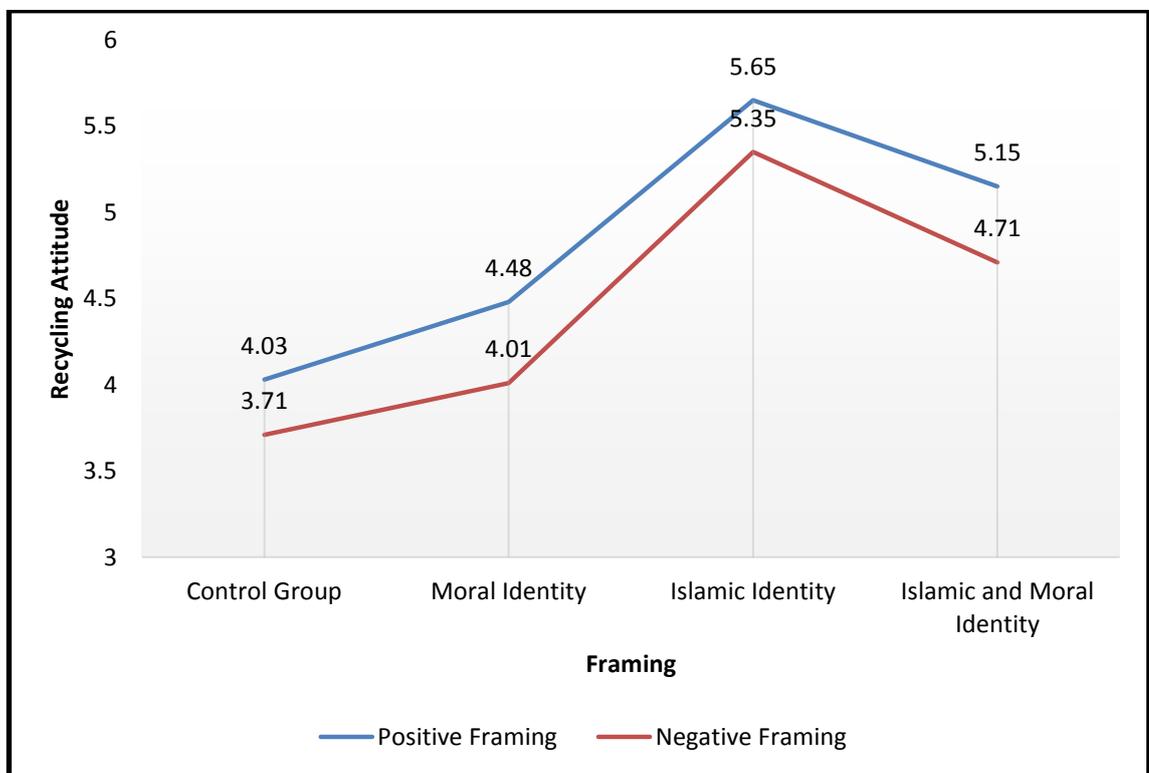


Figure 5.3: Mean recycling attitude between the positively and negatively framing groups

To conclude, Figure 5.3 clearly indicates the different responses among the different experimental groups. The control group has the lowest scores when there was no additional framing compared to the other groups. The group in the positive condition responds well compared with the other group in the negative condition, which reflects

the Muslim's preference toward encouragement and the optimistic framing rather than the fear appeals. Overall, the respondents have different attitudes toward recycling for different combinations of message framing because positive framing has a greater impact than negative framing; thus, H1c is accepted.

5.8.4 Analysis and Findings for Hypothesis 1d

H1d: There is a statistically significant difference in the effectiveness of the treatment with the respondent's intention to recycle between the experimental groups. Specifically, the respondents will have different intentions to recycle in the future for different combinations of message framing. The descriptive analysis and the analysis of variance on intention to recycle generated the results that are reported in Table 5.13 (Appendix G).

The evidence that is found in this experiment of the effect of the treatment on the respondent's behaviour and the advertising effectiveness was statistically significant. The respondents in the control group in the positive group score marginally higher than the others in the negative group, specifically, 4.39 and 4.25, respectively. On the other hand, message framing of the moral identity affects the score in both groups because the respondents in the positive and negative groups respond at 4.78 and 4.43, respectively. Remarkably, the score for groups 3A and 3B increased significantly because of their response to Islamic identity framing. As expected, Islamic identity in the positive condition received a significant response compared with in a negative condition (means of 5.26 and 4.82, respectively). However, the scores in groups 4A and 4B show a slight drop after the group received mixed framing under both conditions (means of 5.03 and 4.78, respectively). These findings are visualised in Figure 5.4.

As hypothesised, ANOVA revealed a significant effect of each treatment on the respondents' intentions between groups [$F_{(7,842)}=13.26, p<.001$], and negative framing was found to have less of an impact compared to positive framing; thus, H1d is accepted.

Based on Figure 5.4, there was a small or marginal significant main effect such that the responses of the subjects that were exposed to the adverts that contained positive and Islamic element message framing (group 3A) were higher than the subjects in the other conditions. This result is not surprising given that Islamic identity elicits Muslims to be remarkable in their responses to a context that is related to recycling and cleanliness. Finally, the test of the homogeneity of the variances shows non-significance, which indicates having an equal variance between the groups.

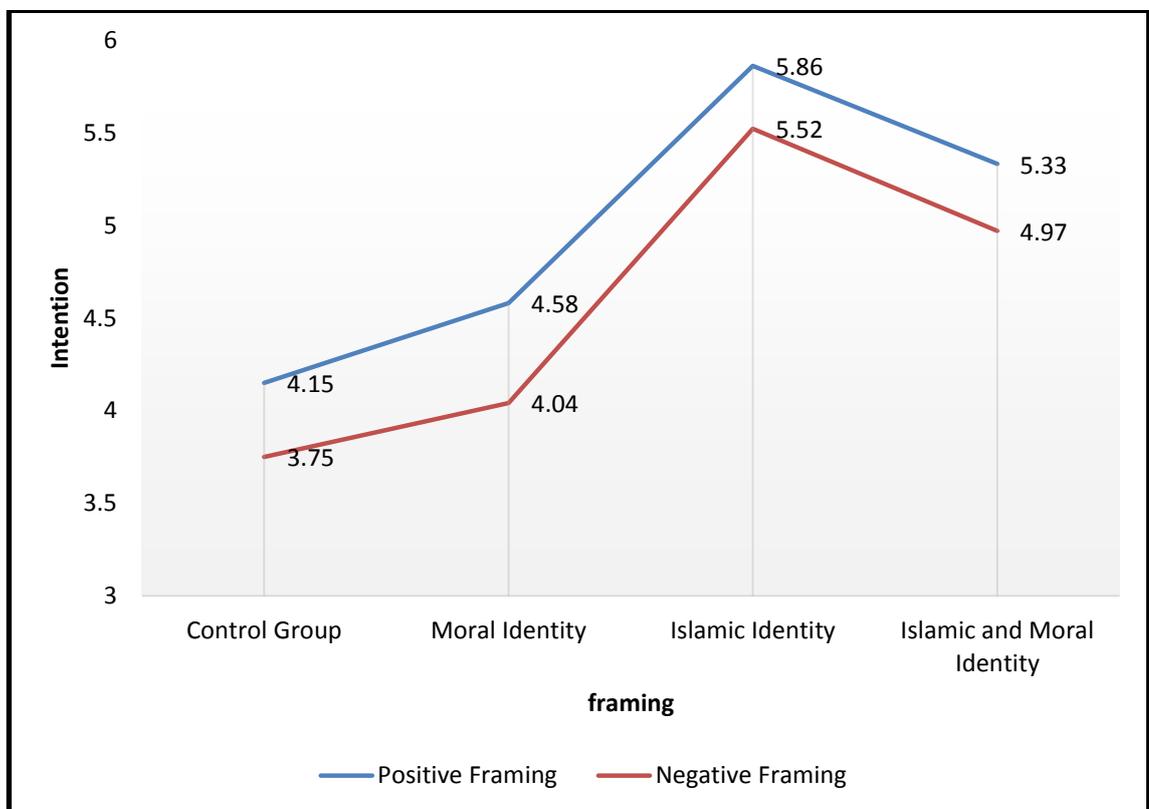


Figure 5.4: Mean intention between the positively and negatively framing groups

Again, multiple comparison analyses and homogenous subsets were used to confirm which groups have significantly equal and non-equal differences. Table 5.14 (Appendix G) illustrates that experimental group 3A (positive framing and Islamic identity framing) has significantly different means against the other experimental groups, which proves that the subjects in this group perceived the highest intention compared to the other advert. Based on the homogenous subset, this study provides evidence on how the subject's intention was influenced by framing. Table 5.15 summarizes mean score in Hypotheses 1.

Groups	Treatment	Framing Believability	Ad Attitude	Recycling Attitude	Recycling Intention
Control group 1A	Positive	4.03[0.45]	4.11 [1.03]	4.33[1.24]	4.15[0.92]
Exp. group 2A	Positive, moral identity	4.45[0.97]	4.57 [0.86]	4.48[1.41]	4.58[1.01]
Exp. group 3A	Positive, Islamic identity	5.87[0.97]	5.74 [0.98]	5.65[1.21]	5.86[1.03]
Exp. group 4A	Positive, moral identity, Islamic identity	5.37[1.09]	5.00 [1.38]	5.15 [1.40]	5.33[1.16]
Control group 1B	Negative	3.44[1.03]	3.89 [1.46]	3.71[1.21]	3.75[1.16]
Exp. group 2B	Negative, moral identity	4.05[0.74]	4.17 [1.51]	4.01[1.61]	4.04[1.00]
Exp. group 3B	Negative, Islamic identity	5.34[0.96]	5.37 [0.84]	5.35[0.58]	5.52[1.02]
Exp. group 4B	Negative, moral identity, Islamic identity	4.94[1.16]	4.81 [0.83]	4.71[1.31]	4.97[1.05]
F		27.43**	20.62**	17.34**	13.26**

Table 5.15: Summary of the Mean Score between Experimental Groups

Finally, further testing also was conducted to examine the difference between the positive and negative advert effect on the respondents' framing believability, ad attitude, recycling attitude and intention to recycle. The descriptive analysis, analysis of variance and test of the homogeneity of variances between the positive and negative framing

group yielded the results that are reported in Table 5.16 (Appendix G), while Figure 5.5 visualises the mean score across the experimental groups.

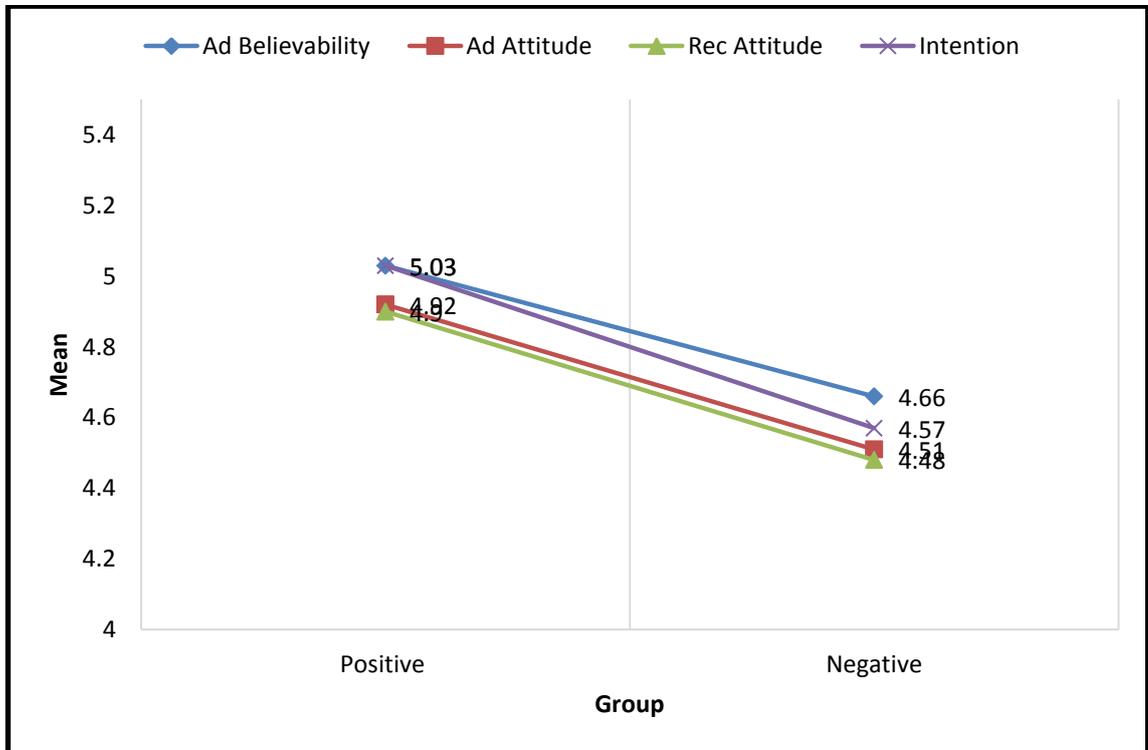


Figure 5.5: Overall mean of the framing believability, ad attitude, recycling attitude and intention between the positive and negative framing groups

The test of the homogeneity between the groups shows significant results that indicate the non-equality of variance between the groups. Moreover, the analysis of variance revealed that a significant main effect between the positive and negative framing groups was found in the framing believability composite measure, with subjects in the two groups having mean scores of 5.03 and 4.66, respectively ($F_{(1,848)}=18.40$, $p>.001$). Similar to the framing believability, the statistical result also shows significant differences between both of the adverts on the respondent's ad attitude [$F_{(1,848)}=4.65$, $p>.05$, positive and negative means=4.92 and 4.51, respectively], recycling attitude [$F_{(1,848)}=44.88$, $p>.001$, positive and negative means=4.90 and 4.48, respectively], and

intention to recycle [$F_{(1,848)}=26.98$, $p>.001$, positive and negative means= 5.03 and 4.57, respectively]. The results also revealed that there was a significant main effect between both positive and negative adverts on the framing believability measure, with those with positive frame conditions significantly higher than negative frame subjects. The evidence found in this experiment for differences in the intensity of behaviour and advert effectiveness was statistically significant.

5.9 Testing Hypothesis 2

Further testing was conducted to examine the difference between the Islamic and non-Islamic advert effect on the respondent's framing believability, ad attitude, recycling attitude and recycling intention. The hypotheses were as follows: *H2: There is a statistically significant difference between non-Islamic identity and Islamic identity advert because respondents who were persuaded by an Islamic advert will have a favourable attitude toward the framing believability, ad attitude, recycling attitude and intention to recycle compared to the non-Islamic adverts.* [The Islamic identity advert has a positive influence on the (i) framing believability (ii) ad attitude (iii) recycling attitude and (iv) recycling intention.]

The results in Table 5.17 (Appendix G) revealed that a significant main effect between the Islamic identity and non-Islamic identity framing advert was found in the framing believability composite measure, with subjects with Islamic identity frame conditions responding significantly higher on these items than non-Islamic frame subjects ($F_{(1,426)}=220.28$, $p<.001$, Islamic identity and non-Islamic identity framing means=5.60 and 4.12, respectively). Similar to the framing believability, the statistical result shows a significant difference between both adverts on the respondent's ad attitude

[$F_{(1,426)}=111.64$, $p<.001$, Islamic identity and non-Islamic identity framing means=5.61 and 3.99, respectively], recycling attitude [$F_{(1,426)}=37.48$, $p<.001$, Islamic identity and non-Islamic identity framing means=5.44 and 4.12, respectively], and intention to recycle [$F_{(1,426)}=39.61$, $p<.001$, Islamic identity and non-Islamic identity framing means= 5.69 and 4.20].

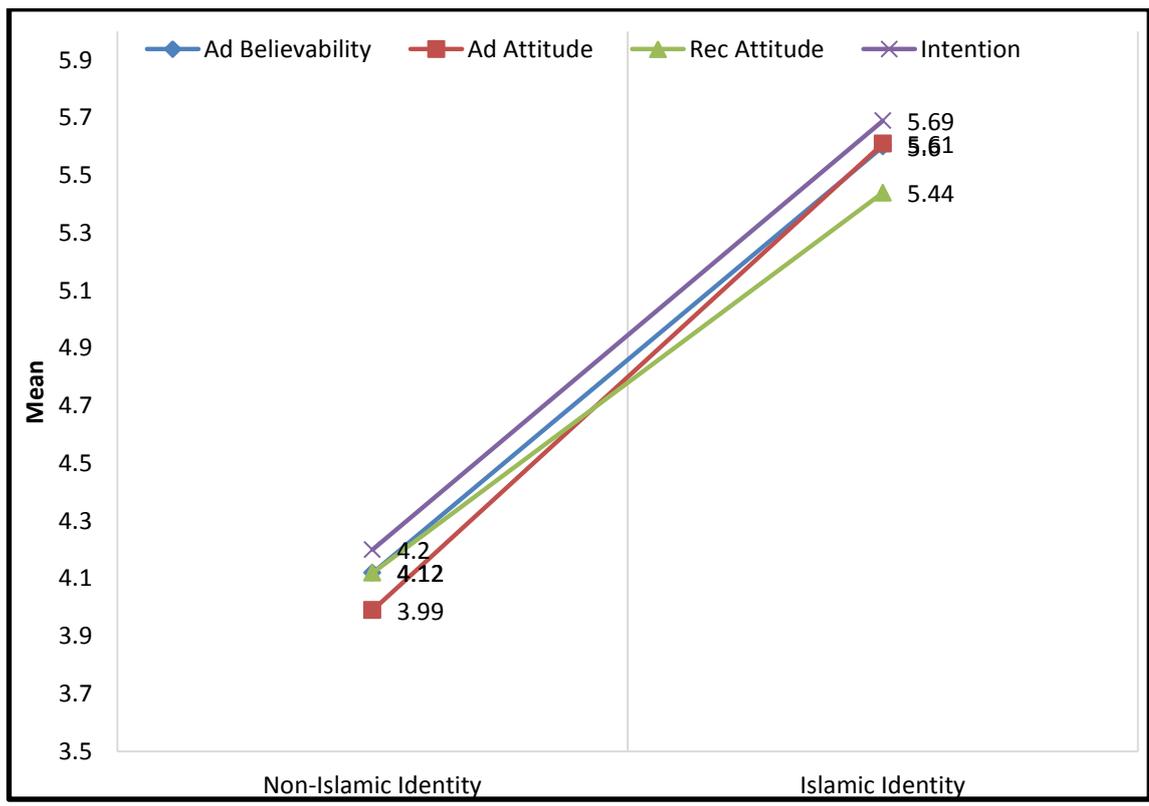


Figure 5.6: Mean framing believability, ad attitude, recycling attitude and intention between non-Islamic and Islamic identity advert

In the present experiment, the group response to the Islamic advert did have a higher mean for the framing believability, ad attitude, recycling attitude and intention than the group who received the non-Islamic advert. The difference is statistical at the 0.01 levels using a parametric test. Thus, this experiment found evidence of a religious element effect such as the Islamic value or elements in advertising. The evidence found

in this experiment for the differences in the intensity of the behaviour and the advert effectiveness was statistically significant, which fully supports H2. The difference between the Islamic and non-Islamic adverts in Figure 5.6 interestingly shows a gap in the framing believability, attitude toward advert, attitude toward recycling and intention to recycle. The element of Islamic identity framing significantly influences the participant's behaviour and advert effectiveness.

5.10 Testing Hypothesis 3

Next, this experiment was conducted to examine the difference between the moral identity and the non-moral identity advert effect on the respondent's framing believability, ad attitude, recycling attitude and recycling intention. The hypothesis is as follows:

H3: There is a statistically significant difference between the non-moral identity and moral identity advert because the respondents who are persuaded with the moral identity advert will have a favourable attitude toward the framing believability, ad attitude, recycling attitude and intention to recycle compared with those who are persuaded with the non-moral identity advert. [The moral identity advert has a positive influence on the (i) framing believability (ii) attitude to ad (iii) recycling attitude and (iv) recycling intention].

The mean differences between the moral identity and non-moral identity framing on the respondent's framing believability, ad attitude, recycling attitude and intention to recycle are presented in Table 5.18 (Appendix G) and Figure 5.7.

The one-way analysis revealed that there was a significant main effect between the moral and non-moral advert on the framing believability composite measure, $F_{(1,417)} = 17.36, p < .001, MS_{error} = 12.013, \alpha = .05$. On the other hand, the statistical result shows that there was no significant difference between both of the adverts on the respondent's ad attitude with the between-subject analysis of variance, which failed to reveal a reliable effect [$F_{(1,417)} = 4.145, p > .001$, moral and non-moral means = 4.37 and 4.00, respectively], recycling attitude [$F_{(1,417)} = 0.112, p > .001$, moral and non-moral means = 4.55 and 4.32, respectively], and intention to recycle [$F_{(1,417)} = 1.732, p > .001$, moral and non-moral means = 4.40 and 4.61]. Although the score differences between the groups tangibly exists, the evidence found in this experiment for the differences in the intensity of behaviour and advert effectiveness was statistically not significant, which partially rejects H3. Again, the analysis failed to reveal a reliable effect because all of the p values showed greater than an α level (.05), which indicates that the means of the moral identity and non-moral identity advert in this study are equal.

On the other hand, in the test of the homogeneity of the variances, the p value is greater than the α level for this test; thus, this study fails to reject H_0 , which increases the confidence that the variances are equal and the homogeneity of the variance assumption has been met. Based on Figure 5.7, the respondents from both groups (the moral identity and non-moral identity advert) gave the same response on the framing believability, but different scores emerged when they were asked about their ad attitude, recycling attitude and intention to recycle based on the advert. As seen, groups who respond to the moral identity advert score slightly higher; this finding shows an acceptance of the advert concept as a whole or in general. However, a low score was found in response to

the recycling attitude within this group, but it still plans to participate in recycling in the future.

Figure 5.7 summarises the mean differences between the moral identity and non-moral identity advert on the respondent's framing believability, ad attitude, recycling attitude and intention to recycle.

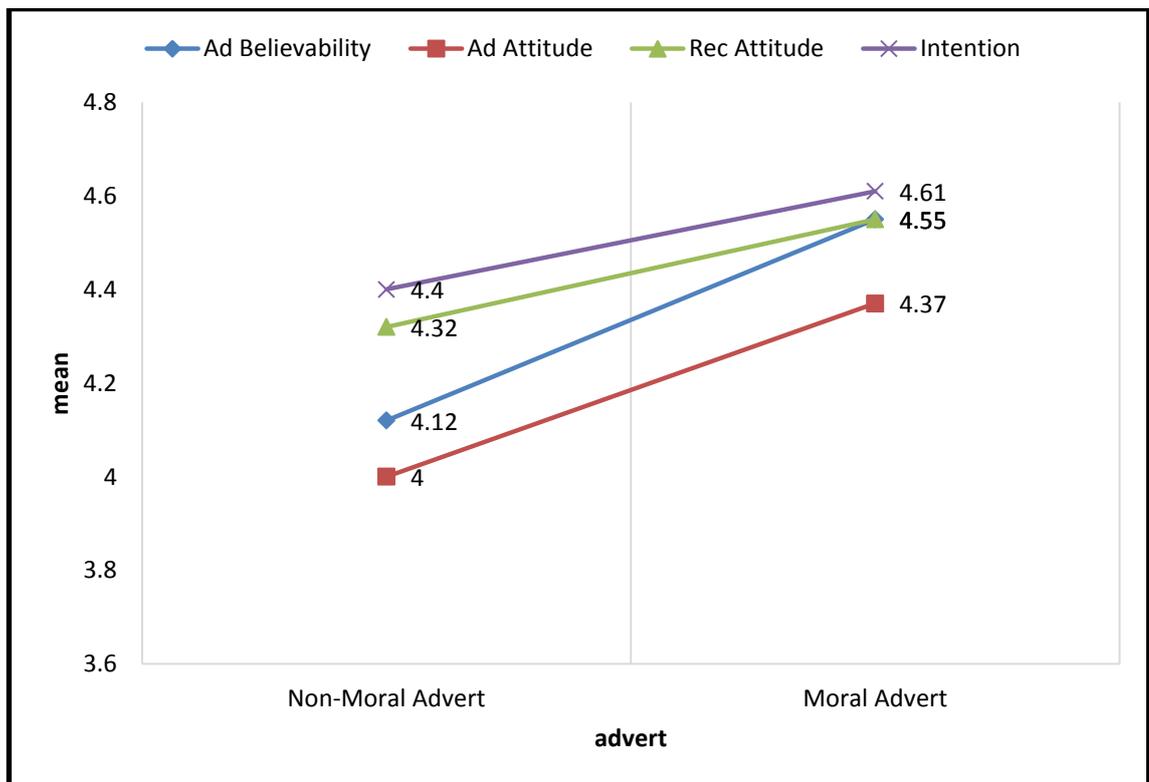


Figure 5.7: Mean framing believability, ad attitude, recycling attitude and intention between the non-moral and moral identity advert

5.11 Testing Hypothesis 4

Finally, this experiment was conducted to examine the difference between the Islamic identity framing and moral identity framing effects on the respondent's framing believability, ad attitude, recycling attitude and recycling intention. The hypothesis is as follows:

H4: There is a statistically significant difference between the Islamic identity and moral identity advert because the respondents who are persuaded with the Islamic identity advert will have a favourable attitude toward the framing believability, ad attitude, recycling attitude and intention to recycle compared with the moral identity advert. [The Islamic identity advert has a positive influence on the (i) framing believability (ii) attitude to ad (iii) recycling attitude and (iv) recycling intention].

The mean differences between the Islamic identity framing and moral identity framing on the respondent's framing believability, ad attitude, recycling attitude and intention to recycle are presented in Table 5.19 (Appendix G) and Figure 5.8.

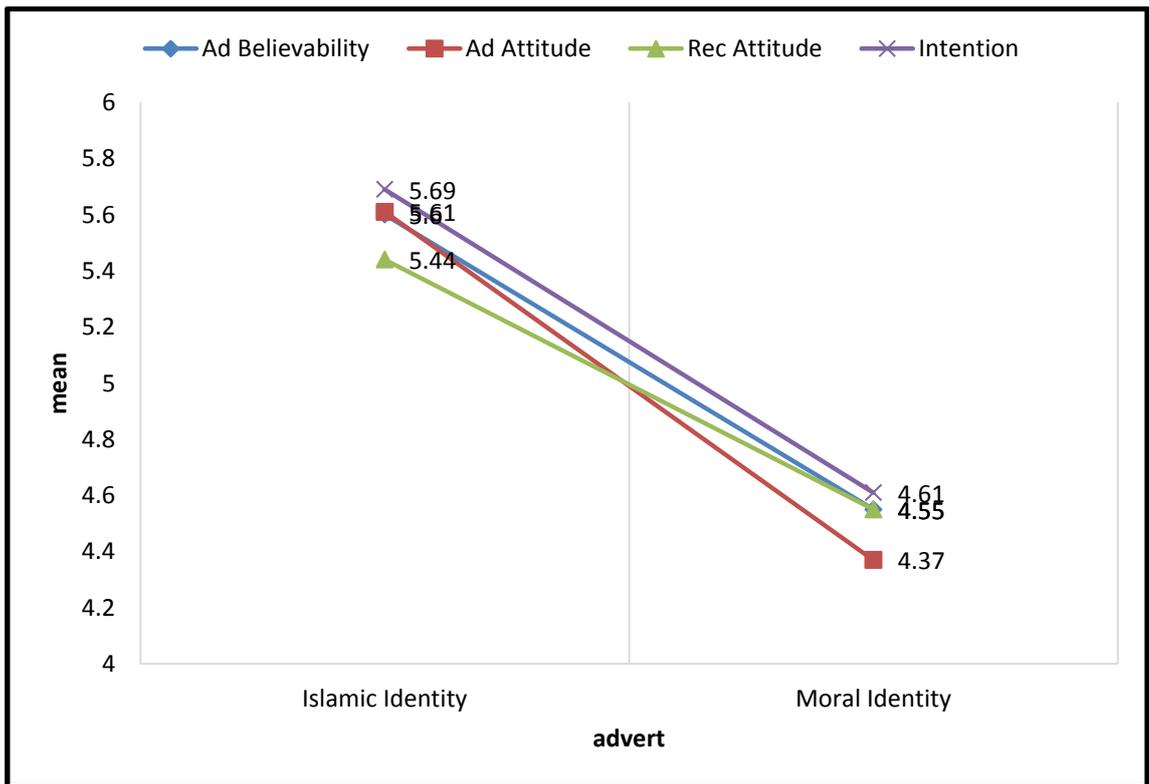


Figure 5.8: Mean framing believability, ad attitude, recycling attitude and intention between Islamic identity and moral identity advert

The results revealed that a significant main effect between the Islamic identity and moral identity framing advert was found in the framing believability composite measure, with subjects with the Islamic identity frame conditions responding significantly higher on these items than the moral identity frame subjects ($F_{(1,423)}=112.002$, $p=.004$, $MS_{error}=97.79$, $\alpha = .05$, Islamic identity and moral identity framing means=5.61 and 4.55, respectively). Moreover, the statistical results show a significant difference between both adverts on the respondent's ad attitude [$F_{(1,423)}=67.79$, $p<.001$, $MS_{error}=80.75$, Islamic identity and moral identity framing means=5.61 and 4.37, respectively], recycling attitude [$F_{(1,423)}=21.81$, $p<.001$, $MS_{error}=31.73$, Islamic identity and moral identity framing means=5.44 and 4.55, respectively], and intention to recycle [$F_{(1,423)}=88.54$, $p=.009$, $MS_{error}=18.54$, $\alpha = .05$, Islamic identity and moral identity framing means= 5.69 and 4.61].

5.12 Testing Hypothesis 5

Unlike testing H1, H2, H3, and H4, testing H5 requires advanced statistical tools and methods. At this stage, to examine the effects of message framing, attitude toward the ad, and recycling attitude toward recycling intention, the researcher performed CFA and built a multi-analysis structural model for each group. To recap, hypothesis 5 is as follows:

H5a: In a positive setting, the framing believability has a more positive relationship with the ad attitude compared with in a negative setting.

H5b: In a positive setting, the ad attitude has a more positive relationship with the recycling attitude compared with in a negative setting.

H5c: In a positive setting, the recycling attitude has a more positive relationship with the recycling intention compared with in a negative setting.

5.12.1 Confirmatory Factor Analysis (CFA) and the Measurement Model.

Multi-group CFA was performed to assess the unidimensionality and metric equivalence across the eight sample groups. Figure 5.9 aptly depicts the measurement model of the CFA. As shown in Figure 5.9, the model has four observed variables and twenty-two latent variables, and several outputs were used to evaluate each item, including modification indices, residual moments, standardised estimates and minimisation history. The model goodness fit indices for without any modification were the following: CMIN/DF=2.910, RMSEA= 0.92, GFI= 0.757, CFI= 0.835 and IFI= 0.834. Accordingly, the initial model must be improved to fit the sample better by examining the error variances and the regression weights for each item.

CFA generated ten indicators to measure four latent constructs and removed twelve constructs from the model. After careful deletion (which is based on cross loadings, initial factor loadings and items that have higher modification indexes), seven out of the ten framing items were deleted during the CFA, and three items (convincing, authentic and unquestionable) remained. For the recycling attitude, four items out of six were removed during the confirmatory factor analysis, and the remaining two (RAtt3 and RAtt5) were analysed. Moreover, the two items that involve the ad attitude (AdAtt 1 and AdAtt2) remained during the analysis. Finally, no items on the intention to recycle were removed. All of the remaining items were above the suggested 0.50 cut-off criteria for SEM loadings, which suggests that the items correlate very significantly with the factor itself (Byrne, 2010; Hair et al., 2010). The modified model (see Figure 5.10) has achieved the minimum requirement, and the resulting better model fits because the goodness of fit indices for this model are the following: CMIN/DF=1.648,

RMSEA=0.28, GFI= 0.98, CFI= 0.99, TLI= 0.99 and IFI=0.99. Additionally, as shown in Table 5.20, the results supported a good measurement model fit for each group.

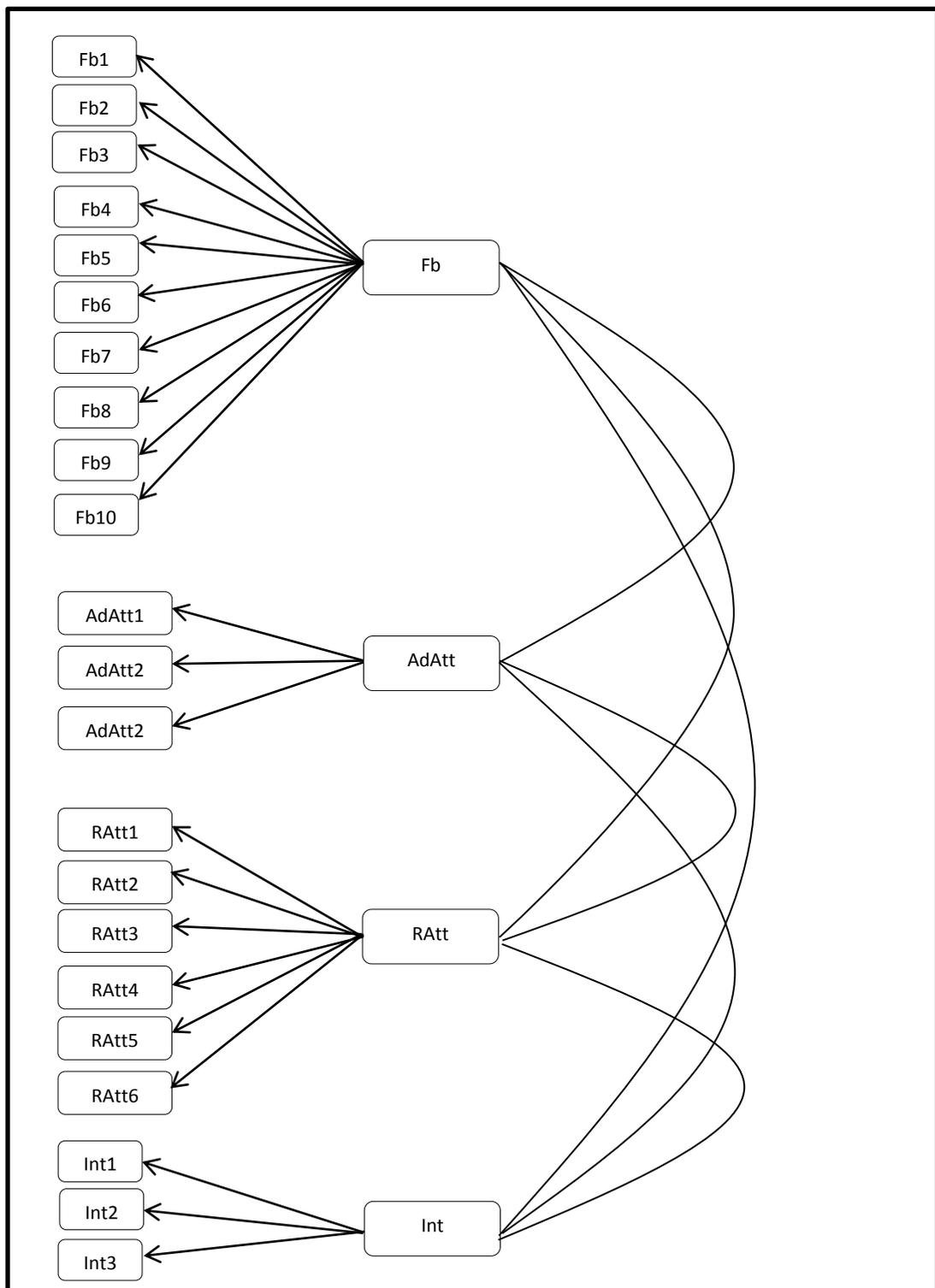


Figure 5.9: Measurement model that is used for the confirmatory factor analysis

Group [d.f.=59]	X ²	CMIN/DF	GFI	IFI	CFI	RMSEA
1A	70.21	1.19	.93	.98	.98	.039
2A	79.65	1.35	.92	.96	.96	.055
3A	66.08	1.12	.90	.93	.93	.041
4A	72.57	1.23	.90	.93	.93	.049
1B	66.67	1.13	.93	.98	.97	.033
2B	83.19	1.41	.91	.94	.94	.056
3B	81.42	1.38	.92	.95	.95	.053
4B	67.85	1.15	.92	.95	.95	.034
All groups [d.f.77]	130.13	1.69	.99	.99	.99	.028

Table 5.20: Model fit for the individual groups of the CFA

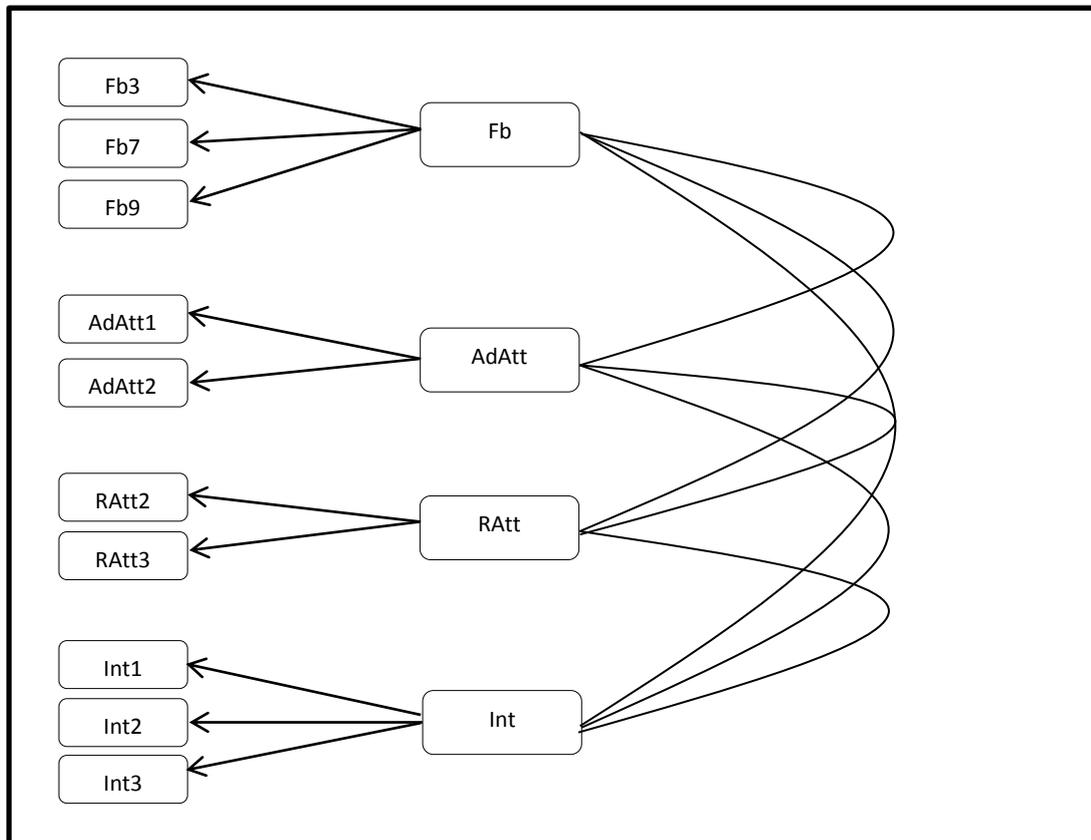


Figure 5.10: Final measurement model of the CFA

However, before testing the proposed structural model, a multiple group CFA approach was performed to test for the factorial invariance across the groups (based on a chi-square difference test) between a constrained model and unconstrained model. The purpose of this method is to measure the unidimensionality and metric equivalence between each group by eliminating unreliable items, to confirm the unidimensionality of the multiple-item constructs (Bollen, 1989). To begin the invariance test, begin with the chi-square from a model in which all of the parameters are allowed to be unequal across groups, and this model was compared with the chi-square from a model in which only the loadings were constrained to be equal across the groups. In other words, an unconstrained CFA was conducted that allowed the factor structure to vary across the samples. The factor loading for each indicator to its respective construct was significant ($p < .01$), and all of the loadings ranged from .65 to .98. Patterns of factor loadings across the eight group samples were almost parallel, as seen in Table 5.21. The model in which all of the parameters were freely estimated in the eight groups exhibited a good fit because the results revealed a high level of consistency in the model form and measurement across the eight groups: the ratio of X^2 to the degrees of freedom [d.f.] was 1.55, GFI=0.93, CFI=.97, TLI=.96 and IFI=.97.

Further analysis was performed to test the equivalence of the measurement model across the samples of each group by conducting a constrained CFA. At this stage, the factor structure was set up to be invariant in the constrained model, and as a result, each item (the factor patterns and loadings) was expected to be equal. The results indicated that identical factor patterns and factor structure was indifferent across the samples. The constrained model also exhibited a good fit. The ratio of X^2 the degrees of freedom [d.f.] was 1.95, GFI=.90, CFI=.95, TLI=.93 and IFI=.95.

Constructs and measurement items ^a	Standardised Item-Construct Loading ^b							
	1A n=105	2A n=102	3A n=112	4A n=107	1B n=106	2B n=106	3B n=105	4B n=107
Framing believability								
Convincing	.65	.71	.88	.86	.69	.73	.81	.84
Unquestionable	.83	.78	.66	.69	.82	.86	.68	.78
Authentic	.67	.76	.73	.90	.66	.81	.79	.91
Ad attitude								
Good	.88	.87	.84	.78	.95	.85	.91	.85
Favourable	.84	.84	.81	.72	.96	.80	.87	.82
Recycling attitude								
Recycling is rewarding	.77	.89	.68	.90	.76	.95	.79	.81
Recycling is responsible	.72	.80	.75	.77	.75	.91	.82	.75
Intention								
“I am likely to follow the recommendations in the advert in the future.”	.86	.92	.87	.92	.88	.89	.92	.86
“The advert is likely to influence my future decisions to follow the recommendation.”	.81	.80	.94	.93	.91	.90	.80	.94
“I am more likely to follow the recommendations after reading the pamphlet than before.”	.83	.87	.87	.84	.84	.83	.88	.89
Unconstrained model: $X^2=629.02$ [d.f.=342], CFI=.97, IFI=.97, GFI=.94, RMSEA=.022, PCLOSE 1.00								
Constrained model: $X^2=527.49$ [d.f.=315], CFI=.97, IFI=.97, GFI=.95, RMSEA=.020, PCLOSE 1.00								
^a Cronbach's alphas are in parentheses.								
^b All of the loadings are significant at $p < .01$.								

Table 5.21: Patterns of factor loadings across groups

To further establish the validity and to ascertain the internal consistency of the data in each construct, all of the composite indicators were evaluated; each of the individual communalities, composite reliabilities, Cronbach's alpha, and variance extracted (VE) were significant and essential. The resultant evaluations show that the majority of the remaining measurement items were above the suggested cut-off criteria of 0.50 for the communality and 0.70 for Cronbach's alpha, with the variance extracted and composite reliability. Hence, Table 5.22 below aptly demonstrates the strong reliability both in the composite reliability and Cronbach's alpha and the strong discriminant validity, as indicated in the variance that is extracted in the overall measurement model. As shown in Table 5.22, the reliability for each variable was tested, and all of the values of the construct reliabilities for Cronbach's alphas ranged from 0.75 to 0.90; framing was $\alpha=0.82$; ad attitude was $\alpha=0.89$; recycling attitude was $\alpha=0.75$; subjective norm was $\alpha=0.89$; personal norm was $\alpha=0.77$; perceived behavioural control was $\alpha=0.84$; and intention was $\alpha=0.90$. The discriminant validity was also obtained, as shown in the same table, with AVE for each variable greater than .50, which thus justifies the use of the construct (Barclay et al., 1995).

<i>Code</i>	<i>Communality</i>	<i>Factor loading</i>	<i>Factor loading²</i>	<i>SE</i>	<i>Composite</i>	<i>Reliability α</i>	<i>SMC</i>	<i>SMC²</i>	<i>SE</i>	<i>V. Explained</i>
<i>AdFraming</i>										
Convincing	0.74	0.86	0.74	0.16			0.74	0.55	0.16	
Authentic	0.73	0.88	0.77	0.15			0.78	0.61	0.15	
Unquestionable	0.67	0.87	0.76	0.12			0.77	0.59	0.12	
			2.27	0.43	0.84	0.82		1.75	0.43	0.80
<i>Ad attitude</i>										
Good	0.91	0.95	0.90	0.06			0.91	0.83	0.06	
Favourable	0.72	0.85	0.72	0.12			0.72	0.52	0.12	
			1.63	0.18	0.90	0.89		1.35	0.18	0.88
<i>Recycling attitude</i>										
Recycling is rewarding	0.59	0.76	0.58	0.03			0.58	0.34	0.03	
Recycling is responsible	0.62	0.79	0.62	0.07			0.63	0.40	0.07	
			1.20	0.10	0.92	0.75		0.73	0.10	0.88
<i>Intention</i>										
“I am likely to follow the recommendations in the advert in the future.”	0.79	0.89	0.79	0.08			0.79	0.62	0.08	
“The advert is likely to influence my future decisions to follow the recommendation”.	0.81	0.90	0.81	0.08			0.81	0.66	0.08	
“I am more likely to follow the recommendations after reading the pamphlet than before.”	0.68	0.82	0.67	0.09			0.47	0.22	0.09	
			2.27	0.25	0.90	0.90		1.50	0.25	0.86

Table 5.22: Composite Indicators for the Final Measurement Model

5.12.2 Full Model Constructions and Evaluations

This section briefly discusses the overall outcome of the measurement model (i.e., it differentiates the eight individual models) that is used in the AMOS analysis to arrive at the goodness of fit indexes for the structural model. In the research hypothesised model

for this research, there are three direct hypotheses: (i) framing believability and ad attitude, (ii) ad attitude and recycling attitude, and (iii) recycling attitude and intention. In addition, there is the mediating effect of the recycling attitude on the relationship between the ad attitude and the intention.

5.12.2.1 Structural Analysis of Individual Models: Model Fits and Direct Effects

Because the preliminary communication and recycling structural model was conceptualised based in the present literature, the individual relationships between the path analyses are to be tested as an explicit hypothesis in this study. Once the measurement issues were satisfied, the structural model was tested for each of the eight groups. At this stage, we examined the direct effects of a structural model that goes directly from one latent variable to another known variable within the same model. All of the eight models converged well (see Table 5.23). For group 1A, 3 paths were statistically significant, and the X^2 scored 90.86 with d.f. of 77, GFI=. 92, CFI=. 94, and IFI=. 95. Modification indexes showed that no additional path should be released. Next, for group 2A, all of the paths were statistically significant, and all of the fit indices for this model were at an acceptable level ($X^2=$ 88.55, d.f. = 77; GFI= .92; CFI= .95; IFI= .95). Tests showed that an additional path would not improve the model. The model for the group 3A and 4B samples converged well. All of the paths were statistically significant, and all of the fit indices were in the acceptable range (group 3A: $X^2=$ 82.39, d.f. = 77, GFI= .95, CFI= .98, IFI= .98; group 4A: $X^2=$ 86.24, d.f. = 77, GFI= .93, CFI= .96, IFI= .96). The tests indicated that no additional path would improve the model. Similar to all of the models in the positive group, each model in the negative framing group (1B, 2B, 3B and 4B) converged well. For group 1B, 3 paths were statistically significant except for the path from the recycling attitude to the

intention ($p < 0.1$ or better). In the model for groups 2B, 3B and 4B, each path was significant.

	1A	2A	3A	4A	1B	2B	3B	4B	All groups
Model Fit	90.86	88.55	82.39	86.24	93.17	84.70	83.16	87.01	260.52
X ² [d.f.77]									[d.f.= 167]
CFI	.94	.95	.98	.96	.94	.96	.98	.96	.99
IFI	.95	.95	.98	.96	.94	.97	.98	.96	.99
GFI	.92	.92	.95	.93	.91	.94	.95	.93	.96
CMIN/DF	1.18	1.15	1.07	1.12	1.21	1.10	1.08	1.13	1.56
RMSEA	.055	.053	.039	.049	.057	.041	.037	.050	.055
Probability	.10	.09	.14	.07	.06	.11	.10	.09	.11
Standardised Beta									
Aad<AdB	.18*	.23*	.60**	.44**	.19*	.20*	.44*	.36*	.47*
RecAtt<Aad	.21*	.19*	.77*	.34*	.25*	.30**	.72*	.27*	.49*
Int<RecAtt	.10	.25**	.56*	.36*	.09	.21*	.18*	.33*	.59*
Squared Multiple Correlations									
Ad Attitude	.20	.18	.44	.39	.35	.20	.47	.35	0.22
Recycling Att	.30	.38	.54	.51	.23	.21	.50	.44	0.48
Intention	.24	.21	.44	.41	.21	.14	.28	.36	0.62
*0.1, **0.05									

Table 5.23: Model fit and direct effects of the path analysis for the individual models

As is evident in Table 5.23, each model achieved at least the minimum fit indices, as shown in Table 5.24. Overall, the degrees of freedom for these models are small, with

d.f 77, while the p-values achieved the suggested insignificant value, for $p > 0.05$. These results provide a valid indication that the model is statistically acceptable.

Moreover, as shown in Table 5.23, the results (squared multiple correlations) indicated that the framing believability had a significant impact on the respondent's attitude. This submission is based on the variance that is explained by the structural model on the ad attitude. Examining the path coefficient across the group shows that although the individual path models for each group were all positive, individual scoring shows different strengths of the relationship.

Based on these results, the differences in the framing affect the respondent's response toward the recycling advert. The cut-off point score of R^2 for each variable remained at an accepted meaningful level that is greater than or equal to the values of 0.10 and above, especially for the endogenous variable in the structural model (Falk and Miller, 1992). The results in Table 5.23 show each of the values of R^2 for all of the variables that achieved at least the cut-off criterion of 0.10. For example, the values of R^2 for all of the three (3) variables (all of the groups combined, $N=850$) are greater than the suggested cut-off criterion of 0.10, namely: Ad attitude ($R^2 = 22\%$), Recycling attitude ($R^2 = 48\%$) and Intention to recycle ($R^2 = 62\%$). Overall, it is important to highlight that the hypothesised structural model empirically fits the data well because the indicators of goodness fit for each model are achieved.

Types of constructs	Cut-off
CMIN/d.f.	<2-5
Probability (P)	>0.05
Goodness of fit index (GFI)	>0.9
Comparative fit index (CFI)	>0.95
Root mean squared error of approximation (RMSEA)	<0.08

Table 5.24: Goodness of Fit Index

5.13 Chapter Summary

This chapter empirically presented the results that were obtained from the ANOVA, EFA, CFA, structural analysis in AMOS and hypothesis testing. During the first stage, ANOVA has been used to test the overall fit of the model. As this test is significant, given that the model represents the group differences, this ANOVA proves that the group means to predict scores is significantly better than the overall mean. The results show the combination of positive and Islamic identity framing leads to higher values in advertising effectiveness compared to a single framing. Surprisingly, the additional framing of moral identity either in positive or negative framing did not lead to higher values in advertising effectiveness compared to Islamic identity framing indicates the difference psychology acceptance among respondents. In order to test the relationship between each variable, SEM was conducted and after various analyses, the final revised model was finalized the re-specified. The best model was found to be the one with the best fit and the strongest R-squares and strongest path values. Overall, all the hypotheses were significantly accepted except one partially accepted. Table 5.25 summarise the results for hypothesis 1, 2, 3, 4 and 5.

Hypothesis		Result
H1.	Positively framed messages have a positive influence on framing believability, ad attitude, recycling attitude, and recycling intention than negatively framed messages.	Supported
H2	Islamic identity framing has a positive influence on framing believability, ad attitude, recycling attitude, and recycling intention than non-Islamic identity framed messages.	Supported
H3	Moral identity framing has a positive influence on framing believability, ad attitude, recycling attitude, and recycling intention than non-moral identity framed messages.	Partially supported
H4	Islamic identity framing has a positive influence on framing believability, ad attitude, recycling attitude, and recycling intention than moral identity framed messages.	Supported
H5a	In positively setting, framing believability has more positive relationship with attitude to ad than negatively setting.	Supported
H5b	In positively setting, ad attitude has a positive relationship with recycling intention than negatively setting.	Supported
H5c	In positively setting, recycling attitude has a positive relationship with recycling intention than negatively setting.	Supported

Table 5.25: Summary for Hypothesis Testing 1, 2, 3, 4 and 5

CHAPTER SIX

DISCUSSIONS

6.1 Introduction

This chapter will recapitulate the overview of the research, including the results and themes that have emerged from the findings. This chapter will also provide detailed discussions from the previous chapter (key findings) and also highlights of its contributions and implications to both academic and managerial perspectives.

6.2 Recapitulations of the Research Findings

Based on the results in previous chapter (H1, H2, H3 and H4), in accordance with early prediction, a higher behavioural response not only toward advert but also toward message believability, recycling attitude and participation in actions to recycle in the future resulted in a strong combination of positive and Islamic identity framing messages. Figures 5.1 to 5.8 were drawn to illustrate the groups that demonstrated significance. According to these graphs, the initial trend showed that a distinctive framing enhanced the participants' preferences. When each framing of moral identity and Islamic identity and mixed-framed messages that were included in the original text (control group), the mean scores were observed to progress in both types of priming framing (positive and negative).

Past research yields contradictory and inconsistent predictions as to whether positive or negative frames are more persuasive. This study more than proved that the most appropriate message framing to persuade a Muslim consumer who has a low involvement in recycling not only is based on positive framing but also adds a religious

element into the recycling advert. Findings from hypotheses 1a, 1b, 1c and 1d indicated that Muslim consumers respond remarkably higher toward adverts that contain an Islamic element. In fact, they respond much higher than to adverts that have a moral identity framing either in the positive or negative condition. Moreover, these findings suggest that a mixed-framed (moral and identity framing) message either in a positive and negative condition still indicate a good response from the respondents on the framing believability, attitude toward advert, recycling attitude, and intention to recycle. However, the mixed frame of moral and Islamic identity in either positive and negative limited the message effectiveness compared to relying on the Islamic identity framing alone in the positive condition.

Based on the results, it is proven that framing affects the respondents' behaviour toward the advertising effectiveness. In other words, in the positive and negative condition, the additional treatment of the moral identity, Islamic identity and combination of both affect the dependent variable across the experimental groups. Furthermore, positive framing appears to be preferable because it demonstrates an increasing trend and value compared to negative framing. The combinations of positive and Islamic identity framing display the strength and credibility of the advert, which elicited a more positive impact not only on the attitude toward the advert but also on the framing believability, recycling attitude and intention to recycle in the future, which supports the main objective in this study. In summary, the advert works well with mixed framing in the positive condition but works best with only Islamic identity framing in the positive condition. Overall, the preceding results indicated that all of the hypotheses were fully supported.

Previous research has explored studies the effects of positive versus negative message frames, but no studies to date have considered the interaction of these frames with another element, such as Islamic identity and moral identity frames as well as mixed framing. Consistent with the hypothesis, two appeal types (Positive and Islamic, respectively) appear to be more persuasive than the other seven combinations. Because Fig. 5.5 indicates that the trend progresses with a combination of message framing in both of the control groups (positive and negative frames), which have nearly the same starting point, and that the trend started to move upward when each control group received the first treatment of the moral identity frame. Next, after both primarily framed interacted with Islamic framed, a major change in the trend was found because the mean of the framing believability indicates the highest point compared to the moral identity framing. Prior to these results, it was shown that the moral identity framing [in the positive and negative frame] alone has a weak influence compared to Islamic identity framing. Islamic framing became the strongest element because the figure shows a significant change in both the positive and negative framing. This finding reflects the important effects of sub-culture values in advert effectiveness. Positive frame appeals appear to work the best with only an Islamic identity frame, but although the interaction positive frame with Islamic and moral identity did not appear to be the most persuasive in this study, the finding shows that the combination still favourably persuaded compared to the other experimental groups.

In addition to the primary framing of positive versus negative, Figure 5.6 also indicates that there is a significant difference between Islamic and non-Islamic advert on the framing believability, attitude to advert, attitude toward recycling and intention to recycle. The preceding findings in hypotheses 2 and 3 prove that the ability of advert

with appropriate framing enhanced the consumer's believability toward the message content, attitude toward advert and attitude toward recycling and influenced the consumer's intention to recycle in the future. This finding is more apparent especially when we attempted to differentiate between the Islamic identity and non-Islamic identity advert; the response between the two groups are significantly different, but unlike the moral identity and non-moral identity advert, the result showed no significance except in the framing believability. This result could be due to the respondent having seen or interpreted the moral framing as too familiar, common or synonymic with other framing, such as positive and negative framing.

Moreover, this finding suggests that the ability to respond and the perceived information could influence the consumer evaluations (Lee and Aaker 2004; Lee and Labroo 2004) and choices (Novemsky, Dhar, and Schwarz 2007) in engaging in the act of social marketing. In fact, this subjective ease of "getting" the right message will lead to encouraging consumers to engage in the act of recycling. Thus, it is important for the advertiser to see the potential of a religious value to be inserted because it is proven that it could trigger a remarkable response for a specific target market (i.e., Muslim) because this approach would help to ease the process of transferring the message to invite them to engage in a specific behaviour, such as, in this case, to result in more positive recycling intentions and behaviours.

As seen in Figures 5.6 and 5.8, the respondents who are primed with a moral framing are more likely to construe the message at abstract levels, while those primed with Islamic and religious values are more likely to construe messages at concrete levels. Moreover, this research found a match in the religious values such as Islamic identity

matching the positive framing, which leads to more positive attitudes, something that is driven by processing fluency as a result of perceived commitment. Prior work has demonstrated alternative ways for encouraging individuals to recycle by approaching them with religious values or, in this case, Islamic identity specifically for targeting Muslim consumers to be active in recycling. Islamic identity framing can be the perfect “ingredient” in recycling adverts specifically in Malaysia or in any other Muslim country.

Gaining individual compliance to attain a healthy environment presents a unique set of marketing challenges. Structuring effective methods for promoting pro-environmental behaviour is a complex process that requires an understanding of individual preferences and their receptiveness to marketing efforts that are aimed at changing this behaviour. Within this context, effective message framing appears to play key roles in affecting the attitudes and behavioural intentions of the target audience. This study has unexpectedly revealed the variety of message formulations that could potentially lead to improved message effectiveness in the future. It is important to note that this study has the advantage of combining multiple framing rather than one frame type. The present research indicates that it would be beneficial to social marketers to recognise the potential of positive framing with the sub-culture element that is invoked in these messages and to prompt action with regard to the recommended behaviours in the future.

Further test, SEM, was conducted to test the hypothesised structural model. The result showed a good model fit with the X^2 that was scored as 260.52 with d.f. of 167, CFI of 0.99, IFI of 0.99, GFI of 0.96, and RMSEA of 0.055, for the overall group. Importantly,

the good model fit also applied to all of the individual groups. Based on these results, a significant advantage of positive framed messages was found because the positive framed messages were found to be more persuasive than the negative framed messages. Although the effect size measure between the positive and negative framed messages was small, the results still provide significant results because they indicate that positive framed messages are significantly more predictive of promoting recycling behaviour than the negative framed messages, control messages or mixed messages (moral identity). Specifically, the mixed framing of positive and Islamic identity is found to be the best framing than the other combination framings.

Earlier studies have often expected gain-framed appeals to be more persuasive, and a small difference effect of the measure between the positive and negative framings was also found in the previous studies. For example, van 't Riet et al. (2010) investigated whether positive and negative framed messages that promote physical activity affected the information acceptance, attitude, intention and behaviour differently. The results showed that the positive framed messages resulted in stronger intentions, but not for the information acceptance, and the attitude to be physically active compared with the negative framed messages. The differences between both of the types of framed messages are likely to be small because all of the effects had small effect sizes. Thus, whereas positive framed information might be more persuasive than negative framed information in regard to promoting physical activity, the differences between positive and negative framed messages are likely to be minor.

Similar to van 't Riet et al., a study by Gray and Harrington (2011) on integrated message strategy in the exercise context, indicated that positive messages are stronger

predictors in promoting positive exercise variables, than loss-framed or control messages. However, the empirical findings of the effect measure between the positive and negative framings were found to be inconsistent (van 't Riet et al., 2010). A meta-analysis by Gallaher and Updegraff (2012) did not find a difference between the positive and negative frames when assessing the persuasion through the attitudes or behavioural intentions except that the audience was inclined more to engage in a preventative behaviour when a positive framed message was employed. In fact, another meta-analytic review by O'Keefe and Jensen's (2012) found that there was no difference between positive and negative framed appeals for encouraging skin cancer prevention.

Notably, the empirical studies tested only the positive and negative framing without additional framings (e.g., self or self and another reference, Islamic identity framing, moral identity framing). Unlike previous studies, this study purposely added and introduced Islamic identity framing and moral identity framings as additional framings to be tested and to determine how the mixed framing compared to the control message framing effects on the respondent's ad attitude, recycling attitude and intention. The control group was compared (positive and negative framing) with other groups that had additional framings; the difference is significant, and the effect size is considerably larger compared to the control group (e.g., 3A is larger than 1A, 2A, 4A; 3B is larger than 1B, 2B, 4B; and 3A is larger than 3B with small effects). Thus, the results of the hypothesis testing showed that all of the hypotheses (5a, 5b and 5c) were supported. They were all above the suggested cut-off criteria (Hair et al., 2006). These results, as obtained from the total effects of the structural model analysis, typically demonstrate that message framing does positively and significantly influence the ad attitude,

recycling attitude and respondent's intention to recycle. The findings demonstrated that the message framing was positively influenced by the strength between the attitude and behaviour. The results suggest that consumers who have positive attitudes toward environmental protection are equally receptive to all of the conditions that were tested. An analysis using a theoretically based structural equation model points to the important role that is played by the perceived consumer effectiveness in creating positive responses.

6.3 Discussions

Based on current events and issues regarding sustainability and environmental behaviour raised by academics and government and non-government agencies, this study provides an alternative view of framing communication (theoretically and practically) to promote pro-environmental behaviour. Message framing in a communication context becomes a very useful, persuasive tool in engaging people in judgement and decision making. The ultimate goal in social marketing is to change behaviours. Marketing communications without the right message and framing strategy are impossible. Because communication plays an essential role in health and social marketing, it is difficult to imagine how a message could be delivered if the social marketers cannot communicate the message. Therefore, outstanding content is needed by delivering the right message in a clear, well-framed and unambiguous way that becomes noticed by the target recipient.

This study attempts to promote recycling programs among Malaysian Muslims. The framing strategy used in this study purposely emphasises the potential of sub-culture (religion as identity; self-concept) as a framing agent in message content and its

relationship to a Muslim's pro-environmental behaviour. Because testing and experimentation regarding mixed (or multiple) framing messages in communication studies are still limited (Borah, 2011; Chang, 2007b), this study is believed to be the pioneer in exploring the potential of subculture as part of identity framing (e.g., Islamic identity framing and moral identity framing) in this area of study. The empirical research provides solid evidence regarding how culture affects people's behaviour in decision making in purchase behaviour, thoughts or perception, and lifestyle. Nevertheless, research on how sub-culture affects people's behaviour in responding to social marketing issues such as environmental issues is still limited. This issue is not only significant to developed countries (e.g., Sweden and United Kingdom), but it has become vital for the benefit of future generations. Therefore, continuous support and commitment are needed not only by the environmental agency but also from the public.

Promoting recycling as part of an environment program is essential because it is already proven that recycling is one of the best ways for people to have a positive impact on the world in which we live. Recycling is important to both the natural environment and human beings. The question 'how to make people recycle and help the environment' does not have a simple answer. If social marketers could provide better understanding of the benefits of recycling and how recycling helps the environment, the more inclined people will be to embrace recycling as a natural and important part of life.

Like health promotion, promoting social marketing and specifically pro-environmental behaviour requires a planned process (Kiger, 2004). Thus, social marketers rely on a multitude of communication theories when designing and delivering messages (Corcoran, 2007). This study refers to various theories, such as TRA, Social Cognitive

Theory and Prospect Theory. Each of these theories is well known, particularly in health communications.

In this study, prompting individuals and society to recycle requires the social marketer and practitioner to plan carefully to be effective and efficient. A theory not only can guide program planning, but it also ensures that interventions actually reach and have a demonstrable impact on individuals, communities and organisations. Theory also enables the academic to predict the relationship between internal and external variables and the outcomes of the interventions as part of the research evidence; theory also assists understanding regarding how and why people change their behaviours. Without theory, planning, commissioning and implementing any health or recycling program, for example, are more likely to fail than those with the benefit of a theoretical perspective (Institute, 2005).

Based on earlier discussions regarding theory, Prospect Theory, for example, is commonly known as a behavioural economic theory. This theory allows people to make judgements and decisions between probabilistic alternatives that involve risk. Decision making is not based on the final outcome, but rather on the potential value of gains or losses. This behaviour, according to Kahneman and Tversky (1979), is known as risk-seeking behaviour. People display risk-seeking behaviour when they offer the same choice formulated in a different way. People demonstrate different attitudes toward risks concerning gains or losses. The following are examples of risk-seeking behaviour: when people must make a decision between having a 50 per cent chance of getting RM2500 or getting RM1000 with certainty (risk-aversion behaviour); or given a choice of a 50 per cent chance of no loss or a RM2500 loss versus a certain loss of RM1000 (risk-

seeking behaviour). Based on this example, the framing effects play a significant role in people's decision making simply by editing the "risk" involved. In marketing communication studies, framing can be divided into positive (gain) framing and negative (loss) framing. This theory applies the same situation where the risk (gain or loss) is displayed in an advertisement content or message. Respondents in this study were randomly divided into eight groups and were given a set of adverts. Each group received a different set of advert containing different message framing. To make this experiment successful, two groups were selected as control groups (one positive and negative group). These groups are important to see the effect of multiple framing compared with only one type of framing.

Based on the experiment, several interesting findings can be highlighted and discussed. First, there are general findings between positive framing and negative framing in recycling behaviour. Previous studies are still inconclusive as to whether positively framed messages or negatively framed messages are the most effective, and the answer depends on research settings and other factors such as culture. Negative framed messages are found to be more influential for less educated individuals, and positive framing is found to be more influential for educated individuals (Arora et al., 2006; Cheng et al., 2011). Few studies found individuals from individualistic cultures such as the USA and UK were more influenced by positive framed messages instead of negative. Although Malaysians are characterised as collectivist, in this study it is confirmed that an educated individual (sample used is studied) responds positively to positive framing. The characteristics (individualist versus collectivist) here do not apply in this study because this research found that Malaysian Muslims significantly gave a good response to positive framing messages. Instead of highlighting the risk and

threatening people with harmful consequences of not recycling, the findings show that overplaying fear does not induce people to “listen” or favour the messages but rather reduces the credibility or believability of the message content. Overall, there is evidence that respondents (educated youth, Muslims) are more engaged to positive framing messages than negative framing messages.

Does the multiple role framing affect a respondent’s behaviour toward the framing as a whole? In this study, Islamic identity and moral identity were introduced to induce respondents toward each recycling advert. There were two control groups (Group 1A and 1B; one positive and one negative group, received no additional framing). Group 2A and 2B represent multiple framing of moral identity framing and positive or negative framing, and group 3A and 3B represent multiple framing of Islamic identity and positive or negative framing. A final group, 4A and 4B, represents multiple framing of moral identity, Islamic identity and positive or negative framing. The purpose of having multiple framing is to establish evidence that sub-culture (religion as identity) can play an important role in social marketing such as promoting pro-environmental behaviour. This research also tested the element of moral identity to see whether moral identity framing could overshadow the role of Islamic identity framing (in the persuasion context) to persuade Malaysian Muslims to recycle. Currently, conventional advertising (of recycling and promoting the environmental program) still uses the same elements of framing, such as negative framing, positive framing and moral identity framing. None of the social marketers and campaigners uses or highlights the Islamic element and the relationship between Islam and protecting the environment in their campaign. Based on the findings, group 3A recorded the highest mean on framing believability, ad attitude, recycling attitude and intention to recycle while both control

groups recorded the lowest mean score. The mean score is more than the mean score from the group who received both Islamic identity and moral identity framing (4A and 4B). The advert, which received positive framing and Islamic identity framing, received great response from the respondents. The advert has never been tested or used in any commercial and thus shows a significant credibility and favourability of the message among the Muslim respondents compared with the other advert (with the alternative framing such as moral identity).

The significant reason respondents might choose positive framing instead of negative framing is because of word power. This choice makes sense because the positive word as framing is encouraged to inspire oneself and others. Instead of bombarding people with negativity and fear in the advert, people's thoughts and behaviour are shaped by the positivity of words and framings. The positive framing from the advert could re-frame a positive or a meaningful situation and change one's attitude and perception towards the need for recycling for future generations. Positive framing has the power to help people build a better life by empowering word use in the message content. Contrary to expectation, negative framed messages are not more engaging than positive framed messages. Although the difference (based on structural equation modelling) is small, what is important about this result is it still produces a statistically significant advantage of using positive framed messages rather than negative framed messages.

Next, because this study emphasised the potential of subculture in promoting recycling programs in Malaysia, the conventional way of promoting recycling could be better improved by considering Islamic identity to be part of framing strategy. The following

discussion highlights the impact of religion on attitude and behaviour from a marketing point of view.

Research within social psychology seeks to unlock the mysterious bond between culture and human behaviour because this relationship is vital in understanding how humans view the world and others and thus central to social harmony (Shweder, 1991; Manstead, 1997). From a managerial perspective, a failure to understand the impact of culture on consumer's attitude and behaviour would be counterproductive to the success of social marketing (Kotler and Zaltman, 1971).

As the world becomes increasingly globalised, the construct of culture has become the centrepiece in marketing scholarly inquiry and industry. There are incremental increases in the amount of cross cultural studies and interest within consumer behaviour research (De Mooij and Hofstede, 2011). Despite the growing importance of cross cultural studies, empirical studies linking culture to social marketing contexts are still scarce (Mokhlis, 2006) and have received less attention (Assadi, 2003). It is believed that one of culture's most important variants or components, religion, has a profound potential to influence human behaviour (Khraim, 2010). Whether one is a believer or a non-believer, religion has naturally formed many of the cultural parameters in global societies and affects much of the social life of billions of people around the world. Despite this centrality, the effects of religion as an important driver and influencer on pro-environmental behaviour remain unexplored within the social marketing domain.

According to Mokhlis (2009), there is no doubt that religion plays an important role in human behaviour and attitudes. Sedikides (2010) describes how religion is perceived as

a critically important matter on a worldwide basis. Earlier research by Ellison and Cole (1982) believed that religion influences an individual's life and experiences because it is so connected to the individual's values and attitudes (Delener, 1989). For example, religions have an impact on food choices and product consumption, personal views on societal matters (such as organ donation and family planning), and the choices they make when dealing with the moral values of right and wrong. Even though the practices and faith among religions differ, these values have endured and are reserved as human guidance. Moreover, religion has been studied in various disciplines. The evidence from the prior discussion reveals that religion plays an important function in influencing several aspects of consumer behaviour. Of the sporadic research that has been conducted, results show that religion can be a predictor in decision making (Kamaruddin and Kamaruddin, 2009) and lifestyle (Moschis and Ong, 2011). The marketing research on religion's influence also shows it plays a role in influencing product choice (Schiffman and Kanuk, 2009; De Run et al., 2010; Muhamad and Mizerski, 2010; Hashim and Mizerski, 2010; Soesilowati, 2010; Wilson. and Liu., 2011; Alam et al., 2011), attitudes towards advertising messages and their content (Rice and Al-Mossawi, 2002; Fam et al., 2004; Waller et al., 2005; Fatt Sian et al., 2010), retail store patronage (Essoo and Dibb, 2004; Mokhlis, 2009, 2006) and giving behaviour such as fundraising (Skarmeas and Shabbir, 2011; Kochuyt, 2009). Despite vigorous contributions from multi-disciplinary scholars, religion's role in Islamic consumer research has still received little consideration and is not yet fully documented (Khraim, 2010). According to Hirschman (1983), there are three possible reasons: first, a lack of awareness among consumer researchers regarding religion and behaviour; second, because of sceptical feelings against religion among researchers because the subject might be too sensitive to be studied; and third, researchers have underestimated

religion as a potential variable. There has been little social research regarding religion's role in social marketing contexts specifically within environmental studies (Rice, 2006; Sherkat and Ellison, 2007; Murad and Siwar, 2007a; Michaud, 2008; Pepper et al., 2011; Lightman, 2011), such as recycling behaviour. Social marketers have neglected this option of using Islamic identity framing by not considering and highlighting this framing in the current and previous recycling campaign in Malaysia as well as in other campaigns such as those for anti-smoking, alcohol consumption and child abuse. The findings have revealed Muslim youth's preference in promoting social marketing by choosing Islamic identity to be used in future adverts.

Other interesting findings occurred because of respondents' response to moral identity framing. Based on the results, adverts with moral identity framing scored slightly higher than single framing (positive framing and negative framing) and adverts with a combination of all framings (moral identity and Islamic identity framing) scored slightly lower than the advert with only an Islamic identity framing. This finding demonstrates a complexity of human behaviour and psychology. This finding also shows how Muslims perceive moral values compared with Islamic values in daily perspectives.

Morality involves judgements regarding whether to carry out certain actions based on self-concept or self-expressive (Reed et al., 2007; Aquino et al., 2007). By contrast, Islamic values from a Muslim view extend beyond taking the right action and involve the relationship with oneself and God (Allah S.W.T). For example, a study by Americus and his colleagues (Reed et al., 2007) on moral identity and judgements of charitable behaviours demonstrates that moral identity leveraged consumer behaviour towards a brand and company identification and promoted goodwill through community relations.

The finding shows that a consumer who has a high self-important moral identity perceives the act of giving behaviour as moral and self-expressive. However, this desire of behaving in this manner was found to be consistent with normative expectations as oneself concern to act morally for the public self-image (White and Peloza, 2009).

Unlike moral identity as a self-concept, giving behaviour from an Islamic perspective was and is an important practice of Muslims throughout the world. One of the most significant objectives of giving behaviour (e.g., Sadaqa, Waqf and Zakah) is that it seeks to eliminate poverty, the root cause of all other social problems (Kochuyt, 2009; Singer, 2006; Moufahim, 2013). Giving behaviour is also a “spiritual purifying process, which attempts to suppress man’s unwanted desires and whims, thereby seeking to improve and enhance the human personality” (Khan, 2012). Unlike acting morally because of public self-image, behaving in this manner is not concerned with normative expectations, but only to get reward from Allah S.W.T. Islamic identity is beyond than the moral identity concept as another scholar (e.g., Reed and colleagues) viewed. Islamic identity is not about public self-image but self-image and the Creator. Several verses from the Quran states:

“And whatever you spend or whatever you vow to offer, Allah, verily knows it and the evildoers have no helpers.” (Al-Baqarah 2:270)

“If you give charity in public, it is worthwhile (for it will persuade others), but if you hide and deliver it to the poor in secret that is (far) better for you. And Allah will remove from you some of your sins (due to this charity). And Allah is Aware of all that you do.” (Al-Baqarah 2:271)

“Those who spend (in the cause of Allah) privately or publicly, by night and day, have their reward with their Lord. And (on the Day of Resurrection) they shall neither fear nor grieve.” (Al-Baqarah 2:274)

Based on the above discussion, giving behaviour from an Islamic perspective also applies to protecting the environment. Islam educates Muslims to act responsibly in protecting the environment.. Engaging people with a recycling program is part of protecting the environment, and it is an integral part of Islamic belief. As Khalifah of Allah on this earth, we must utilise natural resources in a sustainable manner to ensure that Allah’s Bounties continue. The Quran says:

“It is He who has appointed you viceroys in the earth... that He may try you in what He has given you.” (Al-An’am 6:165)

“O children of Adam! ... eat and drink: but waste not by excess, for Allah loves not the wasters.” (Al-A’raf 7:31)

“It is He who produces gardens with trellises and without, and dates and tilth with produce of all kinds, and olives and pomegranates similar [in kind] and different [in variety]. Eat of their fruit in their season, but render the dues that are proper on the day that the harvest is gathered. And waste not by excess: for Allah loves not the wasters.” (Al-An’am 6:141)

Based on the findings, it shows how Islamic identity reflects one’s self-image as Khalifah of Allah and as the guardians of earth. A Muslim’s responsibility is to engage in any environmental program to sustain a balance in the environment. By highlighting

Islamic identity framing in the advert, it persuades Muslim respondents to make a good judgement (based on their Islamic self-image) and decision of doing any action, in this context, intention to recycle. Following these findings and judgement, religion as part of self-identity evidently could be a central component in designing future social marketing campaigns in promoting recycling behaviour. Using oneself and being Muslim in any social campaign verified the application of religion in explaining consumer behaviour.

The results from the structural equation modelling of the relationship between message framing and behaviour change supports the early results (ANOVA). The findings show the most effective framing combination group was Group 3A (positive framing and Islamic framing). This finding suggests that this combination frame is the most prominent in changing attitudes toward intention to recycle. This group demonstrates a positive and strong relationship toward each variable (framing believability>ad attitude, ad attitude> recycling attitude, and recycling attitude> intention to recycle) compared with the other seven groups. The results were positive and significant because this portrays the successful effects of using multiple framing. As greater framing believability and credibility generate more positive ad and recycling attitudes among the respondents, this finding suggests that when a person views him or herself as a good Muslim, this perception directly or indirectly influences the individual's belief that he or she can make a difference in the community, society, the environment and most importantly to the Creator by involving in social marketing activity such as recycling to protect the environment. The more the individual reflects himself or herself as Khalifah of Allah (Islamic identity), the more he or she would tend to believe the message content (framing and the Quran verse) used in the advertisement. Thus, designing

effective recycling advertisements by emphasising Islamic identity and positive framing demonstrates high credibility and believability from the respondent's point of view because the findings also shows its influences ad attitude and has an effect on recycling attitude and intention to recycle. This finding suggests that appropriate messages and framing strategies are important tools in social marketing campaigns such as recycling.

6.4 Research Contributions and Implications

As evident in the data analysis results, this study has provided contributions to theory, methodology and practice. The following section discusses these contributions based on academic (theory and methodology) and practical implications.

6.4.1 Academic Contributions

The developments, conceptual and experimental design of multiple roles of framing have established the connections between the role of subculture (religion- the Islamic identity) and social marketing. Thus, this becomes a major theoretical contribution of this research.

This research mainly focuses on how multiple framings affect consumer behaviour toward the intention to recycle by manipulating each framing in each advert used during the experiment. The introduction of new and unexplored framing; Islamic identity framing and moral identity (in addition to positive framing and negative framing) in this study has empirically established a new chapter of framing strategy on how self-identity based on religion affects consumer behaviour.

The research findings have contributed to theory building both in social marketing communication and pro-environmental behaviour. Based on the findings, message framing has a positive effect toward a respondent's behaviour to recycle. The message used in the recycling advert indicated that respondents respond best with positive and Islamic identity framing. This result empirically expands existing findings (Cesario et al., 2013; Cheng et al., 2011; Prestin and Pearce, 2010; Kareklas et al., 2012; Ford, 2010) by providing an additional answer regarding which framing (positive or negative framing) in a persuasive message will be most effective in promoting recycling behaviour or green behaviour. The effect of message framing found in this study potentially link respondent's likability and preference in responding to message content in the advertisement. Positive framing, instead of negative framing, was found to be more persuasive in delivering affirmative and constructive messages to encourage people to recycle.

However, in addition to support this finding, positive framing greatly depends on other additional framing. Thus, multiple framing that is a combination of positive framing and Islamic identity framing is necessary because the experiment displays how the respondents position and relate themselves (based on self-concept and Islamic identity) to the framing used in the advert. The finding in the current study not only significantly explores the potential of using multiple framing or messages within one campaign (Beltramini and Evans, 1985; Shah et al., 2004; Sniderman and Theriault, 2004; Chang, 2007b; Chang, 2007a; Borah, 2011) but also contributes to the methodology because experimenting and designing other framing effects were still scarce in previous studies.

The present study has shown that the application of multiple framing in recycling adverts plays a major role in engaging people with environmental programs and also covering a wide gap in social marketing issues. The findings theoretically support that framing affects people's judgement and decisions in daily life. From the social science concepts and theoretical perspectives, framing consist of interpretations, mental representations and simplifications of reality that impact different actors (Druckman, 2001). Here, the actors or the respondents logically view frames in different ways (framing effect in psychology) based on relevant aspects of an issue or situation that then presents behavioural changes by creating a different perception (van der Pas, 2014; Druckman, 2001).

The important evidence found in this study is that the respondents built a series of filters through cultural influences to sense the issue (recycling and the environmental problems) and made choices based on their senses through a frame. In sociology, framing has become part of processing and conveying data in daily decision making (De Martino et al., 2006; Gallagher and Updegraff, 2012). Because the respondents were influenced by cultural factors, this study has largely explored the potential of subculture (religion). Until this time, none of the previous studies has researched the impact of religion used as identity framing in social marketing and environmental domain. In persuasion, this framing strategy also is useful to evoke self-referencing or self-identity in the advertisement. Moreover, evoking self-focused messages in the advert could enhance greater impact on a viewer's attitude toward the advert. The findings found connections between Islamic identity framing and a Muslim's views toward advert attitude, recycling attitude and intention to recycle. Thus, this study has contributed to behavioural theory by further confirming that message framing positively influences the

intention to recycle. This effect has further been confirmed from the result obtained in testing hypothesis 5.

There have been insufficient studies of recycling in Malaysia because recycling is still new in Malaysia. This topic has been studied and received more attention mostly in developed countries. Thus, the present study has added to the literature on recycling behaviour studies specifically in Malaysia. It is hoped that this study will enhance the sustainability understanding from a marketing and Islamic perspective.

This study may also develop more thought on multi-disciplinary sustainability understanding not only in marketing but also in psychology, religion, and environmental behaviour. The review of literature found that there is a potential role for religion in promoting environmental behaviour. Previous studies of religion have been ignored and underestimated in the marketing literature. The findings from this research will bridge the gap between the literature on religion and environmental behaviour such as recycling.

This research also makes a significant contribution to the field of pro-social persuasion. The effectiveness of message framing across social marketing in environmental domains and Islamic marketing has created a new chapter of Islamic identity positioning in the social marketing field. The interaction of message framing (positive framing and negative framing) with other framing (Islamic identity and moral identity framing) has not previously remained unexplored, and the present findings suggest that multiple framing influences the effectiveness of persuasive communications. This research enriches the literature of self-concept or self-identity by examining the

connections between a person's judgements to the message framing. Moreover, the introduction of a new framing, Islamic identity and moral identity framing, as a competent framing is the first to be tested in the present study. This study could be the alternative to promote sustainability to a specific target population. Apart from this study, it might open a new chapter in recycling behavioural research, such as among Muslim consumers to sustain their appreciation towards the environment and sustainability. The conceptual framework of this study is developed based on various theories but mainly on the Prospect Theory and Theory of Reasoned Action.

This study has explored the potential effect of the Islamic message framing effect on Muslims to recycle within Malaysia and could potentially emerge in other Islamic countries. Thus, this study potentially provides a new alternative for current recycling in Malaysia. To conclude, the proposed outcome and input from the research will potentially expand the contemporary body of knowledge in Islamic marketing and social marketing, specifically to bring environmental sustainability to Muslim countries. Moreover, the finding of this research might provide valuable knowledge because it will contribute to the existing body of knowledge by providing understanding to other academic disciplines, such as social marketing and environmental marketing with religious beliefs. This contribution will provide sufficient information (from theory to practical guide) to other major organisations and corporations to support their CSR program and a wide range of social change programs using an Islamic approach.

6.4.2 Managerial Contributions

Malaysia is a country that continues to develop at a rapid speed towards its vision 2020. To achieve the vision, Malaysia is focusing on economic development mainly in

agriculture, tourism and manufacturing. This focus will not only benefit the country but also Malaysian citizens because of increasing population and consumption. However, because of the increasing amount of consumption, excessive solid waste or disposal items has become one of the major problems facing the country (Yaacob, 2006; Saeed et al., 2008; Mohamed et al., 2008; Manaf et al., 2009; Zahari et al., 2010).

From the perspective of practical contributions, the findings from this study will benefit the Malaysian government to support its Tenth Malaysia Plan that encompasses 2010 to 2015. Apart from the plan, the government introduces the Awareness, Faculty, Finance, Infrastructure, Research and Marketing (AFFIRM) to improve Malaysian's quality of life. This plan ensures environmental sustainability and focuses on reducing, reusing and recycling waste and greater use of environmental-friendly materials in the future. As such, policies should be formulated to focus on raising awareness, promoting knowledge and motivating households regarding the environment and waste management practices. Thus, these policy implications should be helpful to environmental and waste management planners and to policy makers.

As more and more interest is directed to sustainability issues, most countries must foster environmental sustainability among children. This study can enhance the understanding of the determinants of recycling behaviour and has implications for schools, universities and governmental agencies in educating and encouraging positive recycling behaviour. Thus, this study provides authorities and social marketers with reliable information to create effective strategies and to encourage young consumers and society to recycle.

This study exhibits that young Muslims are generally aware of environmental issues, but those who actually recycle is low. Thus, this study is important because the implications could help media and public relations practitioners in non-profit organisations promote and foster a sustainable lifestyle among individuals and society. Rigorous and intensive recycling campaigns and direct communication actions with proper planning communication strategies could effectively encourage targeted consumers to have a greater propensity to recycle. Thus, it is important for media practitioners to communicate the messages or specifically by framing the messages that are more appropriate to inform and assure the specific audience to do the 'right thing'. Based on this judgement, the effectiveness of the advertisements or campaigns should involve message delivery, design attractiveness, creativity and effectiveness in prompting people to take action must be considered.

Social marketers who design and disseminate messages to promote pro-environmental programs such as recycling want their messages to be maximally accepted and effectively impact a viewer's attitude. From a practitioner perspective, the study highlights the need to be cognisant by invoking message and identity framing to change consumer attitudes with prompt action regarding the recommended behaviours. Thus, in designing ad messages, enhancing self-concept and identity of the target audience has become a driving force and motivation in promoting strategy. The present findings suggest that emphasising the positive framing and Islamic identity framing appeals is likely to be more effective than other combination framing. The combination of these two framings works best in the Malaysian Muslim setting because it shows the combination of these two framings maximise the effectiveness of the messages. Thus, without the right message content and strategy, developing initiatives to promote the

prevention or detection behaviours could be unsuccessful and reduce the chances that the message will have the desired effect on attitudes and behaviours. Perhaps the findings answer why recycling is low in Malaysia: because marketers previously did not consider Islamic views, values and identity as the key to social marketing communication.

This study provides a new understanding of how Muslim consumers perceive Islamic messages in recycling campaigns or ads. The Islamic message in recycling campaigns might offer a new expansion in Islamic marketing, such as fostering sustainable behaviour among Muslims towards the environment. This study will not only bridge the gap in existing policy that is currently being implemented but also provide new hope in making nature preserving programs successful. This study provides the Malaysia government and other non-governmental organisations (NGO) a basis for policy development and implementation guidelines in encouraging responsibility towards preserving nature. This study is relevant to marketing, social, psychological and environmental research.

This study reveals several options for further research. Further research on the impact of message framing and the role of audience segmentation in recycling attitude and behavioural change will further help to understand whether framing messages have pronounced effects for different segments. This study, which was an adaptation of research findings on health-related behaviours, corroborates the portability of health based interventions on environmentally sustainable behaviours. Furthermore, this research suggests that youth can be significantly influenced by social marketing

campaigns to adopt environmentally sustainable behaviours, providing optimism for the crucial role that social marketing can play in fostering a sustainable society.

CHAPTER SEVEN

RECOMMENDATIONS, LIMITATIONS AND CONCLUSION

7.1 Introduction

Finally, this chapter will highlight its limitations and possible areas for future research.

7.2 Limitations and Recommendations for Future Research

There are limitations to any work that should be acknowledged because caution should be taken when interpreting the results of experimental research. First, because the experimental design requires scheduled and well-organised preparation, researchers tried the best to provide the best facilities such as similar conditions of rooms or lecture theatres and well-trained instructors. However, because the experiment was conducted two weeks before the final examination week and on a rainy day, the mood was not assessed at the outset because this might affect a student's sense of urgency to answer the questionnaire because of weather conditions and timing. Fortunately, based on earlier observations and conversations with each group, participants were pleased to get involved with the experiment. They were randomly assigned to eight groups based on age and gender reducing the possibility that existing affective states (mood), age and gender confounded the results. For future research, extra care and planning should be considered during the experimental session.

Second, the usual caveats should accompany the use of student subjects. Researchers use student samples not only because of their accessibility, convenience and low cost but mainly to fulfill the research question-design fit. In the social psychological literature, studies using student samples abound. The convenience (readily accessible)

and minimal cost associated with student samples make them a highly attractive data source, particularly for academic researchers (Cunningham et al., 1974). For instance, studies involve laboratory experiments (see Chapman and Barsade, 1995; Lau and Murnighan, 2005) that manipulate conditions to determine the effects they may have on the respondents, and/or involve the administration of questionnaires to probe respondents' attitudes and values on specific subject matters (Bello et al., 2009), and these respondents (student samples) generally follow instructions rapidly and accurately (Enis et al., 1972). In fact, an audit of the first 30 issues of JMR revealed that over half of the consumer behaviour experiments (48 of 81) involved student subjects (Peterson, 2001). Bello et al. (2009), outlined few conditions for the reasonable use of student samples. First, if a study is guided by a well-defined theory with sophisticated predictions, and if the results based on student participants confirm the predictions, it is likely that these results can generalize to a target population. A systematic review of other research-oriented journals in marketing and the behavioural sciences would probably yield similar results. Not to mention, the use of student data may also be acceptable when it is used in concert with comparable managerial samples to simultaneously explore differences in views and values within, as well as between, countries and cultures. Studies designed to cross-culturally assess life stage and/or generational differences (e.g. Egri and Ralston, 2004) benefit by including student data. The value of this within and between research designs, as called for by Tung (2008), is that it allows the researcher to take the analysis below the country-level to explore relevant sub-cultural differences. However, the general applicability of consumer research findings derived from student samples remains an open yet essential issue as research issues commonly highlights the fact that generalizability is the key concern. Findings that reflect the fundamental nature of humanity are likely to generalize across

diverse populations, making the use of student samples legitimate. Findings concerning processes, structures and outcomes that are sensitive to the influence of context and life experiences are unlikely to generalize across different segments of the population. The validity of the use of student participants has been under scrutiny in many social science disciplines, including management (e.g. Dobbins et al., 1988), psychology (e.g. Wintre et al., 2001), and legal research (e.g. Bornstein, 1999). Wintre et al. (2001) have heavily criticized the overuse of undergraduate student samples in many social psychological studies. This observation has two implications, at least. First, interpretation of findings from student samples must recognize the potential lack of generalizability by taking into account the possible biases incurred by using samples from this subset of the larger population. Second, even research addressing fundamental issues needs to be corroborated with non-student samples, because there is always the chance that nature and nurture may be intertwined, and maturity and life experiences may have a role to play in settings where human nature is supposed to be pivotal. After all, the usefulness of student subjects depends, in part, upon the context of the research-its problem, objectives, and hypotheses where in the final analysis. Because researchers were interested in “listening” to a younger generation’s view on recycling campaigns and testing the theoretical effects (Bobby et al., 1981), it might be appropriate, easier and helpful for the researcher to group the respondents in one place at the same time, which is more conducive and effective for this type of research method. However, it is noted that this study may not have been generalised and representative of the household or non-student population, which researchers should consider in future research. Further research could have a comparative study or segment the population based on gender (male versus female), area (rural versus urban), culture (collectivist versus individualist;

Islamic versus secular) in environmental behaviours, which would aid in identifying the appropriate message frame to use in campaigns.

An emphasis only on positive and negative framing does not always increase viewers' intention to recycle. In addition to exploring the competing mechanism of identity framing, future research should also explore other creative strategies or framings. There is a possibility that message framing could be influenced by types of appeals (e.g., mood), which leads to more positive recycling intention or involvement. As previous research has shown, positive moods are associated with thinking (Labroo and Patrick, 2009). Future research should rule out mood as a potential variable (moderator or mediator). Further work is needed to fully understand whether the decision or response from the viewers were influenced by the independent, self-view (benefiting the individual) or interdependent self-view (benefiting the individual's family).

Finally, because of limitations on the study design, actual behaviour was not observed and only behavioural intentions were used as a measure of future behaviour. However, current attitude formation often is reflected in future behaviour (Smith, 1998). While this approach is quite common in behavioural research, the real-world applicability of these studies is not consistent and may have limited external validity (Hastings et al., 2004). Further research on framing believability in relation to ad attitude and intention to social marketing campaigns should be continued because it could provide a greater understanding of ad influence on individuals who practice irregular recycling behaviour or any other social behaviour. Nonetheless, the results of this study have important implications on the design of messages in environmental communications and social marketing.

7.3 Conclusion

Because of the urgency of the environmental crisis, a gap in the literature of knowledge-action and the paucity of work investigating the multiple effects of message framing on environmentally sustainable behaviour, the need research determining the nature of recycling attitude change has never been greater. Recognising that behaviours are shaped by interacting message frames, this study contributed to this much-needed research by examining the interaction of prime framing (positive and negative framing) and competing frames of identity (moral identity and Islamic identity framing) on sustainable behaviours in social marketing. Consistent with prospect theory, final findings from this research indicate that framing significantly alters perception of a message and subsequent behaviour in youth, and the interaction between positive framing and Islamic framing was found to be more effective in encouraging recycling behaviour. This study hopes to serve as an initial foray in demonstrating the utility of Quranic based social marketing interventions when targeting Muslim target audiences. It represents the first empirical investigation designed to determine the impact of Islamic identity framing, using Quranic verses as an indicator of that identity and as such hopes to stimulate a new wave of ‘Quranic based Islamic identity’ social communications research.

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APPENDIX A: INTERVIEW PROTOCOL

1. What is the current situation about the preservation and environmental campaign in Malaysia?
2. What do MENGO think about the level of awareness among Malaysians? Is there any action from the public?
3. What is your opinion about environmental campaign/promotion in Malaysia? Is it enough or not seriously/frequently campaign effectively?
4. How do the public perceive the information (content) in the media (campaign/advert)? What are the elements inserted/used as a message in the previous and recent campaign? (e.g. morality, religion, Islamic values)
5. And how credible are statements (message/content) in the campaign?
6. What should be done to improve the credibility of the message/content in the environmental campaign?
7. Do your organization concerns about the credibility or content of the message that marketers used/promote to public? Is it strong to persuade public?
8. Should the message in positive or negative framing (positive-focus on gain and advantages of preserving the environment/ negative-focus on losses and disadvantages of not preserving the environment)
9. What do MENGO/public perceive if the element of morality been added in the content? Is this enough to persuade people to preserve the environment?
10. What do MENGO/public perceive if the element of religiosity (e.g. bible/Quran verse) been used in the content?

APPENDIX B: SURVEY QUESTIONNAIRE



THE UNIVERSITY OF HULL

Assalamualaikum W.B.T.

Dear Respondents,

My name is Normalisa Binti Md Isa and I am a doctoral student working on my PhD in Marketing at the University of Hull, United Kingdom. I am inviting you to participate in a research project related to consumer recycling behaviour. I am asking you to look over the questionnaire and it should take you about 5 minutes to complete. The findings of this project will be used for my PhD. If you have any questions or concerns about this study, you may contact me via email or by telephone as below. The University of Hull, United Kingdom has approved this study. If you have any further information, please don't hesitate to contact me.

Consent Statement

By continuing with this interview, you indicate your voluntary consent to participate in this study and have your answers included in the project data set. Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudices to your relations with the university. You are free to not answer any of the questions that we will ask you. However, we hope that you will agree to answer the questions, as your answers are very important to this study. Answers are anonymous, and all information gathered in this study will be kept completely confidential. No reference will be made in writing or oral materials that could link you to this study. Your privacy will be protected and if you have any questions or comments, please contact me. Your participation is really appreciated. Thank you.

Sincerely,

Normalisa Md Isa
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SECTION A

Please read the following information provided in the advert and answer the questions that follow.



RECYCLE TODAY

Help today for a better tomorrow.
Your support could make a difference.

- **Positive Framing**
If you recycle, you could preserve the environment, your quality of life in the future but also your friends, family and the community.
- **Negative Framing**
If you do not recycle, you could harm the environment, your quality of life in the future but also your friends, family and the community.
- **Islamic Framing**
“Do not waste (resources) extravagantly.” (Surah Al-A’raf, 7, verse 31).
- **Moral identity framing.**
People that recycle are caring.

1. The following questions are based on the advert. Please read the following statements carefully and indicate your level of agreement by marking (✓) in the boxes provided.

		1	2	3	4	5	6	7
1: Strongly Disagree --- 7: Strongly Agree								
GF	The advert stressed the positive results of engaging in recycling behaviours.	<input type="checkbox"/>						
GF2	The advert contended that recycling activity lead to positive consequences.	<input type="checkbox"/>						

LF1	The advert stressed the negative results of engaging in recycling behaviours*	<input type="checkbox"/>						
LF2	Information in the pamphlet directed attention to the negative consequences of failing to engage in recycling activities.*	<input type="checkbox"/>						
IF1	The advert includes the Islamic messages of engaging in recycling behaviours.	<input type="checkbox"/>						
IF2	The advert does not include the Islamic messages of engaging in recycling behaviours.*	<input type="checkbox"/>						
MF1	The advert demonstrates the morality of engaging in recycling.	<input type="checkbox"/>						
MF2	The advert did not demonstrate the morality of engaging in recycling.*	<input type="checkbox"/>						

2. Based on the advert, please indicate your level of agreement with the following statements by marking (v) in the boxes provided. Each statement begins with: "I find the message in the recycling advert is....."

		1	2	3	4	5	6	7	
RAD1	Unbelievable	<input type="checkbox"/>	Believable						
RAD2	Untrustworthy	<input type="checkbox"/>	Trustworthy						
RAD3	Not convincing	<input type="checkbox"/>	Convincing						
RAD4	Not credible	<input type="checkbox"/>	Credible						
RAD5	Unreasonable	<input type="checkbox"/>	Reasonable						
RAD6	Dishonest	<input type="checkbox"/>	Honest						
RAD7	Questionable	<input type="checkbox"/>	Unquestionable						
RAD8	Inconclusive	<input type="checkbox"/>	Conclusive						
RAD9	Not authentic	<input type="checkbox"/>	Authentic						
RAD10	Unlikely	<input type="checkbox"/>	Likely						

SECTION B

In this section we would like to understand your personal recycling behaviour. Please identify the practices that most accurately reflect your own by marking (v) in the boxes provided.

1. One important purpose of this study is to understand your attitude toward recycling. Please indicate your level of agreement with the following statements.

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
RA1	Recycling is good	<input type="checkbox"/>						
RA2	Recycling is useful	<input type="checkbox"/>						
RA3	Recycling is rewarding	<input type="checkbox"/>						
RA4	Recycling is sensible	<input type="checkbox"/>						
RA5	Recycling is responsible	<input type="checkbox"/>						
RA6	Recycling is hygienic	<input type="checkbox"/>						

2. For the next following statements, we would like to know your attitude toward recycling advert (in Section A)

		1	2	3	4	5	6	7		
AAD1	Bad	<input type="checkbox"/>	Good							
AAD2	Unfavourable	<input type="checkbox"/>	Favourable							
AAD3	Unpleasant	<input type="checkbox"/>	Pleasant							

3. Next we would like to know your future intention to participate in the recycling program.

		Strongly Disagree					Strongly Agree	
		1	2	3	4	5	6	7
INT1	How likely is it that you will follow the recommendations in the advert in the future?	<input type="checkbox"/>						
INT2	To what extent is the advert likely to influence you in future decisions to follow the recommendations?	<input type="checkbox"/>						
INT3	I am more likely to follow the recommendations after reading the pamphlet than before.	<input type="checkbox"/>						

SECTION C

Demography: Questions about you

- Gender
 - Male
 - Female
- Age
 - 20 years and below
 - 21-25 years
 - 26-30 years
 - 31-35 years
 - 35 years and above
- What is your marital status? *(Read the options and check the answer)*
 - Single
 - Married
 - Divorced/ Widowed/ Separated
- Which of the following best describes the highest level of education you have completed? *(Read the options and check the answer)*
 - Secondary School
 - Matriculation Diploma/STPM
 - Diploma/STPM
 - First Degree
- Do you **recycle** at your residence/hostel?
 - Yes
 - No

APPENDIX C: FRAMING INTERVENTIONS

- Positive Framing

If you recycle, you could preserve the environment, your quality of life in the future but also your friends, family and the community.

- Negative Framing

If you do not recycle, you could harm the environment, your quality of life in the future but also your friends, family and the community.

- Islamic Framing

“Do not waste (resources) extravagantly.” (Surah Al-A’raf, 7, verse 31).

- Moral identity framing.

People that recycle are caring.

APPENDIX D: TEST OF NORMALITY

Tests of Normality across the Variables

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Framing_Believability	.051	850	.200*	.976	850	.165
Ad_Attitude	.067	850	.200*	.971	850	.127
Recycling_Attitude	.097	850	.051	.967	850	.003
Future_Intention	.079	850	.133	.983	850	.054

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Tests of Normality across the Experimental Groups

Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Framing_Believability	1A	.080	105	.200*	.987	80	.616
	2A	.086	102	.200*	.983	80	.363
	3A	.101	110	.112	.912	80	.181
	4A	.103	107	.097	.915	80	.178
	1B	.073	106	.200*	.982	80	.335
	2B	.094	106	.176	.966	80	.207
	3B	.107	105	.093	.926	80	.121
	4B	.113	107	.056	.940	80	.101
Ad_Attitude	1A	.122	105	.005	.957	80	.009
	2A	.132	102	.001	.970	80	.054
	3A	.097	110	.081	.960	80	.013
	4A	.110	107	.067	.951	80	.004
	1B	.135	106	.001	.968	80	.045
	2B	.179	106	.000	.940	80	.001
	3B	.079	105	.200*	.917	80	.254
	4B	.102	107	.038	.977	80	.152
Recycling_Attitude	1A	.113	105	.013	.952	80	.004
	2A	.124	102	.004	.971	80	.061
	3A	.086	110	.200*	.970	80	.060
	4A	.133	107	.001	.961	80	.015
	1B	.116	106	.010	.963	80	.021
	2B	.169	106	.000	.944	80	.002
	3B	.087	105	.200*	.976	80	.128
	4B	.077	107	.200*	.986	80	.505
Future_Intention	1A	.069	105	.200*	.940	80	.341
	2A	.072	102	.200*	.952	80	.234
	3A	.120	110	.006	.960	80	.014
	4A	.109	107	.020	.958	80	.010
	1B	.080	106	.200*	.971	80	.202
	2B	.102	106	.040	.971	80	.066
	3B	.155	105	.000	.940	80	.001
	4B	.100	107	.048	.971	80	.062

Tests of Normality

	Group	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Framing_Believability	1A	.080	105	.200*	.987	80	.616
	2A	.086	102	.200*	.983	80	.363
	3A	.101	110	.112	.912	80	.181
	4A	.103	107	.097	.915	80	.178
	1B	.073	106	.200*	.982	80	.335
	2B	.094	106	.176	.966	80	.207
	3B	.107	105	.093	.926	80	.121
	4B	.113	107	.056	.940	80	.101
Ad_Attitude	1A	.122	105	.005	.957	80	.009
	2A	.132	102	.001	.970	80	.054
	3A	.097	110	.081	.960	80	.013
	4A	.110	107	.067	.951	80	.004
	1B	.135	106	.001	.968	80	.045
	2B	.179	106	.000	.940	80	.001
	3B	.079	105	.200*	.917	80	.254
	4B	.102	107	.038	.977	80	.152
Recycling_Attitude	1A	.113	105	.013	.952	80	.004
	2A	.124	102	.004	.971	80	.061
	3A	.086	110	.200*	.970	80	.060
	4A	.133	107	.001	.961	80	.015
	1B	.116	106	.010	.963	80	.021
	2B	.169	106	.000	.944	80	.002
	3B	.087	105	.200*	.976	80	.128
	4B	.077	107	.200*	.986	80	.505
Future_Intention	1A	.069	105	.200*	.940	80	.341
	2A	.072	102	.200*	.952	80	.234
	3A	.120	110	.006	.960	80	.014
	4A	.109	107	.020	.958	80	.010
	1B	.080	106	.200*	.971	80	.202
	2B	.102	106	.040	.971	80	.066
	3B	.155	105	.000	.940	80	.001
	4B	.100	107	.048	.971	80	.062

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

APPENDIX E: FACTOR ANALYSIS

[DataSet1] J:\10_Study1.sav

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.888
	Approx. Chi-Square	13357.584
Bartlett's Test of Sphericity	df	231
	Sig.	.000

Communalities

	Initial	Extraction
Believable	.551	.458
Trustworthy	.699	.657
Convincing	.730	.728
Credible	.725	.717
Reasonable	.769	.774
Honest	.723	.726
Unquestionable	.514	.446
Conclusive	.751	.712
Authentic	.726	.675
Likeable	.644	.622
Bad/Good	.714	.903
Unfavourable/Favourable	.669	.722
Unpleasant/Pleasant	.480	.501
Recycling is good	.645	.680
Recycling is useful	.485	.517
Recycling is rewarding	.563	.559
Recycling is sensible	.524	.490
Recycling is responsible	.676	.747
Recycling is hygienic	.529	.530
How likely is it that you will follow the recommendations in the advert in the future?	.690	.787
To what extent is the advert likely to influence you in future decisions to follow the recommendations?	.700	.813
I am more likely to follow the recommendations after reading the pamphlet than before.	.612	.680

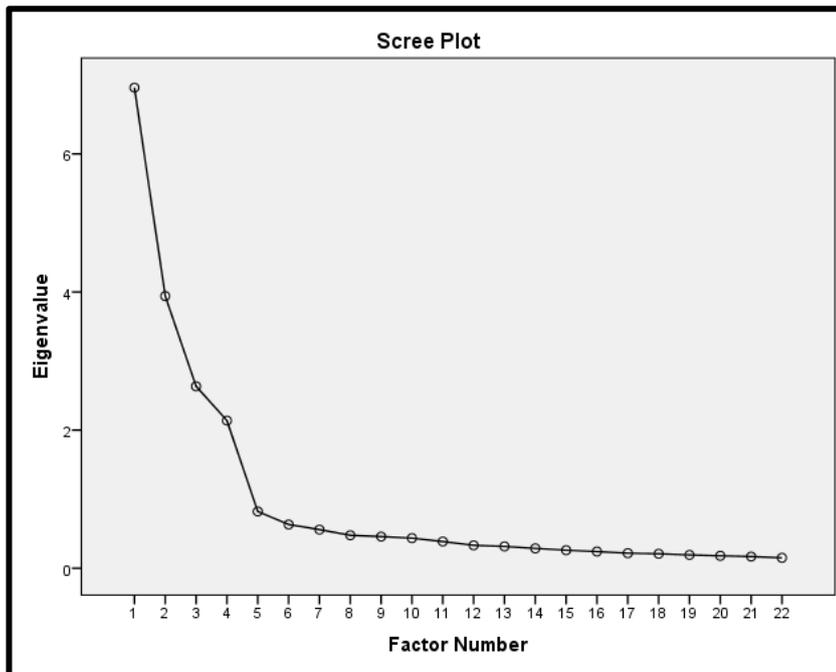
Extraction Method: Principal Axis Factoring.

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.959	31.634	31.634	6.626	30.117	30.117	6.592
2	3.941	17.912	49.546	3.544	16.107	46.225	3.551
3	2.634	11.975	61.521	2.392	10.874	57.098	2.314
4	2.138	9.718	71.238	1.881	8.550	65.648	2.368
5	.821	3.734	74.972				
6	.633	2.878	77.850				
7	.559	2.540	80.391				
8	.477	2.170	82.560				
9	.458	2.083	84.644				
10	.435	1.978	86.622				
11	.386	1.757	88.378				
12	.332	1.509	89.887				
13	.316	1.437	91.323				
14	.287	1.307	92.630				
15	.261	1.187	93.817				
16	.242	1.099	94.916				
17	.217	.988	95.904				
18	.209	.948	96.853				
19	.193	.875	97.728				
20	.180	.817	98.544				
21	.169	.769	99.313				
22	.151	.687	100.000				

Extraction Method: Principal Axis Factoring.

a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.



Factor Matrix^a

	Factor			
	1	2	3	4
Reasonable	.877			
Convincing	.851			
Honest	.847			
Credible	.841			
Conclusive	.831			
Authentic	.816			
Trustworthy	.809			
Likeable	.787			
Believable	.676			
Unquestionable	.662			
Recycling is responsible		.853		
Recycling is good		.815		
Recycling is rewarding		.741		
Recycling is hygienic		.720		
Recycling is useful		.702		
Recycling is sensible		.693		
To what extent is the advert likely to influence you in future decisions to follow the recommendations?			.815	
How likely is it that you will follow the recommendations in the advert in the future?			.804	
I am more likely to follow the recommendations after reading the pamphlet than before.			.745	
Bad/Good			-.463	.794

Unfavourable/Favourable				-.426	.690
Unpleasant/Pleasant					.540

Extraction Method: Principal Axis Factoring.

a. 4 factors extracted. 14 iterations required.

Pattern Matrix^a

	Factor			
	1	2	3	4
Reasonable	.878			
Honest	.853			
Conclusive	.853			
Credible	.849			
Convincing	.845			
Authentic	.824			
Trustworthy	.805			
Likeable	.785			
Unquestionable	.672			
Believable	.660			
Recycling is responsible		.865		
Recycling is good		.826		
Recycling is rewarding		.741		
Recycling is hygienic		.722		
Recycling is useful		.721		
Recycling is sensible		.700		
To what extent is the advert likely to influence you in future decisions to follow the recommendations?			.901	
How likely is it that you will follow the recommendations in the advert in the future?			.886	
I am more likely to follow the recommendations after reading the pamphlet than before.			.824	
Bad/Good				.962
Unfavourable/Favourable				.854
Unpleasant/Pleasant				.672

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Structure Matrix

	Factor			
	1	2	3	4
Reasonable	.879			
Convincing	.852			
Honest	.851			
Credible	.846			
Conclusive	.840			
Authentic	.820			
Trustworthy	.810			
Likeable	.788			
Believable	.672			
Unquestionable	.666			
Recycling is responsible		.864		
Recycling is good		.825		
Recycling is rewarding		.746		
Recycling is hygienic		.726		
Recycling is useful		.717		
Recycling is sensible		.699		
To what extent is the advert likely to influence you in future decisions to follow the recommendations?			.901	
How likely is it that you will follow the recommendations in the advert in the future?			.887	
I am more likely to follow the recommendations after reading the pamphlet than before.			.824	
Bad/Good				.948
Unfavourable/Favourable				.847
Unpleasant/Pleasant				.696

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

Factor Correlation Matrix

Factor	1	2	3	4
1	1.000	-.054	.039	.182
2	-.054	1.000	-.006	.070
3	.039	-.006	1.000	-.080
4	.182	.070	-.080	1.000

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

Factor Score Coefficient Matrix

	Factor			
	1	2	3	4
Believable	.050	-.014	.002	.025
Trustworthy	.120	.005	.000	.032
Convincing	.148	-.013	.027	.020
Credible	.121	.021	.000	.004
Reasonable	.170	-.001	.007	.005
Honest	.133	.004	-.005	-.004
Unquestionable	.046	-.009	-.004	.003
Conclusive	.144	.020	-.014	-.037
Authentic	.123	-.017	-.010	.013
Likeable	.095	-.008	.006	.014
Bad/Good	-.011	-.012	-.005	.712
Unfavourable/Favourable	.004	.017	-.004	.208
Unpleasant/Pleasant	.019	.008	.004	.090
Recycling is good	.002	.245	.010	-.001
Recycling is useful	-.003	.157	.000	.005
Recycling is rewarding	.000	.162	-.003	.014
Recycling is sensible	-.003	.113	-.003	.015
Recycling is responsible	-.005	.338	-.005	.011
Recycling is hygienic	-.007	.130	.006	-.011
How likely is it that you will follow the recommendations in the advert in the future?	.000	-.010	.372	-.010
To what extent is the advert likely to influence you in future decisions to follow the recommendations?	-.004	.005	.431	-.009
I am more likely to follow the recommendations after reading the pamphlet than before.	.001	.005	.229	.016

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

Factor Score Covariance Matrix

Factor	1	2	3	4
1	1.072	-.133	1.896	.424
2	-.133	.922	-.079	.042
3	1.896	-.079	2.762	.506
4	.424	.042	.506	1.040

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.

APPENDIX F : MANIPULATION CHECK

Table 5.5: The results of descriptive analysis and ANOVA for the manipulation checks

Descriptive Statistics								
GroupPN		N	Range	Min	Max	Mean	Std. Deviation	Variance
A_Positive Group	Positive_Framing	426	3.00	4.00	7.00	6.1362	.84101	.707
	Negative_Framing	426	6.00	1.00	7.00	3.0751	1.25847	1.584
	Valid N (listwise)	426						
B_Negative Group	Positive_Framing	424	6.00	1.00	7.00	3.2618	1.01751	1.035
	Negative_Framing	424	5.50	1.50	7.00	5.0295	1.10059	1.211
	Valid N (listwise)	424						

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Positive_Group	Between Groups	1755.651	1	1755.651	2015.847	.000
	Within Groups	738.544	848	.871		
	Total	2494.195	849			
Negative_Group	Between Groups	811.647	1	811.647	580.590	.000
	Within Groups	1185.478	848	1.398		
	Total	1997.125	849			

Test of the Homogeneity of the Variances				
	Levene Statistic	df1	df2	Sig.
Positive_Framing	3.439	1	848	.671
Negative_Framing	3.531	1	848	.634

Table 5.6 : Manipulation checks on framing for all experimental groups

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
Positive_Framing	1A	105	6.2286	.90146	.08797	6.0541	6.4030	4.00	7.00
	2A	102	6.1814	.69221	.06854	6.0454	6.3173	5.00	7.00
	3A	112	6.1875	.89323	.08440	6.0203	6.3547	4.00	7.00
	4A	107	5.9486	.83535	.08076	5.7885	6.1087	4.00	7.00
	1B	106	3.3679	.95444	.09270	3.1841	3.5517	1.50	6.50
	2B	106	3.2358	1.10455	.10728	3.0231	3.4486	1.00	5.50
	3B	105	3.2286	1.03084	.10060	3.0291	3.4281	1.50	7.00
	4B	107	3.2150	.98122	.09486	3.0269	3.4030	1.00	5.50
	Total	850	4.7024	1.71400	.05879	4.5870	4.8177	1.00	7.00
Negative_Framing	1A	105	3.2381	1.18908	.11604	3.0080	3.4682	1.00	7.00
	2A	102	2.7206	1.11598	.11050	2.5014	2.9398	1.00	7.00
	3A	112	2.9330	1.24208	.11737	2.7005	3.1656	1.00	7.00
	4A	107	3.4019	1.37264	.13270	3.1388	3.6650	1.00	7.00
	1B	106	5.1698	.99256	.09641	4.9787	5.3610	2.00	7.00
	2B	106	4.9481	1.06442	.10339	4.7431	5.1531	2.00	7.00
	3B	105	5.0714	1.14444	.11169	4.8500	5.2929	2.00	7.00
	4B	107	4.9299	1.18848	.11490	4.7021	5.1577	1.50	7.00
	Total	850	4.0500	1.53373	.05261	3.9467	4.1533	1.00	7.00
IslamicId_Framing	1A	105	1.6667	.83972	.08195	1.5042	1.8292	1.00	4.00
	2A	102	2.9314	1.38956	.13759	2.6584	3.2043	1.00	7.00
	3A	112	6.4420	.78484	.07416	6.2950	6.5889	4.00	7.00
	4A	107	5.6729	1.44082	.13929	5.3967	5.9491	1.00	7.00
	1B	106	3.1651	.90164	.08758	2.9914	3.3387	1.00	5.00
	2B	106	3.1509	1.15299	.11199	2.9289	3.3730	1.00	6.50
	3B	105	4.8571	.88718	.08658	4.6855	5.0288	3.00	6.50
	4B	107	5.1776	1.06233	.10270	4.9740	5.3812	2.50	7.00
	Total	850	4.1600	1.87750	.06440	4.0336	4.2864	1.00	7.00
MoralId_Framing	1A	105	2.3810	1.45199	.14170	2.1000	2.6619	1.00	6.00
	2A	102	4.9608	1.06865	.10581	4.7509	5.1707	3.00	7.00
	3A	112	4.5893	.95440	.09018	4.4106	4.7680	2.50	7.00
	4A	107	5.6121	1.25763	.12158	5.3711	5.8532	2.00	7.00
	1B	106	2.1792	1.34905	.13103	1.9194	2.4391	1.00	6.00

2B	106	4.7028	1.01835	.09891	4.5067	4.8990	2.50	7.00
3B	105	4.3810	.83931	.08191	4.2185	4.5434	3.00	6.50
4B	107	5.0374	1.06554	.10301	4.8332	5.2416	2.50	7.00
Total	850	4.2341	1.63548	.05610	4.1240	4.3442	1.00	7.00

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Positive_Framing	1.334	7	842	.112
Negative_Framing	1.906	7	842	.066
ISFraming	1.614	7	842	.086
MldFraming	1.016	7	842	.143

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Positive_Framing	Between Groups	1762.432	7	251.776	289.705	.000
	Within Groups	731.764	842	.869		
	Total	2494.195	849			
Negative_Framing	Between Groups	844.977	7	120.711	88.217	.000
	Within Groups	1152.148	842	1.368		
	Total	1997.125	849			
ISFraming	Between Groups	2009.534	7	287.076	245.847	.000
	Within Groups	983.206	842	1.168		
	Total	2992.740	849			
MldFraming	Between Groups	1173.948	7	167.707	128.728	.000
	Within Groups	1096.962	842	1.303		
	Total	2270.911	849			

APPENDIX G : ANALYSIS OF VARIANCE, POST HOC TESTS & THE HOMOGENEOUS SUBSETS

Table 5.7: The result of descriptive analysis and ANOVA for framing believability

Descriptives

Framing_Believability								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
					1A	105		
2A	102	4.4501	.97267	.09631	4.3589	4.9411	2.00	7.00
3A	112	5.8723	.96509	.09119	5.6916	6.0530	3.50	7.00
4A	107	5.3780	1.08940	.10532	5.2692	5.7868	3.20	7.00
1B	106	3.4402	1.02827	.09987	3.2001	4.5961	2.20	6.80
2B	106	4.0575	.73755	.07164	4.0155	4.6996	3.20	6.00
3B	105	5.3433	.95883	.09357	5.0478	5.5189	3.30	7.00
4B	107	4.9393	1.16033	.11217	4.7169	5.1616	3.00	7.00
Total	850	4.8457	1.09222	.03746	4.7921	5.0391	2.00	7.00

Test for the Homogeneity of the Variances

Ad_Believability			
Levene Statistic	df1	df2	Sig.
1.002	7	842	.501

ANOVA

Ad_Believability					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	218.463	7	31.209	27.431	.000
Within Groups	957.979	842	1.138		
Total	1176.441	849			

Table 5.8: Post Hoc tests and homogenous subsets for framing believability between experimental groups (positive and negative group)

Multiple Comparisons

Dependent Variable: Framing_Believability

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1A	2A	-.42248*	.13144	.048	-.9218	-.1230
	3A	-1.84470*	.12843	.000	-2.0349	-1.2545
	4A	-1.35042*	.12987	.000	-1.7450	-.9558
	1B	.58741*	.13017	.011	-.5660	.2250
	2B	-.02990	.13017	1.000	-.7255	.0656
	3B	-1.31571*	.13048	.000	-1.5022	-.7092
	4B	-.91166*	.12987	.000	-1.1063	-.3170
2A	1A	.42248*	.13144	.048	.1230	.9218
	3A	-1.42222*	.12940	.000	-1.5155	-.7291
	4A	-.92794*	.13083	.000	-1.2256	-.4305
	1B	1.00991*	.13113	.000	-.0466	.7503
	2B	.39255*	.13113	.049	-.2060	.5909
	3B	-.89323*	.13144	.000	-.9827	-.1840
	4B	-.48911*	.13083	.035	-.5868	.2083
3A	1A	1.84470*	.12843	.000	1.2545	2.0349
	2A	1.42232*	.12940	.000	.7291	1.5155
	4A	.49431*	.12781	.047	-.0941	.6826
	1B	2.43211*	.12811	.000	1.0849	1.8635
	2B	1.81477*	.12811	.000	.9255	1.7041
	3B	.52899*	.12843	.021	.1488	.9292
	4B	.93307*	.12781	.000	.5447	1.3214
4A	1A	1.35042*	.12987	.000	.9558	1.7450
	2A	.92794*	.13083	.000	.4305	1.2256
	3A	-.49428*	.12781	.048	-.6826	.0941
	1B	1.93782*	.12956	.000	.7862	1.5736
	2B	1.32051*	.12956	.000	.6268	1.4142
	3B	.03473	.12987	1.000	-.1499	.6393
	4B	.43869*	.12926	.049	.2460	1.0315
1B	2A	-.58741*	.13017	.011	-.2250	.5660
	3A	-1.00991*	.13113	.000	-.7503	.0466
	4A	-2.43211*	.12811	.000	-1.8635	-1.0849
	2B	-1.93782*	.12956	.000	-1.5736	-.7862
	3B	-.61733*	.12987	.024	-.5540	.2352
	4B	-1.90312*	.13017	.000	-1.3308	-.5397
	4B	-1.49914*	.12956	.000	-.9348	-.1475

2B	1A	.02990	.13017	1.000	-.0656	.7255
	2A	-.39255*	.13113	.049	-.5909	.2060
	3A	-1.81477*	.12811	.000	-1.7041	-.9255
	4A	-1.32051*	.12956	.000	-1.4142	-.6268
	1B	.61733*	.12987	.024	-.2352	.5540
	3B	-1.28578*	.13017	.000	-1.1713	-.3802
	4B	-.88178*	.12956	.000	-.7754	.0120
3B	1A	1.31571*	.13048	.000	.7092	1.5022
	2A	.89323*	.13144	.000	.1840	.9827
	3A	-.52899*	.12843	.021	-.9292	-.1488
	4A	-.03473	.12987	1.000	-.6393	.1499
	1B	1.90312*	.13017	.000	.5397	1.3308
	2B	1.28578*	.13017	.000	.3802	1.1713
	4B	.40404*	.12987	.049	-.0005	.7887
4B	1A	.91166*	.12987	.000	.3170	1.1063
	2A	.48911*	.13083	.035	-.2083	.5868
	3A	-.93307*	.12781	.000	-1.3214	-.5447
	4A	-.43869*	.12926	.049	-1.0315	-.2460
	1B	1.49914*	.12956	.000	.1475	.9348
	2B	.88178*	.12956	.000	-.0120	.7754
	3B	-.40404*	.12987	.049	-.7887	.0005

*. The mean difference is significant at the 0.05 level.

Homogenous Subset**Ad_Believability**

Tukey HSD

Group	N	Subset for alpha = 0.05				
		1	2	3	4	5
1B	106	3.4402				
1A	105	4.0276	4.0276			
2B	106		4.0575			
2A	102		4.4501	4.4501		
4B	107			4.9393		
4A	107			5.2780	5.2780	
3B	105				5.3433	5.3433
3A	112					5.8723
Sig.		.029	.620	.601	.712	.041

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 106.186.

b. The group sizes are unequal. The harmonic mean of the group sizes is used.

Type I error levels are not guaranteed.

Table 5.9: The result of descriptive analysis and ANOVA for the ad attitude

Descriptives

Ad_Attitude								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for the Mean		Min	Max
					Lower Bound	Upper Bound		
1A	105	4.1058	1.02877	.10040	3.9057	4.3059	2.33	6.00
2A	102	4.5719	.86157	.08531	4.4027	4.7411	3.00	7.00
3A	112	5.7406	.97513	.09214	5.1180	5.9632	2.67	7.00
4A	107	5.0017	1.38275	.13368	4.8066	5.7368	1.33	7.00
1B	106	3.8858	1.45947	.14176	3.5447	4.2269	1.00	7.00
2B	106	4.1667	1.51273	.14693	3.8753	4.4581	1.00	7.00
3B	105	5.3714	.84114	.08209	5.0086	5.5342	2.00	6.67
4B	107	4.8127	.82859	.08010	4.5639	5.0615	3.00	7.00
Total	850	4.7533	1.23014	.04219	4.4004	5.0062	1.00	7.00

Test of the Homogeneity of the Variances

Ad_Attitude			
Levene Statistic	df1	df2	Sig.
1.483	7	842	.413

ANOVA

Ad_Attitude					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	186.701	7	26.672	20.615	.000
Within Groups	1089.357	842	1.294		
Total	1276.058	849			

Table 5.10: Post Hoc tests and homogenous subsets for ad attitude between experimental groups (positive and negative group)

Multiple Comparisons

Dependent Variable: Ad_Attitude

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1A	2A	-.46613	.15813	.064	-.9469	.0141
	3A	-1.63488*	.15451	.000	-1.6642	-.7252
	4A	-1.16594*	.15625	.000	-1.4409	-.4914
	1B	-.02201	.15661	1.000	-.4965	.4553
	2B	-.06094	.15661	1.000	-.5376	.4141
	3B	-1.26562*	.15698	.000	-1.5425	-.5885
	4B	-.70694*	.15625	.000	-1.2794	-.3299
2A	1A	.46613	.15813	.064	-.0141	.9469
	3A	-1.16871*	.15568	.000	-1.2013	-.2552
	4A	-.69975*	.15740	.033	-.9780	-.0215
	1B	.68611*	.15776	.031	-.0336	.9252
	2B	.40524	.15776	.170	-.0747	.8841
	3B	-.79951*	.15813	.004	-1.0796	-.1186
	4B	-.24084	.15740	.384	-.8165	.1400
3A	1A	1.63484*	.15451	.000	.7252	1.6642
	2A	1.16865*	.15568	.000	.2552	1.2013
	4A	.46885*	.15376	.048	-.2387	.6957
	1B	1.85477*	.15413	.000	.7057	1.6424
	2B	1.57393*	.15413	.000	.6646	1.6013
	3B	.36923	.15451	.347	-.3403	.5986
	4B	.92791*	.15376	.000	-.0772	.8572
4A	1A	1.16587*	.15625	.000	.4914	1.4409
	2A	.69975*	.15740	.033	.0215	.9780
	3A	-.46891*	.15376	.048	-.6957	.2387
	1B	1.38592*	.15587	.000	.4719	1.4192
	2B	1.10542*	.15587	.000	.4308	1.3781
	3B	-.36971	.15625	.998	-.5741	.3754
	4B	.45901*	.15551	.049	-.3110	.6340
1B	1A	-.02201	.15661	1.000	-.4553	.4965
	2A	-.68611*	.15776	.031	-.9252	.0336
	3A	-1.85477*	.15413	.000	-1.6424	-.7057
	4A	-1.38592*	.15587	.000	-1.4192	-.4719
	2B	-.28093	.15624	1.000	-.5159	.4336
	3B	-1.48561*	.15661	.000	-1.5208	-.5690

	4B	-.92691*	.15587	.000	-1.2577	-.3104
2B	1A	.06094	.15661	1.000	-.4141	.5376
	2A	-.40524	.15776	.170	-.8841	.0747
	3A	-1.57393*	.15413	.000	-1.6013	-.6646
	4A	-1.10542*	.15587	.000	-1.3781	-.4308
	1B	.28093	.15624	1.000	-.4336	.5159
	3B	-1.20473*	.15661	.000	-1.4797	-.5279
	4B	-.64603*	.15587	.000	-1.2166	-.2693
	3B	1A	1.26562*	.15698	.000	.5885
2A		.79951*	.15813	.004	.1186	1.0796
3A		-.36923	.15451	.991	-.5986	.3403
4A		.36971	.15625	.998	-.3754	.5741
1B		1.48561*	.15661	.000	.5690	1.5208
2B		1.20473*	.15661	.000	.5279	1.4797
4B		.55872*	.15625	.027	-.2139	.7356
4B		1A	.70694*	.15625	.000	.3299
	2A	.24084	.15740	.384	-.1400	.8165
	3A	-.92791*	.15376	.182	-.8572	.0772
	4A	-.18901	.15551	.949	-.6340	.3110
	1B	.92691*	.15587	.000	.3104	1.2577
	2B	.64603*	.15587	.000	.2693	1.2166
	3B	-.55872*	.15625	.017	-.7356	.2139

*. The mean difference is significant at the 0.05 level.

Ad_Attitude

Tukey HSD

Group	N	Subset for alpha = 0.05			
		1	2	3	4
1B	106	3.8858			
1A	105	4.1058			
2B	106	4.1667			
2A	102	4.5716	4.5716		
4B	107		4.8127	4.8127	
4A	107			5.0017	
3B	105			5.3714	5.3714
3A	112				5.7406
Sig.		.548	.173	.155	0.50

Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Mean Sample Size = 106.186.
- b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Table 5.11: The results of descriptive analysis and ANOVA for the recycling attitude

Descriptives

Recycling_Attitude								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
1A	105	4.0317	1.24282	.12129	3.8912	4.4723	1.00	6.17
2A	102	4.4788	1.41069	.13968	4.2517	4.9058	1.00	7.00
3A	112	5.6538	1.21177	.11450	4.9969	5.5507	2.00	7.00
4A	107	5.1490	1.40181	.13552	4.7503	5.3877	1.00	7.00
1B	106	3.7172	1.20993	.11752	3.5242	4.3903	1.00	6.00
2B	106	4.0124	1.60831	.15621	3.9226	4.5421	1.00	7.00
3B	105	5.3478	.55790	.05445	4.6698	4.8857	3.33	5.83
4B	107	4.7097	1.30991	.12663	4.3486	4.8508	1.00	7.00
Total	850	4.6376	1.31693	.04517	4.3978	4.5751	1.00	7.00

Test of the Homogeneity of the Variances

Recycling_Attitude			
Levene Statistic	df1	df2	Sig.
1.812	7	842	.201

ANOVA

Recycling_Attitude					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	123.311	7	17.616	17.341	.000
Within Groups	855.348	842	1.016		
Total	978.659	849			

Table 5.12: Post Hoc tests and homogenous subsets for recycling attitude between experimental groups (positive and negative group)

Multiple Comparisons

Dependent Variable: Recycling_Attitude

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1A	2A	-.44713*	.14012	.045	-.8725	-.0210
	3A	-1.62211*	.13691	.000	-1.0824	-.2504
	4A	-1.11734*	.13845	.000	-1.1490	-.3076
	1B	.31452	.13877	.832	-.4316	.4118
	2B	-.01093	.13877	1.000	.0748	.9182
	3B	-1.31613*	.13910	.000	-.7713	.0740
	4B	-.67801*	.13845	.000	-.4972	.3442
2A	1A	.44713*	.14012	.045	.0210	.8725
	3A	-1.17503*	.13795	.000	-.6388	.1995
	4A	-.67021*	.13948	.039	-.7054	.1422
	1B	.76161*	.13980	.014	.0120	.8616
	2B	.46643*	.13980	.041	.5185	1.3680
	3B	-.86901*	.14012	.000	-.3277	.5238
	4B	-.23094	.13948	.688	-.0535	.7941
3A	1A	1.62211*	.13691	.000	.2504	1.0824
	2A	1.17503*	.13795	.000	-.1995	.6388
	4A	.50482*	.13625	0.49	-.4759	.3521
	1B	1.93662*	.13658	.000	.2415	1.0715
	2B	1.64141*	.13658	.000	.7479	1.5779
	3B	.30604	.13691	.783	-.0983	.7338
	4B	.94414*	.13625	.000	.1759	1.0039
4A	1A	1.11734*	.13845	.000	.3076	1.1490
	2A	.67021*	.13948	.029	-.1422	.7054
	3A	-.50482*	.13625	.049	-.3521	.4759
	1B	1.4318*	.13812	.000	.2987	1.1381
	2B	1.13662*	.13812	.000	.8051	1.6445
	3B	-.19881	.13845	.912	-.0410	.8004
	4B	.43932*	.13780	.047	.2332	1.0706
1B	1A	-.31451	.13877	.832	-.4118	.4316
	2A	-.76161*	.13980	.009	-.8616	-.0120
	3A	-1.93663*	.13658	.000	-1.0715	-.2415
	4A	-1.43181*	.13812	.000	-1.1381	-.2987
	2B	-.29522	.13845	.457	.0857	.9271
	3B	-1.63061*	.13877	.000	-.7604	.0829

	4B	-.99253*	.13812	.000	-.4862	.3531
2B	1A	-.01931	.13877	1.000	-.9182	-.0748
	2A	-.46643*	.13980	.041	-1.3680	-.5185
	3A	-1.64141*	.13658	.000	-1.5779	-.7479
	4A	-1.13662*	.13812	.000	-1.6445	-.8051
	1B	.29522	.13845	.457	-.9271	-.0857
	3B	-1.33541*	.13877	.000	-1.2668	-.4235
	4B	-.69733*	.13812	.019	-.9927	-.1533
	3B	1A	1.09613*	.13910	.000	-.0740
2A		.64901*	.14012	.012	-.5238	.3277
3A		-.22604	.13691	.983	-.7338	.0983
4A		.17881	.13845	.912	-.8004	.0410
1B		1.31063*	.13877	.000	-.0829	.7604
2B		1.33541*	.13877	.000	.4235	1.2668
4B		.63814*	.13845	.014	-.1485	.6929
4B		1A	.67801*	.13845	.000	-.3442
	2A	.23094	.13948	.688	-.7941	.0535
	3A	-.94414*	.13625	.000	-1.0039	-.1759
	4A	-.43932*	.13780	.047	-1.0706	-.2332
	1B	.99253*	.13812	.000	-.3531	.4862
	2B	.69733*	.13812	.019	.1533	.9927
	3B	-.63814*	.13845	.014	-.6929	.1485

*. The mean difference is significant at the 0.05 level.

Recycling_Attitude

Tukey HSD

Group	N	Subset for alpha = 0.05			
		1	2	3	4
1B	106	3.7172			
2B	106	4.0124			
1A	105	4.0317			
2A	102	4.4788	4.4788		
4B	107		4.7097	4.7097	
4A	107			5.1490	
3B	105			5.3478	5.3478
3A	112				5.6538
Sig.		.714	.688	.331	.049

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 106.186.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Table 5.13: The result of descriptive analysis and ANOVA for the recycling intention

Descriptives

Future_Intention								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for the Mean		Min	Max
					Lower Bound	Upper Bound		
1A	105	4.1490	.92453	.09023	4.2401	4.4579	1.00	6.00
2A	102	4.5762	1.01095	.10010	4.6576	4.8948	2.33	7.00
3A	112	5.8638	1.03126	.09744	5.0807	5.8469	2.33	7.00
4A	107	5.3339	1.15786	.11193	4.7220	5.5458	2.67	7.00
1B	106	3.7453	1.15993	.11266	3.9999	4.0907	2.00	7.00
2B	106	4.0442	.99917	.09705	4.0717	4.4167	2.00	7.00
3B	105	5.5208	1.01840	.09939	4.4537	5.7879	3.00	7.00
4B	107	4.9704	1.05063	.10157	4.6740	5.0968	2.00	7.00
Total	850	4.7755	1.09877	.03769	4.4875	5.0171	1.00	7.00

Test of the Homogeneity of the Variances

Future_Intention			
Levene Statistic	df1	df2	Sig.
1.526	7	842	.155

ANOVA

Future_Intention					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	101.746	7	14.535	13.256	.000
Within Groups	923.240	842	1.096		
Total	1024.986	849			

Table 5.14: Post Hoc tests and homogenous subsets for intention to recycle between experimental groups (positive and negative group)

Multiple Comparisons

Dependent Variable: Future_Intention

Tukey HSD

(I) Group	(J) Group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1A	2A	-.42722*	.14470	0.47	-.8496	.0297
	3A	-1.71484*	.14138	.000	-1.2573	-.3981
	4A	-1.18490*	.14297	.000	-.9327	-.0639
	1B	.40371*	.14330	0.49	-.2125	.6583
	2B	.10483	.14330	1.000	-.2534	.6175
	3B	-1.37184*	.14364	.000	-.6408	.2321
	4B	-.82142*	.14297	.006	-.8636	.0053
2A	1A	.42722*	.14470	.047	-.0297	.8496
	3A	-1.28763*	.14245	.000	-.8506	.0151
	4A	-.75771*	.14403	.033	-.5260	.3493
	1B	.83090*	.14436	.003	.1942	1.0715
	2B	.53202*	.14436	.011	.1534	1.0307
	3B	-.94460*	.14470	.001	-.2341	.6453
	4B	-.39450*	.14403	.050	-.4568	.4185
3A	1A	1.71484*	.14138	.000	.3981	1.2573
	2A	1.28762*	.14245	.000	-.0151	.8506
	4A	.52985*	.14070	.021	-.0981	.7570
	1B	2.11823*	.14104	.000	.6221	1.4792
	2B	1.81962*	.14104	.000	.5812	1.4383
	3B	.34336	.14138	.098	.1938	1.0530
	4B	.89341*	.14070	.000	-.0289	.8261
4A	1A	1.18493*	.14297	.000	.0639	.9327
	2A	.75772*	.14403	.000	-.3493	.5260
	3A	-.52985*	.14070	.021	-.7570	.0981
	1B	1.58864*	.14263	.000	.2878	1.1546
	2B	1.28974*	.14263	.000	.2469	1.1137
	3B	-.18692	.14297	.445	-.1405	.7283
	4B	.36346	.14229	.081	-.3632	.5015
1B	1A	.40371*	.14330	.049	-.6583	.2125
	2A	.83090*	.14436	.003	-1.0715	-.1942
	3A	2.11845*	.14104	.000	-1.4792	-.6221
	4A	1.58864*	.14263	.000	-1.1546	-.2878
	2B	-.29885	.14296	.118	-.4753	.3936
	3B	-1.77547*	.14330	.000	-.8627	.0082

	4B	-1.22506*	.14263	.000	-1.0854	-.2186
2B	1A	-.10483	.14330	.910	-.6175	.2534
	2A	-.53202*	.14436	.011	-1.0307	-.1534
	3A	-1.81962*	.14104	.000	-1.4383	-.5812
	4A	-1.28974*	.14263	.000	-1.1137	-.2469
	1B	.29885	.14296	.118	-.3936	.4753
	3B	-1.47662*	.14330	.000	-.8219	.0490
	4B	-.92618*	.14263	.000	-1.0446	-.1778
3B	1A	1.37184*	.14364	.000	-.2321	.6408
	2A	.94460*	.14470	.001	-.6453	.2341
	3A	-.34336	.14138	.098	-1.0530	-.1938
	4A	.18692	.14297	.445	-.7283	.1405
	1B	1.77547*	.14330	.000	-.0082	.8627
	2B	1.47662*	.14330	.000	-.0490	.8219
	4B	-.55036*	.14297	.010	-.6592	.2097
4B	1A	.82142*	.14297	.006	-.0053	.8636
	2A	.39450*	.14403	.050	-.4185	.4568
	3A	-.89341*	.14070	.000	-.8261	.0289
	4A	-.36346	.14229	.081	-.5015	.3632
	1B	1.22506*	.14263	.000	.2186	1.0854
	2B	.92618*	.14263	.000	.1778	1.0446
	3B	-.55036*	.14297	.010	-.2097	.6592

*. The mean difference is significant at the 0.05 level.

Future_Intention

Tukey HSD

Group	N	Subset for alpha = 0.05			
		1	2	3	4
1B		3.7453			
2B		4.0442			
1A		4.1490	4.1490		
2A			4.5762		
4B			4.9704	4.9704	
4A			5.3339	5.3339	
3B				5.5208	5.5208
3A					5.8638
Sig.		.057	.155	.444	.359

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 106.186.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

Table 5.16: The results of the descriptive analysis, homogeneity of variances and ANOVA between the positive and negative framing groups

		Descriptives					
		N	Mean	Std. Deviation	Std. Error	Min	Max
Ad_Believability	A_Positive Framing	426	5.0319	1.11626	.05408	2.00	7.00
	B_Negative Framing	424	4.6595	1.04479	.05074	2.20	7.00
Ad_Attitude	A_Positive Framing	426	4.9225	1.17321	.05684	1.33	7.00
	B_Negative Framing	424	4.5142	1.27174	.06176	1.00	7.00
Rec_Attitude	A_Positive Framing	426	4.9033	1.06990	.05184	1.00	7.00
	B_Negative Framing	424	4.4893	1.02335	.04970	1.00	7.00
F_Intention	A_Positive Framing	426	5.0307	1.06113	.05141	2.00	7.00
	B_Negative Framing	424	4.5739	1.09007	.05294	2.00	7.00

Test of the Homogeneity of the Variances				
	Levene Statistic	df1	df2	Sig.
Ad_Believability	.144	1	848	.704
Ad_Attitude	3.817	1	848	.112
Recycling_Attitude	3.201	1	848	.274
Future_Intention	.139	1	848	.710

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Ad_Believability	Between Groups	21.511	1	21.511	18.401	.000
	Within Groups	991.304	848	1.169		
	Total	1012.815	849			
Ad_Attitude	Between Groups	6.956	1	6.956	4.648	.031
	Within Groups	1269.102	848	1.497		
	Total	1276.058	849			
Recycling_Attitude	Between Groups	49.187	1	49.187	44.876	.003
	Within Groups	929.471	848	1.096		
	Total	978.659	849			
Future_Intention	Between Groups	31.215	1	31.215	26.978	.000
	Within Groups	981.184	848	1.157		
	Total	1012.399	849			

Table 5.17: The result of the descriptive analysis, homogeneity of variances and ANOVA between the non-Islamic identity and Islamic identity adverts

		Descriptives					
		N	Mean	Std. Deviation	Std. Error	Min	Max
Ad_Believability	Non-Islamic Identity	211	4.1178	.79870	.05498	2.20	6.80
	Islamic Identity	217	5.6028	.99708	.06769	3.30	7.00
Ad_Attitude	Non-Islamic Identity	211	3.9938	1.26082	.08680	1.00	7.00
	Islamic Identity	217	5.6060	.91268	.06196	2.00	7.00
Recycling_Attitude	Non-Islamic Identity	211	4.1244	.83213	.05729	1.00	6.17
	Islamic Identity	217	5.4408	.88178	.05986	2.83	7.00
Future_Intention	Non-Islamic Identity	211	4.1971	1.02654	.07067	2.00	7.00
	Islamic Identity	217	5.6923	1.06958	.07261	2.33	7.00

Test of the Homogeneity of the Variances				
	Levene Statistic	df1	df2	Sig.
Framing_Believability	1.907	1	426	.137
Ad_Attitude	1.212	1	426	.297
Recycling_Attitude	.087	1	426	.768
Future_Intention	1.015	1	426	.314

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Ad_Believability	Between Groups	180.308	1	180.308	220.276	.000
	Within Groups	348.704	426	.819		
	Total	529.012	427			
Ad_Attitude	Between Groups	134.633	1	134.633	111.636	.000
	Within Groups	513.757	426	1.206		
	Total	648.390	427			
Recycling_Attitude	Between Groups	27.573	1	27.573	37.484	.000
	Within Groups	313.360	426	.736		
	Total	340.933	427			
Future_Intention	Between Groups	43.557	1	43.557	39.614	.000
	Within Groups	468.399	426	1.100		
	Total	511.957	427			

Table 5.18: The result of descriptive analysis, ANOVA and test of homogeneity of variances between non-moral identity and moral identity advert

		Descriptives					
		N	Mean	Std. Deviation	Std. Error	Min	Max
Ad_Believability	Non-moral identity	211	4.1178	.79870	.05498	2.00	6.80
	Moral Identity	208	4.5537	.86421	.05992	2.00	7.00
Ad_Attitude	Non-moral identity	211	3.9958	1.26082	.08680	1.00	7.00
	Moral Identity	208	4.3693	1.25099	.08674	1.00	7.00
Recycling_Attitude	Non-moral identity	211	4.3244	.83213	.05729	1.00	6.17
	Moral Identity	208	4.5456	1.47024	.10194	1.00	7.00
Future_Intention	Non-moral identity	211	4.3971	1.02654	.07067	2.00	7.00
	Moral Identity	208	4.6102	1.04589	.07252	2.00	7.00

Test of the Homogeneity of the Variances				
	Levene Statistic	df1	df2	Sig.
Ad_Believability	61.005	1	417	.000
Ad_Attitude	.132	1	417	.057
Recycling_Attitude	50.106	1	417	.000
Future_Intention	31.099	1	417	.045

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Ad_Believability	Between Groups	12.013	1	12.013	17.360	.000
	Within Groups	288.561	417	.692		
	Total	300.574	418			
Ad_Attitude	Between Groups	6.538	1	6.538	4.145	.062
	Within Groups	657.782	417	1.577		
	Total	664.320	418			
Recycling_Attitude	Between Groups	.159	1	.159	.112	.738
	Within Groups	592.864	417	1.422		
	Total	593.023	418			
Future_Intention	Between Groups	5.081	1	5.081	1.732	.230
	Within Groups	447.731	417	1.074		
	Total	452.812	418			

Table 5.19: The results of the descriptive analysis, ANOVA and the test of the homogeneity of the variances between the Islamic identity and moral identity adverts

		Descriptives				
		N	Mean	Std. Deviation	Minimum	Maximum
Ad_Believability	Islamic Identity	217	5.6028	.99708	3.30	7.00
	Moral Identity	208	4.5537	.86421	2.00	7.00
Ad_Attitude	Islamic Identity	217	5.6060	.91268	2.00	7.00
	Moral Identity	208	4.3693	1.25099	1.00	7.00
Recycling_Attitude	Islamic Identity	217	5.4408	.88178	2.83	7.00
	Moral Identity	208	4.5456	1.47024	1.00	7.00
Future_Intention	Islamic Identity	217	5.6923	1.06958	2.33	7.00
	Moral Identity	208	4.6102	1.04589	2.00	7.00

Test of the Homogeneity of the Variances				
	Levene Statistic	df1	df2	Sig.
Ad_Believability	8.273	1	423	.004
Ad_Attitude	16.945	1	423	.000
Recycling_Attitude	53.371	1	423	.000
Future_Intention	9.712	1	423	.009

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Ad_Believability	Between Groups	97.794	1	97.794	112.002	.000
	Within Groups	369.339	423	.873		
	Total	467.133	424			
Ad_Attitude	Between Groups	80.753	1	80.753	67.791	.000
	Within Groups	503.877	423	1.191		
	Total	584.629	424			
Recycling_Attitude	Between Groups	31.732	1	31.732	21.811	.000
	Within Groups	615.400	423	1.455		
	Total	647.132	424			
Future_Intention	Between Groups	88.542	1	88.542	100.563	.000
	Within Groups	473.537	423	.919		
	Total	562.079	424			