

## The Moderating Role of Integrated Persuasive Communication Messages Towards Pro-Environmental Behaviour

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**Abstract:** Behavioural change intervention is one of the most challenging aspects of social marketing. The high failure rate of environmental campaigns has encouraged social marketers, policymakers and academics to propose the best intervention approach to motivate pro-environmental behaviour. Using the context of the No Plastic Bag Day campaign in Malaysia, this study applies the Comprehensive Action Determination Model (CADM) to evaluate the effects of habits, attitudes, personal norms, social norms and self-efficacy on pro-environmental intention and pro-environmental behaviour. In addition, the study investigates the moderating role of Integrated Persuasive Communication Messages (IPCM) on the relationships between habits, attitudes, personal norms, social norms, self-efficacy, intention and behaviour. This study also extends the application of the CADM in pro-environmental behaviour studies and adds to the limited literature on the impact of comprehensive persuasive appeals on behavioural change.

**Key words:** Social marketing, intervention, behavioural intention, plastic-bags, habits

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### INTRODUCTION

The over-consumption of plastic bags by consumers while shopping is a long-debated issue (Connolly and Prothero, 2003). In a short period of time, it is likely that the use of plastic bags while shopping will become socially unacceptable. Countries and cities in Asia have endorsed that it is illegal to distribute plastic bags for free (Muthu *et al.*, 2011; Chan *et al.*, 2008; Ayalon *et al.*, 2009). Source reduction is the dominant plan to execute minimisation of waste right at the generation stage. It is the most preferred option according to the waste management strategy (Johari *et al.*, 2014) such as in China, Hong Kong, India (Muthu *et al.*, 2011) while Bangladesh has imposed a total ban on plastic bags (Clapp and Swanston, 2009). Plastic waste and pollution are one of the main concerns of the government in Malaysia too. In January 2011, the Ministry of Domestic Trade Cooperative and Consumerism (MDTCC) launched the No Plastic Bag Day Campaign. Since then, the campaign has attracted retailers across the nation where participating stores have agreed to impose RM0.20 charges for every plastic bag used by consumers. This policy has raised Malaysian awareness on the effects of plastic bags on the environment, yet still, a lot of plastic waste goes to landfills and there is resistance among customers (Kamaruddin and Yusuf, 2012; Zen *et al.*,

2013). Researchers are counter to the focus on individual consumerism and behaviour changes and believe that a macro-level; upstream intervention by governments and midstream intervention by businesses are much important (Uzzell, 1999) but others mentioned that individuals are not only consumers and also citizens that can effect changes at the structural or institutional level (Pelletier and Sharp, 2008). Thereof, it is a dire need of aggressive strategies for downstream interventions and behavioural changes towards individual sustainable consumption.

**Problem statements:** Environmental problems are 100% human-caused (Clark *et al.*, 2013). It shows that environmental problems can be solved only by changes in human behaviour. In an excellent review of communication as a policy instrument to alter environmentally significant behaviour (Gardner and Stern, 2002) communication can influence important drivers (which are attitudes, beliefs, personal norms and social context) towards behaviour. The way that people process information and organise their knowledge can have a significant impact on their behaviour (Van, 2014). Intervention using persuasive messages is often perceived as the first step in efforts to encourage people to change specific behaviour (Pelletier and Sharp, 2008). Unfortunately, communicating climate change information

in ways that inspire people to take action is complicated (Morton *et al.*, 2011). Many have criticised the fact that information-based campaigns are too rationalist and outdated (Moser, 2006; Kollmuss and Agyeman, 2002). However, researcher argued that, in fact, knowledge is somehow still very important but is usually underestimated (Van, 2014). Knowledge is still a major pillar for changing human behaviour and educating the public and it is critical for public engagement (Clark *et al.*, 2013). Then, researcher has recommendations of accompanying the cognitive information-based campaign with the affective approach which focuses on emotion. Researchers have also agreed that social influences on behaviour are pervasive. Individuals tend to imitate and apply the logic of appropriateness in any unfamiliar situation. They will act accordingly and behave as their friends or peers (Cialdini *et al.*, 1999). Thus, if an individual changes their behaviour, it perhaps comes from the social context too. Previous discussions have also shown that cognitive, experiential and normative influences do not affect human behaviour separately and is a result of carefully integrated neurological processes (Van, 2014). Thus, the persuasive messages that integrate these three appeals (which are cognitive, affective and normative-IPCM) can be hypothesised as one of the promising tools to change unwanted customers' behaviour. Therefore, to the researchers's knowledge, an intervention that uses persuasive communication that distracts habit cues, integrates the cognitive, affective and normative messages method (Van, 2014) and arouses the belief of self-efficacy is limited and persuasive communications which are most effective in order to motivate people to perform pro-environmental behaviour still remains.

To understand human behaviour, particularly pro-environmental behaviour, a behavioural model called the CADM was developed as a general model of environmental behaviour (Klockner and Blobaum, 2010). The model has important implications for how the human dimension in global environmental challenges is understood and addressed with interventions. Based on the Theory of Planned Behaviour (TPB) and the CADM which combines the habitual, intentional and environmental responses and using an identified barrier which is so far the No Plastic Bag Day campaign in Malaysia using only information-based appeals this study will use IPCM the possible persuasive communication appeals as an intervention. More specifically, this study proposes these research questions:

- Do behavioural drivers which are habit, intention and self-efficacy have a direct significant effect on pro-environmental behaviour?

- Do intentional drivers which are attitudes, personal norms, social norms and self-efficacy have a direct significant effect on pro-environmental intention?
- Do Integrated Persuasive Communication Messages (IPCM) moderate the drivers of pro-environmental intention and pro-environmental behaviour?

#### **Literature review**

**Theory of Planned Behaviour (TPB) and Comprehensive Action Determination Model (CADM):** Despite its wide adoption and strong empirical support, TPB has been criticised for its lack of prediction of repeated behaviour which leads to automatic responses (Klockner and Blobaum, 2010). Researchers argue that behaviour is governed by both intentional and automatic processes (Klockner and Blobaum, 2010; Klockner, 2013). According to these researchers, the contribution of the intentional processes occurs only if a behaviour is performed in a new and unfamiliar environment. However, when the environment is stable and unvarying, behaviour is likely to be governed by automatic processes such as habit (habitual). The frequency of repeated actions in stable contexts will generate habits (Klockner and Matthies, 2012). To address the issue, Ajzen proposed, besides being used to understand behaviour's determinant, TPB may also be used to investigate behavioural change (Ajzen, 2011a). TPB may also be accommodated with past behaviour and habit formation to enrich understanding of human social behaviour (Ajzen, 2011b). Therefore, this study proposes the conceptual model based on CADM (Ajzen, 2011a) where it combines the most commonly used theories in environmental psychology (Sopha and Klockner, 2011).

Theories involve in the model are, the TPB (Ajzen, 1991) as a principal determination of behaviour, the Norm-Activation-Theory (Schwartz and Howard, 1981) and the Value-Belief-Norm-Theory (Stern, 2000) which includes the norms determinants on the model. The CADM explains that an individual sustainable behaviour is directly determined by influences from three possible sources which are: habitual (repetitive behaviours), intentional (intention is an important determinant of future behaviour) and environmental (the situational characteristic of the behaviour such as norms and perceived behavioural control) (Ajzen, 2011b). CADM has received good empirical support in a series of studies in different behavioural domains (Klockner and Friedrichsmeier, 2011; Klockner and Oppedal, 2011; Sopha and Klockner, 2011). CADM identifies a potential entry point for interventions and explains not only why strategies alone will most likely fail but also how to make improvements.

## MATERILAS AND METHODS

**Habits:** Habits are an important concept in the understanding of human behaviour. Most of the behaviour we have performed is not being done for the first time but is a reoccurrence of a behaviour which we have performed numerous times (Neal *et al.*, 2006). The three pillars of habit are repetition, automaticity and context-cued (Schwartz and Howard 1981). A meta-analysis study that measured behavioural intentions and measures of past and later behaviour found that habits are significant predictors of future behaviour (Stern, 2000). Thus, this study proposes hypothesis that customers' plastic bag habits will significantly affect their level of pro-environmental behaviour:

- H<sub>1</sub>: habits have a significant relationship with pro-environmental behaviour

**Attitude:** According to the TPB, an individual's attitude is measured by their personal valuation of the target behaviour (Ajzen and Fishbein, 1980). Attitudes are determined by one's beliefs and evaluation of the consequences of performing a particular behaviour. In other words, to predict an individual's intention to avoid using plastic bags while shopping, it is essential to know whether or not a person is in favour of doing it (attitude). Attitudes are therefore a general measure of the favourability a behavioural alternative has for an individual (Sopha and Klockner, 2011). People perform the behaviour if they hold a positive attitude to the behaviour and that will make them have the intention to perform the behaviour (Ajzen, 1991). Intentions are in turn determined by attitudes towards the behaviour (Kiriakidis, 2015). Thus, this study proposes the following hypothesis:

- H<sub>2</sub>: attitudes have a significant relationship with pro-environmental intention

**Personal norms:** A personal norm is defined as the feeling of obligation to perform a behaviour in line with important internalised self-standards (Biel and Thøgersen, 2007). Personal norms' formation and activation come from an interplay between cognitive, emotional and social factors. In most cases, pro-environmental behaviour is not derived from personal interest; it is derived from understanding that conserving natural resources and acting pro-environmentally will benefit other people and the next generation (Krajhanzl, 2010). However, from the point of view of environmental education, personal motivation is the key to behaving pro-environmentally (Krajhanzl, 2010). Therefore, this study proposes the following hypothesis:

- H<sub>3</sub>: personal norms have a significant relationship with pro-environmental intention

**Social norms:** Social influence is all about how people think, feel and change their behaviour when in the presence of others. Social influence is an umbrella term which reflects an individual's and group's attitudes and behaviours (Crisp and Turner, 2010). Besides personal norms, Sopha and Klockner (2011) used social norms as a proxy for subjective norms (as referred to in the TPB). A subjective norm is described as an individual's perception of the expectation significant others have for them to do or avoid the target behaviour; social pressure (Ajzen and Fishbein, 1980). When an individual is choosing how to behave in a given situation, they tend to simply imitate what action most others are doing if everyone is doing it, it must be a sensible thing to do (Cialdini, 1998). Research on social norms and pro-environmental behaviour shows that social norms can be an important determinant of behaviour (Groot and Steg, 2007). Thus, this study proposes the following hypothesis:

- H<sub>4</sub>: social norms have a significant relationship with pro-environmental intention

**Self-efficacy:** Perceived Behavioural Control (PBC) can be defined simply as perceived ease of performing or refraining from a particular behaviour (Ajzen and Madden, 1986). PBC measures and captures the degree to which people think that they have the opportunity and ability to perform a particular behaviour. Many researchers interchangeably use self-efficacy and PBC (Bandura, 1977; Lam and Chen, 2006; Kwong, 2014). This study will use the self-efficacy construct. It is a construct developed by Bandura (1977). It refers to a person's self-evaluation of whether he or she has the ability and resources to carry out a certain action. Past research (Lam and Chen, 2006; Kwong, 2014) found that this was also a good predictor of environmental behaviour. When forming their behavioural intention, people take into account their ability to perform (Bamberg and Moser, 2007). Thus, this study proposes the following hypothesis:

- H<sub>5</sub>: self-efficacy has a significant relationship with pro-environmental intention

Self-efficacy can, under certain conditions have an additional direct impact on behaviour (Ajzen, 1991). For example, when conditions change before the behaviour is performed or when the actual behaviour is already performed, consumers will change their perceived actual behaviour. If consumers have already performed the

behaviour by obeying the intervention, they are confident of their self-efficacy towards the behaviour. Thus, this study proposes the following hypothesis:

- H<sub>6</sub>: self-efficacy has a significant relationship with pro-environmental behaviour

**Behaviour and intentions:** As the central assumption for TPB, behaviour is directly determined by intention (Ajzen, 1991). Intention is assumed to summarise the motivational factors as well as efforts in performing the behaviour. The greater the intention, the greater the possibility of the behaviour implementation (Kusumawati, 2015). Thus, intention to avoid using plastic bag while shopping is determined by the attitude towards the behaviour, personal norms, social pressure of subjective norms and positive PBC (Ajzen, 1991). Thus, this study proposes the following:

- H<sub>7</sub>: pro-environmental intention has a significant relationship with pro-environmental behaviour

## RESULTS AND DISCUSSION

**Persuasive cognitive (knowledge-based) appeals:** Like many environmental campaigns, this study is built upon the assumption that people want to help (themselves and the environment) but there is a lack of information about how and why they should take action or change their behaviour (Nolan, 2010). Although many cases reported that information campaigns may not lead to behaviour change (Schultz, 2002; Stern *et al.*, 1999), the provision of information at least contributes to the environmental problem literacy or at least to public engagement). Therefore, the provision of information on how or why the individual should take action is still important to communicate to targeted segment. This study use experiment stimuli of information-based appeal.

**Information-based appeal:** The no plastic bag day campaign is our initiative to lessen excessive plastic bag usage which damages our natural environment.

**Persuasive affective appeals:** To enhance the effectiveness of the communication strategy, the affective elements are claimed to be important (Kollmuss and Agyeman, 2002). To define affect, it is a subtle form of emotion defined specifically as a positive (like) or negative (dislike) evaluative feeling towards an external stimulus (Slovic, 1999). Guilt appeals that enhance emotion-focused and problem-focused coping will make customers experience guilt because of their inability to

perform the behaviour and will make them correct their behaviour in the future to pro-environmental behaviour (Antonetti and Baines, 2015). This study will use an image that can stimulate the guilt feelings of the viewer. The assumption is that when viewers see the picture of marine life (turtle) suffocated by plastic bag waste that the turtle thinks is jellyfish, this will arouse their guilt feelings and they will take prompt corrective action by avoiding using plastic bags. This study use experiment stimuli of affective appeal as shown in Fig. 1.

**Persuasive normative appeals:** In addition to cognitive and experiential processing, human behaviour is also shaped by a wide range of normative factors (Kollmuss and Agyeman 2002). Norms is an individual's self-definition in terms of a group membership as the more that they feel they belong to the group, the more they will align their behaviour with the group's norms. A study that evaluated the types of normative messages found two types of social norms descriptive norms and injunctive norms (Cialdini, 1991). Therefore, if applied to word messages, descriptive norms usually refer to what is commonly done. Meanwhile, an injunctive norm message is a message that emphasises what is commonly approved or disapproved. Both descriptive and injunctive norms can be used in persuasive normative messages to encourage pro-environmental behaviour. This study will take the existing persuasive normative message (Groot *et al.*, 2013). This study use experiment stimuli of normative appeal as shown in Fig. 2.

The integrated messages which integrates cognitive, affective and normative appeals are worth to be proposed as promising tools to behavioural change intervention. Thereof, combine the IPCM into one poster is proposed as experiment stimuli and hypothesised to moderates CADM constructs.

**Habits→Behaviour:** Downstream interventions will successfully change habits even though the effect appears to be temporary. Nonetheless, environmental changes really affect old habits (Webb and Sheeran, 2006). People who are, for example, moving, will be affected as the new environment interrupts old habits (Wood *et al.*, 2005). Therefore, environmental control also may have a motivational effect on new habit formation. Through associative conditioning, environmental cues can have the motivational power to initiate and guide actions (Verplanken and Wood, 2006). This so-called declarative stage involves cognitive processing as people rehearse the information in their working memory to keep it available for the interpretative procedures that guide behaviour. This increases the chance of performing the



To turtles, plastic waste looks just like a tasty jellyfish. If you throw your plastic waste, you might be the one who kills them

Fig. 1: Guilty appeals

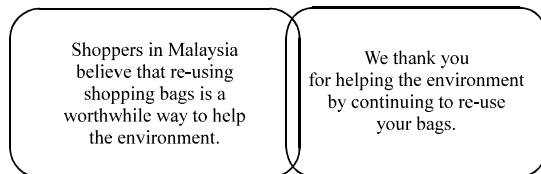


Fig. 2: Normative appeal

same behaviour the next time when encountering a similar situation. This effect can be described as reinforcement learning. The downstream plus-context-change intervention might be effective by changes in shopping context will render people with a strong habit vulnerable to new information or persuasion (Verplanken and Wood, 2006). Thus, this study proposes the below hypothesis:

- H1<sub>a</sub>: exposure to IPCM affects the impact of habits on pro-environmental behaviour

**Attitudes intentions:** Advertising often attempts to challenge attitudes (Parry *et al.*, 2013). Information and knowledge-based appeals are one of the cognitive levers to enhance one’s understanding and perspective or attitudes about environmental issues. In addition, guilt appeals are usually used in order to facilitate behaviour and attitudes too (Antonetti and Maklan, 2014). Informational strategies can be aimed at increasing actors’ knowledge to heighten their awareness of environmental problems and of the environmental impacts of their behaviour and to increase their knowledge of behavioural alternatives and their pros and cons. Generally, information campaigns seldom result in behavioural changes. However, prompts appeared to be effective in changing intentions and behaviour (Abrahamse *et al.*, 2005). Thus, the IPCM which uses cognitive, affective and normative appeals will differ consumers’ attitudes. Thus, this study proposes the following hypothesis:

- H2<sub>a</sub>: exposure to IPCM affects the impact of attitudes on pro-environmental intention

**Personal norms intentions:** People’s motivation for caring about the environment can be traced back to a specific set of personal norms (Abrahamse *et al.*, 2005). Personal normative messages such as using the words, “we thank “you” for helping the environment by continuing to reuse your bags” are proven to be effective persuasive tools to lowering plastic bag usage in supermarkets (Groot *et al.*, 2013). A study showed that norm-centred interventions like personal commitment had an effect even five months after the intervention finished, especially when combined with habit-breaking interventions (Matthies *et al.*, 2006). However, norms need to be activated which signifies that people need to be reminded in a given situation that there are negative consequences of behaviour and that they are responsible. Guilt is an approach emotion: one which motivates the individual to make reparation or find a way to deny responsibility (Burnett and Lunsford, 1994). Guilt is an important pro-social emotion. A study claimed that social advertising that breaches the norms and is considered offensive will affect personal norm standards (Dahl *et al.*, 2003). Thus as IPCM might enhance personal norms, this study proposes the following hypothesis:

- H3<sub>a</sub>: exposure to IPCM affects the impact of personal norms on pro-environmental intention

**Social norms-Intentions:** The focus theory of normative conduct (Cialdini *et al.*, 1991) mentions that social norms can mobilise the decision-making process by using persuasive normative messages (Schultz and Zelezny, 1998). A study suggested that using injunctive messages which refer to social-context stimuli such as using “shoppers” in the text, can enhance customers’ motivation to decrease their use of plastic bags while shopping (Groot *et al.*, 2013). The influence of social models and social expectations on behaviour should not be underrated. Relatively, simple notes about behaviour of other people in the same situation could motivate people to change their own behaviour (Goldstein *et al.*, 2007). This social influence is, according to the model, both relevant and pertinent while generating an intention. Thus, this study proposes the following hypothesis:

- H4<sub>a</sub>: exposure to IPCM affects the impact of social norms on pro-environmental intention

**Self-efficacy-Intentions:** Consumers’ perceptions of how they think they can perform the behaviour and whether or not they think they can avoid using plastic bags are

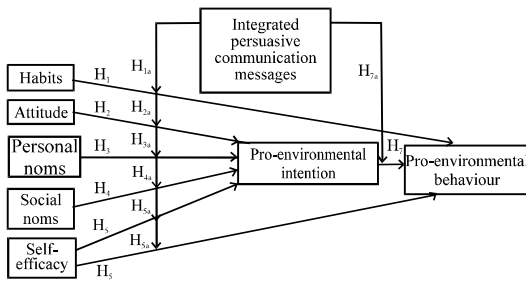


Fig. 3: Research framework

essential. High self-efficacy to bring bags to a shop or not request bags while shopping is the targeted behaviour. Creating a feeling of self-efficacy which is the ability to perform the necessary act is at least as important as creating a positive attitude. Interventions to increase PBC and efficiency are therefore very relevant. People require information about what to do and how to do it to perceive that the targeted behaviour is easy to perform. A study that evaluated perceived customers' effectiveness also revealed that guilt is an emotion that is able to enhance self-control (PBC or self-efficacy) and support sustainable behaviour (Antonetti and Maklan, 2014). As guilt is associated with problem-focused coping, customers will act to regulate their behaviour. Thus, providing customers with a motivation towards self-regulation by using guilt appeal will result in increasing their beliefs of his or her ability and resources to carry out a certain action. Thus, this study proposes the following hypothesis:

- H<sub>5a</sub>: exposure to IPCM affects the impact of self-efficacy on pro-environmental intention

**Self-efficacy→Behaviour:** In the meantime, self-efficacy accommodates situations where the intention to act might be mitigated by a person feeling that they want to perform the behaviour but their ability to do so might be constrained by reasons outside their control (Ajzen, 1991). Giving them an emotion to take corrective action will lead to enhanced self-regulation and which facilitates customers to perform this behaviour, will result in increasing the likelihood that a person will perform this new behaviour (Antonetti and Maklan, 2014). Thus, this study proposes the following hypothesis:

- H<sub>6b</sub>: exposure to IPCM affects the impact of self-efficacy on pro-environmental behaviour

**Intention→Behaviour:** Intention to avoid using plastic bags while shopping is determined by the persuaded attitude, personal norms, social pressure of

subjective norms and positive self-efficacy towards pro-environmental behaviour (Ajzen, 1991). As the entire determinant of behavioural intention is to be hypothesised significantly, this study proposes the following hypothesis:

- H<sub>7a</sub>: exposure to IPCM affects the impact of pro-environmental intention on pro-environmental behaviour. Thereof, the research framework of this study is as shown in Fig. 3.

## CONCLUSION

Academically, this study adds to the limited research on the effects of Integrated Persuasive Communication Messages (IPCM) appeals on pro-environmental behavioural change. This study posited that IPCM will change consumers' intention and behaviour to avoid using plastic bags while shopping. In addition, the study offers several managerial implications for supermarkets, social marketers, policy makers and government in ways of delivering, monitoring and evaluating. Future research can be improved by conducting an empirical study.

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