

## **SUMMARY OF STUDY FOR PLASTIKEEP**

### **ABSTRACT**

Exploring the Impact of Message Framing and Mind-set on Recycling Intentions in Trinidad

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Academics and practitioners are concerned with strategies within marketing to reduce the knowledge-action gap in performing environmentally sustainable behaviours. Message framing, based on the prospect theory in psychology, has proved effective in health-related campaigns and growing cases in persuading ecological sustainable behaviours in developed countries. This study seeks to test its applicability by extending it to a country with developing country status. Using a 2 x 2 between-subjects factorial design, this study examined the effectiveness of message framing on persuading recycling behaviour and attitudes by testing the interaction of frame (gain versus loss) and self- construal (abstract versus concrete) in ads. Overall, gain frames were found to be more effective than loss frames in influencing recycling intentions.

Keywords: Shervon A. Penco; recycling; message framing; loss frame; gain frame; construal level; abstract thinking; concrete thinking

## Introduction

Developing countries waste generation is steadily increasing due to increased urbanization. Non environmentally friendly methods of waste disposal such as incineration, water dumping and burial are frequently used. These practices have environmentally adverse impacts ranging from polluting the ecological system to causing long-term public health problems.

In Trinidad & Tobago it is projected that one kilogram of waste is produced per capita per day on average (SWMCOL 2011). The general range of waste produced daily was from 1.75 kilograms per capita for very industrialized and commercial towns compared to 0.55 kilogram per capita in the country areas (SWMCOL 2011). The average suggested lifetime for a landfill is twenty years which was already exceeded by the three existing landfills. This is compounded by the inefficiency of operational processes posing a security and health threat to occupants within and around the vicinity. The Beetham landfill placement is dangerously close to the capital of Port-of-Spain which can have a negative effect on a person's health. The national bird the Scarlet Ibis also nests inside the delicate ecological balance of the Caroni Swamp where the landfill is placed. This can have effects on a main fishery resource by polluting through underground sources. Developing countries have started to embrace recycling especially small island states that have limited land space. Recycling helps waste reduction, deter the need to construct new landfills and addresses environmentalist concerns. The general public in Trinidad & Tobago is more environmentally aware and green movements have protested the creation of an aluminum smelter, removal of green space, oils spills & Beetham landfill smoke over Port of Spain. The Trinidad & Tobago government have embarked to increase sustainable behavior by assisting recycling companies through its green fund and proposed building of a 400 million dollar plant

named A to Z recycling. This will require an understanding of local consumer mindsets and behavior towards recycling before policies and frameworks can be developed. From a cost-benefit perspective, the implementation of policies designed to increase involvement in recycling actions should be grounded on a thorough understanding of key barriers to recycling behavior. Moreover, recycling behavior will need to be encouraged by stakeholders. Therefore, development of an effective social marketing drive to effectively persuade consumers to engage in recycling behavior is necessary.

Social marketing is effective when drawn upon several theoretical standpoints such as persuasion, behavioral, social learning and communication. Therefore, a key undertaking in shaping research of a social marketing campaign is to develop an effective message by understanding consumer needs and barriers (Maibach 1993). Undeniably, conveying the 'right communication' can be decisive to the efficiency of a social marketing programme. Therefore to determine influence, researchers have used one message development strategy called framing which manipulates perception of behavioral outcomes in terms of its losses (negative) or gains (positive) (Rothman and Salovey 1997). Can successful social message framing techniques used in developed countries be applied to influence sustainable recycling behaviors in developing countries when there are differences in socio-economical needs and focus is on intra-generational equity (present needs) versus inter-generational equity (future needs)?

## **Environmental consumer behaviors and intentions**

The topic of pro-environmental behavior has been carefully examined by researchers in the field of marketing and social psychology. Their objectives varied from analyzing key determinants of behavior such as environmental concern, cognitive and affective responses. Many previous literature pinpointed the main determinant of environmental attitudes for ecological actions regardless of past studies showing a weak correlation between environmental attitudes and actions (Bamberg 2003, Hines et al. 1986, 1987). There was also focus on cognitive and affective responses such as values, social norms, knowledge and beliefs.

Recycling has been identified in the field of marketing as a problem that needs consideration by policy makers and researchers (Shrum et al. 1994). The former as consumer behavior and latter as interventions and advertising. Public authorities designing frameworks especially where recycling practices are not mandatory and lawfully enforceable require a thorough holistic viewpoint of recycling behavior. Research examining what stimulates environmentally friendly actions are centered within three major perspectives. (Steg and Vlek 2009). Firstly, a cost/benefit where a persons' behavior are directed by rational choices. Theories regularly used that reflect the cognitive elements and behaviors for determining actions mode are the Theory of Reasoned Action (Fishbein and Ajzen 1975) and the updated model the Theory of Planned Behavior (Ajzen 1991). Secondly, another approach states that environmental behavior is predicated by moral deliberations. The major theory for this framework is the Norm Activation Model (NAM) that proposes that ecological actions are directed by altruism (Schwartz's 1977). Lastly, the final perspective although quite marginal, evaluates the effect of affective motivations on the espousal of pro-environmental actions. Methods of examining determinants of recycling has been consistent with frameworks on environmental behavior often using primarily TPB or NAM related methods (Thøgersen 1996). The TRA and TPB models to predict recycling intentions are

extended to include variables such as perceived costs of recycling (Chen and Tung 2010) and lack of infrastructure (Knussen et al. 2004), and past behavior (Carrus et al. 2008).

Literature on environmental psychology have pinpointed the key area of the ecological gap where environmental attitudes does not readily translate into action. (Blake 1999, 257). Academic studies have highlighted some deterrents to recycling such as not producing enough recyclable waste, not owning a bin for recycling and unawareness of legal provisions (Tucker 2001). Another study has found three main barriers to explain this gap: individuality, practicality and responsibility (Blake 1999, 257). Firstly, individual barriers can outweigh ecological concerns such as lack of interest, laziness or other priorities. Moreover, there are mixed perceptions that influence the view of responsibility whether at the government, institutional or individual level. Lastly, recycling may be deemed as impracticable due to a deficiency of storage space, time, inadequate information, distance or individual physical limitations. Therefore, effective tactics that will persuade the community to considerably change its present waste disposal behavior should be developed.

## Theoretical Contributions

This research adds to prior studies on the effectiveness of framing effects which have shown varied results when using gain versus loss frames. It seeks to extend findings that the construal level is an effective moderator of framing effects (gain versus losses) compared to previous findings. Academic literature has proposed moderators to enhance message framing effects of gain versus losses frames such as risky implications (Meyers-Levy and Maheswaran 2004), personal relevance (Maheswaran and Meyers-Levy 1990), perceived efficacy (Block and Keller 1995), cognitive elaboration (Shiv, Edell, and Payne 1997, 2004) and or risk- seeking behaviors (Meyerowitz and Chaiken 1987). However, the results have been inconsistent and inconclusive of when gains or losses should be used (Lee, Keller, and Sthernthal 2010). This research extends academic literature by looking at a different type of sample profile. The sample is taken from a country with developing country status where socio-economic differences and focus on millennium development goals are not as prevalent compared to developed countries used in previous studies. In developing countries there are differences in social norms and culture of habitual recycling, legislation, environmental law enforcement and recycling infrastructure. Therefore this study seeks to address this gap by focusing on the generalization of the proposed moderator 'construal level' to promote recycling behavior.

The results have not fully supported the theory and may require further exploration. The use of gain frames despite having a different construal level (high versus low) did not have a significant effect on message effectiveness. The results showed that the non-matching loss frame was significantly lower than the other groups. One possible explanation is that the construal level could be moderated by personal relevance or involvement with the sustainable behavior.

According, to Meyerowitz and Chaiken (1987) the personal relevance of the topic and psychological distance may prompt and induce a particular construal level. Where personal relevance is low respondents may transfer and employ high-level construal to process message information. Contrarily, where personal relevance is high participants may transfer and employ low-level construals to process message information. One study that is consistent with this school of thought suggest that increasing issue involvement leads to processing messages systematically. The persuasive effects of loss frames is increased when there is high involvement whereas the persuasive effects of gain frames is increase when there is low involvement. This may explain why gain frames recycling intentions were generally higher than loss frames. Moreover, it may also be possible that low relevance due to social norms of non- conservative behaviors could be moderating the framing effects. This follows the possibility that the non-matching frame (loss and why) was not successfully able to change a respondent construal due to level hence reducing processing ease (Maheswaran and Meyers-Levy 1990).

Nevertheless, other studies have found conflicting reasoning as individuals with high involvement are proposed to be more likely to systematically process messages that are persuasive than some with low issue involvement (Petty 1994). The study states that message framing effects (gain versus loss) will only affect persuasion when topics are highly relating causing cognitive processing. (Wegener, Petty, & Klein. 1994)

### **Social Marketer/ Managerial Contributions**

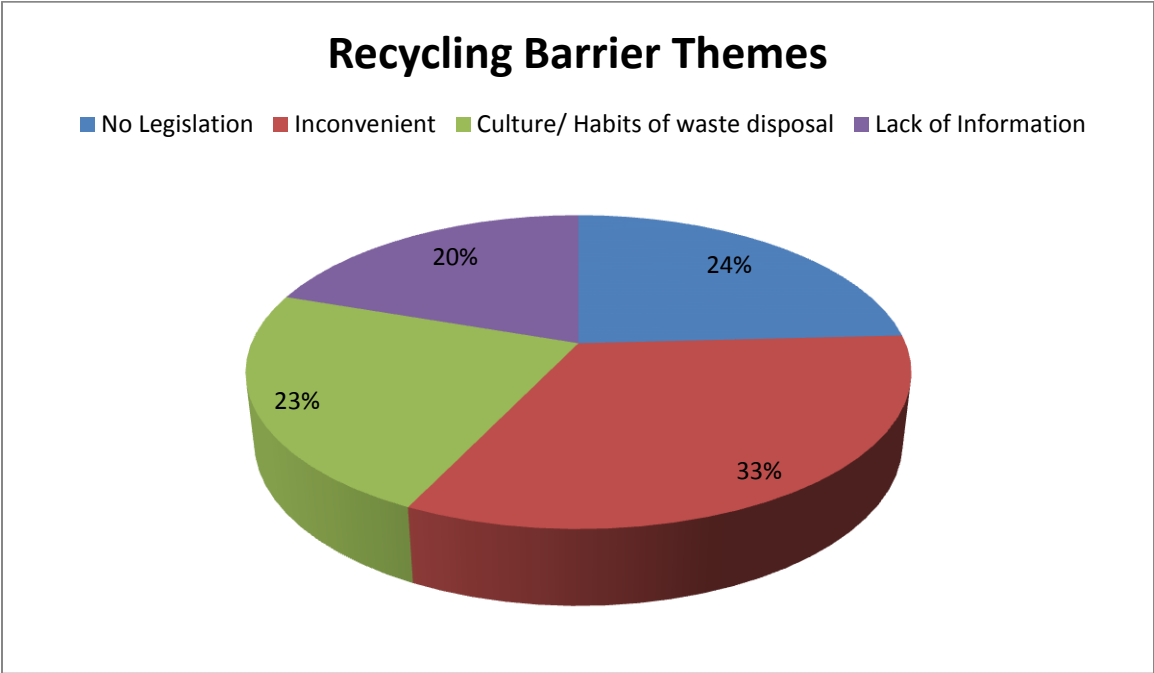
The matching theory proposed in the research study has potential to gain understanding into what messages can effectively promote recycling. Social marketers in designing campaign will have to

decide how to design messages especially where the consumer's waste after consumption forms the input for recycling plants and is a necessary supply. Marketing managers have the challenge of successfully implementing campaigns that will persuade consumers to recycle. This can be extremely difficult especially where social norms, waste infrastructure, environmental laws/regulation and habits are not positioned towards promoting and increasing recycling behaviors. One key mistake in design of recycling programs is to use mass strategies and messages. This has greatly reduced success of programs and led to the creation of community based social marketing programs. This study starts the process of understanding what type of messages will affect developing countries instead of adopting policies and strategies that were successful in developed nations. The social marketer and policy maker could use positive messages to persuade consumers to voluntarily adopt sustainable behaviors.

However, change behavior is very complex and social marketing is just one aspect towards changing a society to behave in an environmentally sustainable way. Social marketing purpose is about awareness and efficiency by maximizing marketing spend. This unavoidably leads to the direction of mass marketing instead of direct marketing and segmentation. This research starts the thought process of understanding where framing theory may be applicable in changing behavior. It will help to gain understanding not just in one context but for developing countries where waste disposal and resource efficiency methods need re-structuring. The study gives the social marketer and policy makers' insight that positive messages may be more influential than looking at the consequences of not engaging in recycling behavior.



**APPENDIX A: RECYCLING BARRIERS**



## APPENDIX B: FREQUENCIES

### Frequency Table

Treatment Advertisement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gain/ Why	49	24.5	24.5	24.5
	Gain/ How	48	24.0	24.0	48.5
	Loss/ Why	51	25.5	25.5	74.0
	Loss/ How	52	26.0	26.0	100.0
	Total	200	100.0	100.0	

Age Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-24	81	40.5	40.5	40.5
	25-29	36	18.0	18.0	58.5
	30-35	31	15.5	15.5	74.0
	36-41	21	10.5	10.5	84.5
	42-49	19	9.5	9.5	94.0
	50 & over	12	6.0	6.0	100.0
	Total	200	100.0	100.0	

### Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	76	38.0	38.0	38.0
	Female	124	62.0	62.0	100.0
	Total	200	100.0	100.0	

### Recycling Participation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Frequently	32	16.0	16.0	16.0
	Sometimes	73	36.5	36.5	52.5
	Occasionally	55	27.5	27.5	80.0
	Never	40	20.0	20.0	100.0
	Total	200	100.0	100.0	

## APPENDIX E: ONE WAY ANOVA HYPOTHESIS 1

### Between-Subjects Factors

		Value Label	N
Treatment Advertisement	1.00	Gain/ Why	49
	2.00	Gain/ How	48
	3.00	Loss/ Why	51
	4.00	Loss/ How	52

### Descriptive Statistics

Dependent Variable: Recycling Level Index

Treatment Advertisement	Mean	Std. Deviation	N
Gain/ Why	5.3129	1.11057	49
Gain/ How	5.5139	.86966	48
Loss/ Why	4.5817	1.21627	51
Loss/ How	5.2179	1.13161	52
Total	5.1500	1.13949	200

### Levene's Test of Equality of Error Variances<sup>a</sup>

Dependent Variable: Recycling Level Index

F	df1	df2	Sig.
1.784	3	196	.151

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.<sup>a</sup>

a. Design: Intercept + Group

### Tests of Between-Subjects Effects

Dependent Variable: Recycling Level Index

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	24.368 <sup>a</sup>	3	8.123	6.803	.000	.094
Intercept	5312.817	1	5312.817	4449.653	.000	.958
Group	24.368	3	8.123	6.803	.000	.094
Error	234.021	196	1.194			
Total	5562.889	200				
Corrected Total	258.389	199				

### Tests of Between-Subjects Effects

Dependent Variable: Recycling Level Index

Source	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	20.409	.975
Intercept	4449.653	1.000
Group	20.409	.975
Error		
Total		
Corrected Total		

a. R Squared = .094 (Adjusted R Squared = .080)

b. Computed using alpha = .05

### Estimated Marginal Means

#### Grand Mean

Dependent Variable: Recycling Level Index

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
5.157	.077	5.004	5.309

## APPENDIX F: ONE WAY ANOVA HYPOTHESIS 2

### Between-Subjects Factors

		Value Label	N
Treatment Advertisement	1.00	Gain/ Why	49
	2.00	Gain/ How	48
	3.00	Loss/ Why	51
	4.00	Loss/ How	52

### Descriptive Statistics

Dependent Variable: Attitude towards Ad index

Treatment Advertisement	Mean	Std. Deviation	N
Gain/ Why	5.5816	1.32424	49
Gain/ How	5.8021	1.25791	48
Loss/ Why	5.1667	1.48549	51
Loss/ How	5.1923	1.32899	52
Total	5.4275	1.36944	200

### Levene's Test of Equality of Error Variances<sup>a</sup>

Dependent Variable: Attitude towards Ad index

F	df1	df2	Sig.
1.831	3	196	.143

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.<sup>a</sup>

a. Design: Intercept + Group

### Tests of Between-Subjects Effects

Dependent Variable: Attitude towards Ad index

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14.245 <sup>a</sup>	3	4.748	2.593	.054	.038
Intercept	5903.396	1	5903.396	3223.441	.000	.943
Group	14.245	3	4.748	2.593	.054	.038
Error	358.954	196	1.831			
Total	6264.750	200				
Corrected Total	373.199	199				

a. R Squared = .038 (Adjusted R Squared = .023)

b. Computed using alpha = .05

## Estimated Marginal Means

### Grand Mean

Dependent Variable: Attitude towards Ad index

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
5.436	.096	5.247	5.624