Predictors of pro-environmental behavior: A goal based approach

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1. INTRODUCTION

With the increasing number of environmentally friendly products and services in the market, there is an overflow of information about how these products contribute to environmentally sustainable consumption. Even though there is plenty of research examining the persuasiveness of different types of message framing in advertisements (Grewal et. al, 1994; Rothman & Salovey, 1997) the effect of sustainability related messages in persuading consumers to choose pro-environmental products and services are yet to be subjected to a detailed study. A majority of sustainability based advertising tries to tap on to people's values and attitude towards environmental sustainability, and use the same to motivate people to consume pro-environmentally.

However, this strategy assumes that the major drivers of pro-environmental behavior are environmental values or attitudes and seem to overlook the personal benefits peoples are likely to receive by acting pro-environmentally. This paper examines the possibility of other motivating factors (goals) for pro-environmental behavior (such as material or affective gains), and explore the effect of different message frames on pro-environmental behavior when these different goals are activated.

The study adds to the sustainability-communication literature by bringing attention to other possible drivers of pro-environmental behavior. In addition the study also highlights the importance of sustainability-related messages to address these other needs or goals, in order to motivate consumers to purchase environmentally friendly products and services. The study suggests that merely emphasizing on the importance of the environmental problem need not be motivating enough for consumers to go pro-environmental.

The scope of the experimental paradigm involves different goal-frames discussed in the following sections, and aspects of message framing. Even though there are different aspects of message framing (such as depth of information, positivity, negativity etc) we primarily focus on the negativity of the information as focusing on all the aspects is beyond the scope of this study. The study sub-categorizes negativity as: 1) Negativity in general 2) negativity in describing consequences to oneself (Eg: not using solar energy would cost you in the form of high electricity bill) and 3) Negativity in describing consequences of one's actions to others (Eg: Leaving lights on for longer would cost the environment). The study examines the effect of messages with these three types of negativity on pro-environmental purchasing intentions under different goal frames. In terms of population, the scope of this paper includes consumers of a wide variety of hedonic and utilitarian products.

2. THEORETICAL BACKGROUND

The attitude Behavior Correlation

There have been numerous studies which identify, and test the determinants of greener consumption. Most of the early studies focused on how attitudes, values and beliefs related to the environment lead to environmentally friendly behaviors (See, Tanner & Wolfing, 2003;

Bamberg & Moser 2007; Corraliza & Berenguer 2000). However, there have been inconsistencies among studies that used attitude as a primary predictor for sustainable behaviors. This was primarily due to the fact that many studies used an attitude towards a general environmental issue such as climate change to predict a specific actions or behavior such as recycling(Carrus et. al, 2008). Since both the attitude and the behavior are at two different levels it would not provide any scientific proof of the effect of one on the other.

Norm Activation Model (NAM)

Schwartz(1977) developed the norm activation model to explain altruistic behavior among individuals. The model was then slowly adapted to the environmental behavior paradigm after realizing the similarities between the two contexts (Liere & Dunlap. 1978; Joireman et. al, 2001). The model uses personal norms to predict environmental behavior, and suggests that determining personal norms involve 1) Awareness of the consequences of the behavior and 2) assuming responsibility for the behavior. There has been debate as to whether NAM is a moderating model or a mediating model(Onwezen, 2013).

Value Belief Norm Theory (VBN Theory)

Stern (1999) provided a modified version of NAM by incorporating an individual's "belief on whether or not his actions can bring about a change in the environmental problem under consideration". The model have multiple stages where the initial stage which involves, attitudes and values regarding a more broader issue becomes more focused in later stages dealing with one's beliefs and norms about a particular behavior(Stern, 2000)

Considering these various models from the pro-environmental behavior point of view, both Norm Activation Model and Value Based Theory had very good explanatory power in contexts where there was little cost involved in engaging sustainable activities. However, as Lindenberg & Steg(2007) point out, inconsistencies arise when these models are used to predict behaviors that involves higher costs such as roofing your house with solar panels or buying an eco-friendly car. In addition, it is quite interesting to note that these models seem to overlook the personal gains associated with sustainable consumption as a motivational factor. In other words, these models do not seem to give much emphasis on fundamental economic theory that people could have self centered interest in choices(McGregor, 1960). That is, consumers need not make sustainable product choices just because of their knowledge, awareness or social pressure. Rather, the choices could well be motivated by their personal gains. The proposed study explores this relationship in detail by considering a number of factors explained below.

These makes the goal-based approach more crucial in predicting environmental behavior as the model addresses most of the concerned mentioned above.

Goal Based Model for predicting environmental behavior

The goal goal framing theory, proposed by Lindenberg(2001a, 2001b & 2006) suggests that goals would be a better predictor of pro-environmental behavior. In his works, he also finds evidence which suggests that our goals can guide us to parts of information which are in agreement with the goal itself. This is in line with the early psychological findings that people are inherently cognitive misers, and they tend to focus on, retain and retrieve information that supports their goals (Biehal & Chakrabarti, 1982). Lindenberg & Seg(2007) tries to categorize

the goals which drive sustainable behavior into 3 major categories, or goal frames. The below section examines each of these goal frames in light of the information processing theory.

Hedonic Goal Frame:

He hedonic goal frame focuses on improving one's emotional status or well-being, and hence people actively look for information about how a particular action would influence their affective state(Lindenberg& Steg 2007; De Young, 2000). There are not many studies that look into the influence of emotional aspects on sustainable behavior, except a few (De Young, 2000; Smith et. al, 1994), most of which are done in the context of recycling(Carrus et. al, 2008). Examining hedonic goal frame from the information processing perspective, we could see that people with a hedonic goal frame would be more attracted to emotional well-being and hence would be averse to negative information as such. Hence, hypothesis1:

H1: Negative framing would negatively affect pro-environmental purchasing intentions under hedonic goal frame

Gain-based Goal Frame:

The gain based goal frame seeks to protect or add to one's personal resources. In other words, it tries to reduce the cost and increase the benefits. The gain-based goal frame could be explained as more materialistic in nature, as it focuses on one's gains and losses which are tangible if not measurable. Ultimately, gain-based goal frame is a motivational version of the Theory of Planned Behavior(Ajzen, 1985)which suggests that inherently individual motivations come from self-interest. Most of the studies which examined environmentally significant behavior form the

gain-loss perspective are done in the transportation context, where costs and benefits are easily distinguishable (Steg, 2005; McMillan, 2005;; Carrus,et. al, 2008; Bamberg et. al, 2007). From an information model perspective, individuals under the gain based goal frame would focus more on costs and benefit information. However, borrowing from the concept of loss aversion(Tversky & Kahneman, 1991), which suggests that people are more sensitive to losses than gains, the paper argues that negative information, which points out the losses that occur by not performing a pro-environmental act would have a positive effect on pro-environmental behavior under gain based frame. Hence, hypothesis 2

H2: Negative framing of the consequences on oneself would have a positive effect on pro-environmental behavior under gain-based goal frame.

Normative Goal framing:

Normative goal framing is has several similarities with social conformity(Turner, 1991), which argues that people adhere to social norms, because they want to have this sense of belongingness and the understanding of the world that comes from this belongingness. Hence, in normative goal frame, the goal is to adopt the socially appropriate behavior and not on the cost or benefit it brings to the individual(Lindenberg & Steg 2007). The distinguishing factor in normative goal framing compared to other two goal frames would be that in this case people involve in active search of what is socially acceptable. Hence, people in normative goal frame are more likely to have a better understanding of the environmental problem than others(Dawes, 1990). Normative goal frame is an extension of works of researchers such as(Poortinga et. al, 2004), which use a value based framework to explain environmentally friendly behavior. Granzin & Olsen (1991)

found that actions such as recycling are a result of normative concerns without much thought about whether it provides any benefit for the individuals. Hence people in the normative framework would avoid socially unacceptable or inappropriate behaviors. In other words, they would actively avoid actions that are harmful to others or the society, and hence hurt their social status. This indicates that individuals, under normative goal frame would be more sensitive to negative information about the consequences of their actions(or-non actions). Hence, hypothesis 3:

H3: Negative framing of the consequences on others can have a positive impact on pro-environmental purchasing intentions.

3. EXPERIMENTAL DESIGN

The study involves three experiments to test each of the hypotheses. Even though there are different types of message framing (such as positivity, depth of information etc.), only negativity aspect is being addressed in this paper, primarily due to three reasons. First, focusing on all aspects would require multiple combinations of different conditions and hence would need more than 5 experiments, which is beyond the scope of this paper. Second, by focusing only on the negativity aspect there is better control over the message frames employed in the experiments (as we can keep all other aspects constant. Third, it allows us to test the impact of negativity in different goal frames and product settings.

Hotel context was chosen because it involves both hedonic (vacation, comfort, beach view etc.) and utilitarian (distance from airport, from city-center, cost etc.) characteristics to it. Hence it does not make it a purely hedonic or purely utilitarian context.

Study 1 would test the effect of negativity in message framing on sustainable purchasing intentions under different frames. Study 2 is similar to study 1 except that it employs negative framing of consequences of actions on oneself. Study 3 would test the effect of negative framing of the consequences of one's action on other's on pro-environmental purchasing intentions under normative goal frames. The study would make use of student sample. There are three reasons for choosing a student sample over the second potential option of online survey. Firstly the study involves three different experiments, and it would be difficult to incorporate three of them into a single survey. Secondly, considering the low response rate of online surveys, it is likely that the different groups in the experimental condition would not have enough power to explain the effects. Thirdly, student based experiments lets us to do the experiment in three different classes, (each study in 1 class), something that would have cost twice more if done online. It should also be noted student population is a significant segment of consumers, constantly consuming products and services as much as an average consumer.

STUDY 1:

He study tests the effect of negativity in message framing on sustainable purchasing intentions under different goal frames. It is expected that negative messages would be have an adverse effect on the pro-environmental purchasing intentions of consumers in the hedonic goal frame.

Procedure:

1. Priming

Initially, participants would be randomly assigned to three groups, and primed to one of the three goal frames (hedonic, gain- based, and normative). Usually implicit goal priming is done by

making participants do word – tasks where words related to goals are being used. In this study, we follow Rasinski et. al, (2005) and ask participants to go through a set of 4 words. Each word would follow 3 word options and participants are to pick the word with meaning that closely matches the word. These words vary for different goal frames. Please see appendix 1 for the word list.

2. Main task

Participants would be asked to imagine they are going on a vacation trip with family to the west-cost, and have 5 hotel options to choose from. They would be asked to review the details and choose the one that they would like to book.

Out of the 5 hotels, one would be a green hotel, which would be given as the third (middle option) to avoid any extra attention it would gather by placing in first or last. There will be 2 different sets of 5 hotels. The information on the green hotel would vary across the two sets but the information on the other four hotels would remain the same across all the conditions. The first set(control condition) will have neutral message regarding the green hotel, while the second will have negative message framing(experimental condition). Please see appendix 2 for a comparison of different sets across studies and appendix 3 for the list of messages used for negativity manipulation

The hotels would have comparable features (Same price range, comparable facilities etc. except for the pro-environmental features of the green hotels. Choosing the green hotel would indicate pro-environmental behavioral intention.

STUDY 2:

Study 2 will replicate study 1 except that the green hotel in the experimental condition would have negative framing of the consequences of the choice on oneself (his/her cost/ benefit, personal gains such as status). The same context of hotels is used to maintain consistency across studies.

It is expected that people in the gain-based goal frame would be more sensitive to the negative messages regarding the consequences of an action to oneself and hence are more likely to exhibit pro-environmental purchasing intentions. Please see appendix 2 for manipulation of the message.

STUDY 3:

Study 2 will replicate study 1 except that the green hotel in the experimental condition would have negative framing of the consequences of the choice on others (his/her cost/ benefit, personal gains such as status). The same context of hotels is used to maintain consistency across studies.

It is expected that people in the normative goal frame would be more sensitive to the negative messages regarding the consequences of an action to others and hence are more likely to exhibit pro-environmental purchasing intentions. Please see appendix 2 for manipulation of the message.

4. ANALYSIS

The results would be the comparison of purchasing intentions in each category in the three studies. This would be done using ANOVA to find out whether or not these differences are significant.

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APPENDIX 1: Priming words.

These words would be pretested for their effectiveness in priming the respective goals.
A. Hedonic goal frame
1. Pleasure
2. Satisfaction
3. Happiness
4. Comfort

B. Gain-Based Goal frame
1. Cost
2. Bonus
3. Efficient
4. Savings

C. Normative Goal frame
1. Responsibility
2. Commitment
3. Appropriateness
4. Citizen

APPENDIX 2: Comparison of different sets of hotels involved in the experiment.

SET	NEGATIVITY IN GENERAL	NEGATIVITY ABOUT ONESELF	NEGATIVITY ABOUT OTHERS
Control	Neutral Messages: 100% solar electrified hotel; We promote towel reuse 50% less lighbulbs–lamps on request	NA	NA
Set 2: Experiment 1	Negative messages: A combination of messages used in Expt 2 & 3.	NA	NA

Set 2: Experiment 2	NA	Do you pay huge amounts for electricity each time you stay at a hotel? It's time you switch to solar.	NA
Set 2: Experiment 3	NA	NA	Don't you feel it's time we stop borrowing energy from our kids? Join us in reducing our ecological footprint

APPENDIX 3: List of negative comments.

These comments are modified versions of different kinds of comments used in sustainability advertisements. They will have to be pretested to ensure that they contain enough negativity at the right context(oneself, or others).

1. Feel close to nature- while saving energy *(Neutral)*
2. Join us to save energy*(Neutral)*
3. Help us protect the environment*(Neutral)*
4. Are you unnecessarily paying a huge amount for your electricity every time you stay in a hotel? It's time you switch! (*affecting ones financial gains/losses*)
5. Do you want to be the one who spread darkness ? Become solar, spread light. (*consequence to one's social status*)
6. Did you know every extra lamp you turn on would keep up an extra home in dark? Join us to save energy. (*one's behavior affecting other's*)
7. Don't you feel it's time we stop borrowing energy from our kids ? Join us in reducing our ecological footprint(*one's behavior affecting other's*)