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What Causes Pro-Environmental Action: Case of Business Graduates, Pakistan

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Abstract: Several frameworks and models based on various variables and their simultaneous associations have been presented to understand the behavior. There are internal as well as external variables which affect the reaction in a specific context and many perspectives are used to study the pro-environmental behavior PEB. Study intends to investigate the determinants of PEB among internal factors by wearing the glasses of economic perspective. Based on survey conducted on the sample of five hundred business graduates, we found only hedonic motives among normative, hedonic, gain and constraints, being significantly explaining the PEB.

Key words: Pro-environmental behavior · Normative motives · Gain motives · Hedonic motives

INTRODUCTION

Business research focuses on the economic aspects of the decision making. However the most important and less focused area of research in business is social responsibility and environmental safety. Research surrounds this area from both sides: business and individuals (customers). Most of the work focuses former part: business. Freeman (1984) is famous for establishing a corporate social responsibility perspective in management. Author justified his view by describing the long term benefits that business will have in result of their concern for society and community. Later dimension (individual perspective) is less visible in the business research. Most of the work on customer's behavior towards environment is done by social psychologists. A few studies on thisnotion are published in business journals. Discussing pro-environmental behavior of customers from business perspective can help businesses to increase their profitability especially for service concerns.

Pro-environmental behavior (PEB) refers to act in a way that day to day activities may not harm the nature [2]. For instance, PEB comprise minimizing supplies consumption and energy use, using non-hazardous material and eliminating waste generation. Homburg and Stolberg [3] classified PEB into four types including environmental activism (e.g., active involvement in environmental organizations), non-activist behavior in the public sphere (e.g., petitioning on environmental issues), private sphere environmentalism (e.g., saving energy and purchasing recycled goods) and behavior in organizations [4]. Similarly, Rice [5] identified three types of PEB consisting of the public sphere, the private sphere and activist behavior.

The present study focuses on the individual's behavior regarding the environment (private sphere). The private sphere of PEB refers to behavior that is voluntary [5]. For example, in a hotel setting, the private sphere of PEB can include switching off lights whenever possible or reducing the frequency of baths [6]. Private sphere perspective is often further classified into two categories: individuals as households and individuals as customers. PEB at hotel and restaurant setting has been targeted extensively by scholars in the area of hospitality management however PEB at household settings is discussed by the social psychologists. We intend to gauge the determinants of PEB at household settings for business graduates. Results of this new dimension will help to establish beliefs how business graduates acts toward environment at household setting. Motives of this study are twofold. First it will serve in the research steam of environmentalism and second, it will help to understand the crises in country.

Literature Review: Major research regarding the social behavior (specifically PEB) targets its association with the internal variables. Fransson and Gärling [7] properly study

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this stream of work and claimed most of these studies chosen the attitude to explain the actual behavior and behavioral intentions [8-12]. Meanwhile, certain studies also target the value orientations which affect the PEB, whereas value orientations determine the actual behavior. Value orientations are divided into specific categories. Stern, Dietz and Kalof [13] composed combination of egoistic, social-altruistic and biocentric value orientations that determine environmental behavior. Although findings shown that all constructs determine the behavioral intentions, but egoism only explain behavior reliably. In a similar study, Thompson and Barton [14] find that ecocentric and anthropocentric orientations in paralleladd to prediction of usage pattern, association with environmental NGO and indifference to the environment. Schultz and Zelezny [15] investigated further that whetherthis relationship of value orientations and PEB continues in countries and cultures other than the USA. Using survey data from Mexico, Nicaragua, Peru, Spain and the USA, they find apositive relationship between biospheric values and PEB and a negative relationship between egoistic valuesand PEB.

Relevant research by Stern, Dietz and Guagnano [16] design a broadsocio-psychological model for environmentalism. In this model series of sequential associations are proposed. At first, social and institutional structure exercises premature and strong influence on the shape of individual psychological features. From social and institutional structure, value sare derived, which then shape more general beliefs and world views, such as environmental concerns and altruistic norms. More precise beliefs and attitudes grow from these general beliefs and world views. Specific beliefs and attitudes lead to formation of behavioralintentions and, in the end, behavior.

Guagnano *et al*., [17] also take on theory from other disciplines to develop an additional comprehensive explanation of PEB. The authors test the premise that connections between internal and external variables affect the occurrence of PEB. Their work is beached in earlier research that claims a whole framework connecting environmentally relevant action to causally relate external and internal factors [18]. Guagnano, Stern and Dietz's [17] model put forward that attitudinal factors and external context proceed together to affect behavior. Exclusively, outside situation affect the force of attitude-behavior relationships, whereby attitudes are less likely to induce behavior in the presence of strong negative external conditions. In contrast, strong positive external conditions increase the likelihood of attitudes giving rise to particular behaviors.

From an economic perspective, PEB exemplifies an individual's voluntary effort to provide an environmental public good. Public goods are goods that exhibit ''non-rivalry'' and ''non-excludability.'' Non-rivalry means that one person's usage of the good doesn't decrease the quantity present for others. Non-excludability shows that once the good is provided, other people cannot be excluded from enjoying the benefits, even if they add nothing to its provision. Many of the benefits from PEB, including pollution reductions from support of green electricity, satisfy these characteristics of a public good. Our study is based on this (economic) perspective of PEB.

Theoretical Framework and Hypotheses Development: In previous three decades, research focused to explore the determinants of PEB. Extant literature has shown various determinants. These factors are of several kinds: demographical, internal and external. Factors such as age, gender, culture and education are the demographical aspects that distinguish the PEB between different respondents [19, 20]. Internal factors which help to explain PEB are role and responsibilities, motives, knowledge regarding the PEB, values, attitude and locus of control [13, 21, 22]. Factors like incentives (either social, economical, or institutional) and constraints are external to determine the PEB [2, 23]. Although many factors are available now, but high determination power exist with the internal factors [19]. So this study too, chose the internal factors to study the PEB.

Motives are explained as forces which make an individual's response to a present context [24]. Research elaborated that people have several motives for a given setting, which may (or may not) be linked with each other [25]. The choice about what to do in a specific situationis based on "the definition of the situation" [4]. In the extant literature on environmental behavior, majority of the work centers on one exclusive type of motive only [26]. For instance, Thogersen [27] claimed that normative issues, that is, what is right or wrong, explain PEB. Andreoni [28] and De Young [29] recommended that personal satisfaction perform an inclusive role in PEB. Stern [4] indicated that environmental behavior may follow some non-environmental motives, such as a wish to save money or a desire for individual console.

One significant multiple motive structure for PEB is the Goal-Framing Theory [26]. The framework point out three distinctive motives relevant to PEB: Normative, hedonic and gain. According to authors [26] a normative motive refers to the motivation "to act appropriately".

Derived from this motive, individuals are responsive to "oughts" according to self or others and be inclined to feel morally liable to display PEB, such as behaving the right way, contributing to a better environment or showing exemplary behavior. Normative motives have been used extensively to explain a variety of PEB such as disposal of garden waste [30], energy conservation [31], recycling [32, 33], travel transportation choice [34] and pro-environmental purchase behavior [35].

Hypothesis 1: Normative motives affect PEB significantly.

A hedonic motive is related with the inspiration to "feel better right now" such as seeing direct pleasure, seeking personal comfort or excitement [26]. A hedonic motive focuses more on improvement of personal enjoyment and comfort; it can inhibit PEB when people perceive such behavior as not pleasurable. For example, people with a focal hedonic motive may be reluctant to reuse the bath towel if such act is believed to reduce the level of personal comfort. On the other hand, Hartmann and Apaolaza-Ibane [36] described hedonic motives as intrinsic emotional benefits. Hedonic motives may induce PEB when people derive enhanced pleasure from such behavior.

Hypothesis 2: Hedonic motives affect PEB significantly.

A gain motive is the goal to protect and improve one's resources [26]. A gain motive begins PEB that can attain personal improvement of their own resources and inhibit others that will reduce personal resources [37]. People tend to show environmental friendly behavior until and unless they perceive appropriate benefits such as monetary savings [38, 39]. Studies showed that economic incentives can urge people to act pro-environmentally [40]. For example, in countries with high gasoline tax, people tend to drive significantly less than in countries with very low taxes [40].

Hypothesis 3: Gain motives affect PEB significantly.

Constraints to motives are hurdles between motives and PEB [23]. Constraints to motives in a broader psychological aspect comprising time and effort required to undertake pro-environmental activities without the consideration of individuals' motives or intention [23]. People exhibit more PEB when the situation demands the least amount of effort [41].

Hypothesis 4: Constraints affect PEB significantly.

Research Methods: Sample and Data collection: A structured questionnaire containing 40 items was used to collect the data from 500 business graduates from different institutions in "Multan" district. Data was collected by researchers personally. All the questions were first elaborated to the students and then they were asked to response as per the 7-point likert scale from never to always. So, all the questionnaires were complete and in useable form.

Variables of Study: PEB was measured by 20 items adapted from previous studies [42,43,44]. The items represented four commonly recognized categories of PEB: Reduce, recycle, reuse and consumption of environmentally friendly products. The scale includes items such as "I switch off the light whenever leaving the room" or "I look for ways to reuse things".

The present study adapted 21 items from previous studies to measure the determinants of PEB [36, 45]. The measurement included items that represent normative motives, hedonic motives, gain motives and constraints to motives. The scale included items such as "I feel good for not harming the environment" or "it helps to lower my utility/hotel bills".

Reliability and validity Analysis: Before using the questionnaire data for regression analysis, items are processed under the reliability and validity analysis. Reliability of the constructs is measured through Cronbach's alpha, a widely used coefficient of internal consistency, proposed by Cronbach [46]. Theoretical value of alpha lies between 0 and 1 and higher values are preferable. Validity of items is ensured by factor analysis; these computed factors are called principal components. Items were entered for this analysis using SPSS and at first step two key measures were calculated: Kaiser-Myer-Olkin (KMO) and Bartlett statistics. KMO measure of sampling adequacy is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. Large values for the measure indicate that a factor analysis of the variables is a good idea. Bartlett's test of sphericity tests whether the correlation matrix is an identity matrix, which would indicate that the factor model is inappropriate. So if testing doesn't provide sufficient evidence for null hypothesis then it is inferred that correlation matrix is not identity matrix.

RESULTS

Results of a forementioned analyses for dependent and independent variables are presented in Table 1 and 2 respectively. Results of KMO (0.772) and Bartlett test are satisfactory. From 20 measured items, 18 were found useful for regression analysis and two were ignored due to low factor loadings. Four items for PEB were extracted from factor analysis (Recycle, Green Consumption, Reduce and Reuse), as found in previous literature. Values of Cronbach's alpha for these constructs are appropriate (greater than 0.50). For dependent variable (determinants of PEB) situation is different. Initial diagnostic tests (KMO and Bartlett) were suitable however factor analysis of 20 items resulted in three components (Gain Motives, Hedonic Motives and Constraints) and returned 12 useful items. Items measuring normative motives were not didn't get much factor loadings, so deleted.

Regression Results: To find the relationship between the PEB and its determinants, multiple regression analysis is conducted. Four linear regression equations are estimated, each construct of PEB is regressed over all three constructs for determinants of PEB. Empirical results, for multiple regression, are given in Table 3. Overall, model for "reduce" behavior has highest determination power (R-squared = 17.8%) and two regressors (gain motives and hedonic motives) have significant relationship with the "reduce" behavior. Coefficient of hedonic motives (0.430) is significant at 5% and gain motives has negative coefficient (-0.196) significant at 10%. Constraint doesn't seem to have relationship with the constructs of PEB, coefficients in all the models are without sufficient evidence to generalize. However for the sample respondents the relationship between constraints and PEB constructs is negative as shown by the minus sign with the coefficients. Gain motives also show unclear results for the PEB, as relationship for with three constructs (Recycle, Green Consumption and Reduce) is significant and p-value doesn't support any generalize-able relation with Reuse. Nature of relation is also confusing and different from past studies. Only determinant which worked best is "Hedonic Motives", it has significant positive relationship with all four PEB constructs. Standard errors are also acceptable and showing efficient estimation.

Table 1: Factor Analysis for PEB

Factors	*Items*	*Recycle*	*Green Consumption*	*Reduce*	*Reuse*
α=0.543	I sort trash based on whether it can be recycled (e.g., paper) or not (e.g., plastic).	0.520			
	I recycle recyclable materials like newspapers, cans or bottles.	0.728			
	I control the water use when taking a shower.	0.712			
α=0.593	I purchase unprocessed food.		0.615		
	I purchase refillable products.		0.825		
	I purchase recyclable products.		0.644		
α=0.710	In winter, I keep wearing a sweater instead of keeping heat on.			0.545	
	I try to save water while adjusting its temperature.			0.667	
	I turn off the tap when brushing teeth.			0.560	
	I reduce the usage of paper (e.g., writing paper, toilet paper, paper towels).			0.582	
	I have a short shower even when larger one is desired.			0.520	
	I wait until I have a full load before doing my laundry.			0.740	
	I switch off the heating/air-conditioning in an unoccupied room.			0.716	
	I switch off the light whenever leaving the room.			0.623	
	In winter, the heating in my room is shut off late at night.			0.700	
α=0.837	I have the bathroom towels changed daily.				0.690
	I look for ways to reuse things.				0.643
	I reuse bed sheets.				0.743
	In nearby areas (around 15 miles; i.e. 24 km), I reduce car use but instead walk, ride bikes, or take public transportation vehicles like buses.				
	I close blinds before leaving the room.				

Total Variance Explained is 52.973% and KMO is 0.772. Items in italicsare deleted due to lower loading. Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 7 iterations.

Table 2: Factor Analysis for determinants of PEB

Factors	*Items*	*Gain Motives*	*Constraints*	*Hedonic Motives*
α=0.694	I need to consume based on how much I am prepared to pay for it.	0.752		
	My health and the health of my family, may improve.	0.704		
	It may benefit other people in society.	0.701		
	It helps to lower my utility bills.	0.535		
α=0.781	It is expensive.		0.787	
	It is time-consuming.		0.742	
	Needed effort makes the engagement of those behaviours inconvenient.		0.656	
α=0.541	Too much effort is needed.			0.707
	I have too many other things to do.			0.676
	It takes more effort than it is worth.			0.608
	My own comfort is more important to me.			0.533
	Because of daily hassles, I often forget such things.			0.532
	It is personally satisfying.			
	It may improve the health of nature.			
	Most people who are important to me think I should do it.			
	I feel good for not harming the environment.			
	I can derive pleasure and satisfaction.			
	It is self-fulfilling.			
	I personally feel morally obliged to engage in pro-environmental practices.			
	Most people who are important to me (e.g., family and friends) support my environmental behaviour.			

Items in italics are deleted due to lower factor loadings.Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization.Rotation converged in 4 iterations.

Table 3: Regression Results

Variables	*Recycle*	*Green Consumption*	*Reduce*	*Reuse*
Constraints	-0.004	-0.057	0.019	-0.140*
	(0.041)	(0.061)	(0.053)	(0.047)
Gain Motives	0.196**	-0.207*	-0.196*	-0.016
	(0.040)	(0.060)	(0.052)	(0.046)
Hedonic Motives	0.068**	0.127**	0.430*	0.116*
	(0.033)	(0.049)	(0.042)	(0.038)
R-squared	0.063*	0.032*	0.178*	0.035*
Adj R-square	0.057	0.026	0.173	0.029
Std Error	0.600	0.889	0.768	0.682

* Significant at 1%, ** at 5% and *** at 10%

DISCUSSION AND CONCLUSION

Current study tried to find the determinants of PEB. Among three identified determinants only "Hedonic Motives" are the best determinants found. Based on extant literature, constructed hypotheses got mixed results. We were unable to test the first hypothesis regarding normative motives for factor analysis didn't provide evidence of measuring these motives. Reason of such situation could be the behavior of people, as in Pakistan people don't have normative grounds to actenvironmental friendly. However second hypothesis (hedonic motives) is found to be true based on statistical evidence as "Hedonic Motives" significantly affect all the designed dimensions of the PEB. Testing for third hypothesisimply that gain motives significantly affect three aspects of PEB, but not for "Reuse" behavior. Constraints however don't affect the three types of the PEB but "Reuse".

Research in social psychology and interdisciplinary research regarding environment aimed at providing insights into social behavior of customers for service industry and its economic implications for the business. However as mentioned early this stream is less focused and ill-addressed.

As sustainable usage benefits consumers, retailers and the environmentat the same time, the importance of helping consumers get involved in PEBs is evident (e.g. Williams*et al*., 2010). To identify ways to motivate consumers' PEBs, this study explored: how different kinds of consumers with respect to a PEB (green product purchasers and green product non-purchasers) differ in their psychological aspects regarding another PEB (recycling) and the relationships among the psychological factors in the context of recycling. The psychological factors this study investigated were cognitive attitude, affective attitude, social norm, personal norm and intention to recycle.

Findings from this study offer important theoretical contributions. First, this study adds external validity to role theory by demonstrating its applicability in the context of consumers' PEB (recycling) [48, 49]. It has been shown that the two groups of consumers, each with different participations in pro-environmental consumption, manifest different psychological characteristics in terms of another PEB-recycling. More specifically, asanticipated, green product purchasers have more favorable cognitive and affective attitudes, stronger social pressure and personal obligation and greater intention to perform recycling than non-purchasers. Such findings are in line with the notion of role theory, which posits that different groups of people driven by different roles display different behaviors [49].

Second, relating to the findings discussed above, this study contributes to the literature on consumers' PEBs by comparing distinct groups ofconsumers in terms of their levels of commitment to pro-environmental practices. Green product purchasers and non-purchasers hold different levels of attitudes, perceived norms and behavioral intention toward recycling. The results imply that consumers with prior experience with or commitment to a pro-environmental practice can easily embrace other pro-environmental disciplines in comparison to consumers without such experiences and/or commitment. This finding supports previous research claiming that the degree to which consumers are committed to environmental behaviors differs depending on their socio-psychological characteristics [16, 50], meaning that sustainable consumers are more likely to pursue pro-environmental lifestyles and other types of PEBs [50].

Third, consumer intention to recycle depends on cognitive attitude, social norm and personal norm pertaining to recycling activities. This finding yields support for Aertsens *et al*. [51] and Osterhus [52], who showed that combining social and personal normative influences would advance existing knowledge about determinants of consumers' PEB. In addition, the results enrich the theory of planned behavior research by confirming the roles that attitudes and normative beliefs play in developing behavioral intention in the area of recycling [53, 54]. From a practical standpoint, the results of this study provide retailers with useful information as to how to effectively devote resources to the development of sustainability. Marketing and product development strategies that emphasize the attributes of cognitive and affective attitudes and social and personal norms concerning sustainable consumption may work to prompt consumers who have little or no interest in PEBs to exhibit such behaviors. Messages in advertising and product packaging can communicate functional benefits, emotional needs, societal value and personal obligations for current and the future generations, as well as for one's family and community. Such marketing campaigns and product information might be effective in boosting consumer awareness and environmental concern, which will in turn encourage consumers with less interest in PEBs to use pro-environmental products.

Additionally, this study has shown that whether or not consumers shop for greenproducts is associated with their beliefs, attitudes and behavioral intentions concerning other PEBs such as recycling. This finding implies that multiple approaches to sustainable consumption can be efficiently synergetic as they tend to be closely related. In this regard, today's CSR (Corporate SocialResponsibility) or cause-related marketing initiatives that underlie the value of ethical/pro-environmental consumption are deemed to pay off by influencing consumers' choice for green products/service and thus, brand equity.

The above mentioned references for businesses can be applied to developing and designing communication strategies and educational programs for public policymakers and educators. That is, appealing to consumers' psychological needs and motives would encourage consumers to engage in private-sphere PEBs. For instance, public campaigns and educational messages might deliver benefits for acting environmentally, threats for not acting environmentally, personal norm, as well as social pressure in order to make consumers attentive to environmental issues and

committed to more PEBs. Finally, green product purchasers hold more favorable beliefs, attitudes and behavioral intention toward PEBs in comparison to non-purchasers. Policymakers/educators and marketers need to identify their target audience and customize their persuasion strategies and educational/marketing programs to the needs and motives unique to each group.

Study has some further research implications too. At one side study intriguer the investigations for determinants of the PEB among hospitality industries and on the other hand further research can target the comparison of the household settings versus hospitality (restaurant and hotel). Along with the environmental context, respondents could be increased for a large and heterogeneous sample. Last but not least is the deep investigation of determinants: other than behavioral models could be included to purify the findings on the issue.

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