

Customer Intention Towards Reverse Logistics of Polyethylene Terephthalate (PET) Bottles in the Beverage Industry of Pakistan

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Abstract

This research aims to examine the Polyethylene terephthalate (PET) bottle exchange attitude and intention with the help of value belief norm theory in Karachi Pakistan. The main focus of the study is to report the empirical relationship among the antecedents of customer attitude and intention. This study follows the cross-sectional research design to conduct a survey based on a self-administered questionnaire. Using cluster sampling followed by a convenient sampling technique, responses were collected from 400 respondents of district east in Karachi. The findings reported that the value belief norm theory is successful in explaining the customer attitude regarding PET bottle exchange. This theory proves that PET bottles exchange attitudes in individuals developed only when certain values, beliefs, and personal norms are present. Further, the PET bottle exchange attitude explained significant variance for predicting customer PET bottle exchange intention. Moreover, the relationship between PET bottle exchange attitude and intention is moderated by consumer knowledge and the neutralization technique. The study demonstrates the need for policymakers and supply chain managers to actively advocate environmental messages in their promotional campaigns to offset the effect of customer neutralization and enhance customer knowledge regarding environmentally friendly behavior.

Keywords: Value Belief Norm, PET bottle exchange, Attitude, Intention, Neutralization, Consumer Knowledge, Ecological Friendly

1. Introduction

The balance between economic performance and environmental management is the biggest challenge for organizations worldwide. Maximization of profit and expansion in business is the dream of the companies that leads to economic performance. However, economic growth has a substantial burden on the natural environment. Economic and business activities substantially degrade the environment through extensive use of energy, resources, and product consumption (Cowan et al., 2010; Orhan et al., 2021). Trade and commerce contribute significantly to greenhouse gas emissions through products and services offered. An extensive waste product in the environment causes severe damage to humans and wildlife. Moreover, this practice leads to excessive use and wastage of natural resources. To address this issue, James R stock first used the term “reverse logistics” in a white paper publication named “Reverse Logistics” published in the Council of Logistics Management in 1992. Reverse

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Logistics Association (2020) defines reverse logistics as the “collection of products, services, and operations after the sale point, the ultimate goal of optimizing or making the aftermarket activity more efficient, thereby saving money and protecting environmental resources”. The role of customers is essential in the reverse logistics of products as products lies at the disposal of customers’ intention.

To achieve sustainable dimensions, companies across the world have redesigned their supply chains more toward reverse logistics. In this regard, multinational companies like Hewlett & Pecker, Kodak, Xerox, and General Motors have reshaped their recovery processes by incorporating reverse logistics. Similarly, the US-based carpet industry has recently changed its processes towards reverse logistics to minimize the significant loss of valuable material and volume (Sas et al., 2015). The concept of reverse logistics, due to its global attention has increased the reuse, remanufacturing, and recycling of maximum materials. The United States organizations and their delegates appreciate Pakistan’s sustainable initiatives (Asees Awan & Ali, 2019). Similar to developed nations, some of the major companies like Tetra Pak and Engro have already incorporated reverse logistics in their operations to attain sustainability dimensions. In Pakistan, the majority of reverse logistics activities are the recycling and reuse of raw materials and end-of-life products (Asees Awan & Ali, 2019). The introduction of reverse logistics activities only in the auto industry of Pakistan can yield a 30 % increase in profits, a 22% reduction in cost, and a 19 % in environmental issues (Agyemang et al., 2019). The majority of production activities are conducted in Karachi, Pakistan and if Pakistan successfully incorporates these reverse logistics activities in other industries like the textile, pharmaceutical, and beverage industries, it will provide substantial economic, social, and environmental benefits.

Literature indicated that reverse logistics was considered cost centered by companies globally as compared to profit-centered (Bouzon et al., 2018; Govindan & Gholizadeh, 2021; Grosse-Ruyken & Wagner, 2010). Despite this, companies today have altered their company strategies and policies towards a more strategic focus on the reverse logistics perspective to reduce cost and enhance sustainability (Govindan & Gholizadeh, 2021; Janse et al., 2010). Reverse logistics gained ever-increasing consideration from practitioners and academics due to its immense critical role in environmental sustainability (Abdulrahman et al., 2014; Beiler et al., 2020). Through reverse logistics, firms try to get consumer satisfaction and competitive advantage. So far greater part of recent research spotlighted only from the perspective of the supplier or the operational end, aiming to control supply chain activities more effectively (Ritchie et al., 2000).

To gratify end-user demands for exchange, demand management is considered an important key strategy by companies to upgrade reverse logistics. For building long-term relationships with customers, researchers point out new ways of organizing the supply chain. The supply chain aims to construct confidence, share awareness regarding consumer desires, and decrease supplier support to realize management resources (Berry et al., 1994). Regardless of its significance, a lack of concentration has been paid

to encourage the consumer to adopt reverse exchange practices. The purpose of this study is to scrutinize the features that influence customers' behavioral intention to involve in reverse exchange practices with the help of VBN theory.

Therefore, this research has examined the core trends of the value Believe Norm (VBN) theory to enlighten buyer decisions while engaging in product exchange. Moreover, the moderating role of consumer knowledge and neutralization between attitude and intention was also investigated. The rest of the paper is arranged as follows: Section two of the paper discusses the relevant literature on reverse logistics, value belief norm theory, neutralization techniques, and consumer knowledge. Section three discussed the research methodology in brief. Section four discusses the data analysis and interpretation. In the last section, the discussion conclusion, and policy implications along with limitations and future recommendations have been discussed.

2. Theoretical Underpinning and Hypotheses Development

2.1 Value-Belief Norm Theory

Individual's pro-environmental behavior has been explained by the Value Belief Norm theory which was developed by Stern and colleagues (Stern et al., 1999). The VBN theory is an extension of Ajzen's theory of planned behavior and the theory of reasoned action. This theory explains the individual's perceptions of ethical obligations and explains the logical process of individual traits and belief formation (i.e personal values) and the belief regarding the relationship between humans and the environment. Value theory, Norm activation model, and new environmental paradigm (NEP) originate from the VBN theory. The detailed hierarchal analysis of this theory reveals that values are classified as biospheric, social or altruistic, and egocentric or selfish (Gkargkavouzi et al., 2019). These clusters of values affect the formation of the belief that individuals possessed regarding the environment and their relationship with the environment.

Perceived Green Value, in ecological psychology, frequently explains the customer's ecological requirements sustainable expectations, and green perceptions (Chen & Chang, 2012). PGV is defined by observing the individual's purchase and utilization behavior. The researcher has discussed the PGV construct with four proposed values that influence the product exchange behavior of individuals: economic, ecological, symbolic, and experiential. The above-mentioned categorization is based on the literature and used to assess the perceived cost in addition to the benefits of consumer's product exchange behavior (Orth & De Marchi, 2007). Individuals with ecological principles use to employ product exchange for the sake of saving potential energy, improving resources efficiency, and protecting the environment while people with economic values engage in such decisions based on individual financial growth and reserves (Ghazali et al., 2019; Koller et al., 2011). On the other hand individuals with symbolic values engage in product exchange whether this activity will demonstrate their environmentally concerned self-image to other individuals (Creusen & Schoormans, 2005). Recently, Punzo et al., (2019) by comparing the pro-environmental behavior of four developed countries also found that ecological, economic, and functional values are strong predictors of pro-environmental behavior. Lastly, persons owing experiential

values made decisions about product exchange for the sake of positive feelings like cheerfulness, satisfaction and gratification and it is closely linked with customer motivation (Orth & De Marchi, 2007). Similarly, Chang et al.,(2020) found significant association between food consumption and experiential values. Therefore, we hypothesize that;

H1 Individuals having a higher perceived green value (PGV) have a higher awareness of environmental consequences (AC).

Previous literature also revealed that these values are successful to predict individuals' pro-environmental behavior (Sánchez et al., 2018; Wang et al., 2021). Similarly, deep analysis of these general beliefs leads individuals towards awareness of the consequences of their behavior regarding the environment. The awareness of consequence (AC) entails that an individual's actions may boost the consequences. In the end ascription of responsibility (AR) is the feeling of one's moral obligation towards their environment which ultimately yields the generation of personal norms. Personal norms (PN) are the most influential factors because all the other variables in this theory may have an indirect influence through this variable and most of the time a direct effect on the norms (Nordlund & Garvill, 2002; Stern et al., 1999). Le et al., (2021) conducted a study to evaluate agrotourism in Vietnam and found that AC, AR, and PN are successful predictors of tourists' intentions.

Values can be described as the attractive transitional objective of variable significance that gives out as a leading principle in an individual's existence or other social body (Ture & Ganesh, 2014). Schwarz and Bilsky (1987) and Schwarz (1992) defined Values as (1) ideas or beliefs (2) relating to desirable end states or behaviors, (3) transcending particular circumstances (4) guiding the selection or assessment of behaviors and occurrences, and (5) are ordered by relative significance. In other words, behavior is guided by abstract goals defined by our value structure. Research has identified correlations between Schwartz' (1992) value categories and motivational value types with pro-environmental behavior and intentions. The value categories highly correlated with environmental concerns, attitudes, and behavioral intentions included self-transcendence (positive) and self-enhancement (negative) (De Groot & Steg, 2007; Karp, 1996; Oskamp & Schultz, 2005). Based on the discussion we formulated the following hypotheses;

H2 People having a higher awareness of environmental consequences (AC) have a high ascription of responsibility (AR)

H3 People with a higher ascription of responsibility (AR) have strong personal norms (PN) to engage in PET bottle exchange.

H4 Individuals having strong personal norms (PN) have a more positive attitude towards PET bottle exchange.

Attitude and behavior can be the stronger predictors of customer intention (Wicker, 1969). Attitude is defined as the set of beliefs regarding the object that direct the public to behave in a definite way towards the thing and the intention is the person's promptness to execute a certain behavior and it is considered the straight predecessor of behavior (Ajzen & Fishbein, 1977). Earlier research explains that behavioral intentions are affected by consumer beliefs, attitudes, or verdicts concerning the favorability of actions (Ajzen, 1991; Kautish & Sharma, 2019; Yousafzai et al., 2010). Many researchers explain that constructive attitudes affect ecologically sound conduct (Hartmann & Apaolaza-Ibañez, 2012; Levitt et al., 2019). Hence, by defining and explaining the VBN theory elements regarding pro-environmental behavior research hypothesized as:

H5 Presence of a positive attitude towards PET bottle exchange leads to a greater intention to engage in PET bottle exchange.

2.2 Neutralization Theory

It is evident that despite learning moral importance, attitude, or values that are completely prevailing in society; delinquents prefer to learn arguments to justify their acts. These justified arguments are called neutralization techniques (Brunner, 2014). The delinquents use these techniques to isolate themselves from self-embracing situations and others' blames. Society's values and norms accommodate these persons. These persons are accepted by society somewhat more flexibly and the nature of flexibility depends on time, place, individual, and social settings. From its incorporation, neutralization theory has gotten considerable attention from researchers in the field of sociology and especially for deviance/delinquency (Maruna & Copes, 2005; Minor, 1981). This theory had been discussed in most cases which include: crimes and delinquency (Teevan & Dryburgh, 2000), aggression, and violence (Huffman et al., 2001). Deviance at the workplace (Gauthier, 2001), cheating by (Hendershott et al., 2002), behavior regarding environmental harm by Robinson and Kraatz, (1998), organizational behavior by McCormick and Zampa, (1990), and deviation from occupations by Thompson and Harald, (1992).

Neutralization theory has got limited attention in the context of consumer behavior (Chatzidakis et al., 2006; Fukukawa et al., 2019; Sharma, 2020; Zhou et al., 2022). Whenever this theory has been used, it was evident that it is used only to explain the consumer's behavior such as shoplifting (Strutton et al., 1994) and piracy of music and software (Harris & Dumas, 2009), student cyberslacking behavior (Sharma, 2020) and deviants from internet platforms (Zhou et al., 2022). Besides this, it was also used to justify unethical behavior (Mitchell & Ka Lun Chan, 2002; Rosenbaum et al., 2011). This research adopted Brunner's (2014) definition and classification of five neutralization techniques used in the correspondingly associated perspective of moral utilization i.e. denial of responsibility, denial of benefit, denial of need, accusation, and personal principles. Hence, the researcher hypothesized neutralization as a moderator between attitude and intention:

H6 There exists a weaker relationship between PET bottle exchange attitude and intention if the consumer neutralizes to a higher extent.

2.3 Consumer Knowledge

Consumer knowledge is considered a very important variable in understanding consumer behavior such as information search (Brucks, 1985; Faize & Akhtar, 2020; Maurer & Bogner, 2020; Rao & Sieben, 1992), and information processing (Alba Joseph & Hutchinson Wesley, 1987; Bettman & Park, 1980). Two basic knowledge constructs have been eminent (Brucks, 1985; Park & Lessig, 1981). The first one is known as objective knowledge. This knowledge is exactly the product class that is stored in long-term memory. The other one is subjective knowledge or self-assessed knowledge and it is the perception of persons that what or how much they know about a product class. A small number of research studies on customer behavior reveal an encouraging affiliation between customer knowledge and conduct (Haron et al., 2005). Consumer's environmental understanding is considered as the key determinant of consumer attitude towards green consumption (Zhao et al., 2014).

However, other literature found that an amplified degree of understanding will not escort to further environmentally responsive behavior (Bartiaux, 2008). Hence an assorted empirical finding may indicate the intricate correlation between customer knowledge and behavior. Due to the mixed findings, researchers feel the importance to distinguish subjective and objective knowledge. This research work has treated consumer knowledge as moderating variable and focused on objective knowledge to compute how a lot of an individual knows. Consumers who comprise a superior level of knowledge are also known as experts (Alba Joseph & Hutchinson Wesley, 1987). A recent study on customer intention and environmental knowledge reveals that consumer decisions regarding the risk about the end of life products, customer's environmental knowledge, and some of the features linked with possible re-use, recycling, and repair may also affect the customer attitude regarding the reverse exchange of used products (Kianpour et al., 2017). Hence, the researcher hypothesized that:

H7 Positive attitude between PET bottle exchange attitude and intention exists due to greater consumer knowledge.

3. Research Methodology

3.1 Research Design

The research approach adopted for this study is deductive, followed by quantitative technique, explanatory design, and cross-sectional nature. Moreover, the research is causal testing the VBN constructs' effect in developing attitude and intention. Karachi city was the geographical area for this study. The population of Karachi according to the 2017 census is 14.9 million (Statistics, 2017).

3.2 Procedure

For this study, Karachi city was divided into six districts. District East was selected randomly among six districts. The population of district East, according to the Pakistan

Bureau of statistics is 2.98 million. The primary data of this study was gathered by administering the adopted questionnaire and distributed among the sample of the targeted population using a self-administered Google form as well as through a paper-based survey.

3.3 Participants

Cluster sampling followed by convenient sampling was used to collect the data. As mentioned by Saunders et al, (2009) the non-probability sampling technique i.e convenient sampling is less accurate and involves bias. To cope with bias and accuracy, the researcher used the probability sampling technique i.e cluster sampling. According to Saunders et al, (2009) Cluster sampling is used where the geographical area is involved. The sample size was calculated with the help of a G Power sample size calculator and using Saunders et al, (2009) recommendations. According to Saunders et al, (2009) a sample size of 384 is enough for the generalization of the results to an unknown population with a 95% confidence interval. A total of 400 questionnaires were distributed. The first section of the instrument contains demographic information followed by five points Likert scale instruments of each variable.

4. Results

The constructs items, factor loadings, and sources were mentioned in table 1. The results indicated that the majority of items meet the threshold values.

Table 1. Constructs, Items Factor loadings and their Sources

Variable and Factor	Factor Loadings	Reference/ Source
PGVECOL1	0.814	(Koller et al., 2011)
PGVECOL3	0.740	(Koller et al., 2011)
PGVECOL4	0.817	(Hartmann and Apaolaza-
PGVECOL5	0.858	Ibanez, 2012)
PGVECON1	0.852	(Mathwick, Malhotra and
PGVECON3	0.811	Rigdon, 2001)
PGVEXP1	0.766	
PGVEXP2	0.715	
PGVEXP3	0.728	
PGVSYM1	0.760	
PGVSYM2	0.810	
PGVSYM3	0.777	
<i>Attitude and PET bottle Intention</i>		Chan (2001)
ATT1	0.923	Han, Hsu, and Sheu (2010)
ATT2	0.934	
PETBEI1	0.907	
PETBEI2	0.914	

Awareness of Consequences		Jasson et al., (2011)
AC3	0.815	
AC4	0.694	
AC5	0.779	
Ascription of Responsibility		Jasson et al., (2011)
AR2	0.712	
AR4	0.625	
AR5	0.614	
Consumer Knowledge		Yao, Tian, Chen, Chen, Huang, Liang, and Chen (2009)
CKOW1	0.678	
CKOW3	0.324	
CKOW4	0.874	
Personal Norms		Jasson et al., (2011)
PN1	0.850	
PN2	0.503	
PN3	0.097	
PN4	0.397	
PN5	0.798	
PN6	0.567	
Neutralization Technique		Brunners et al. (2014)
ACC	0.777	
DoB	0.860	
DoR	0.816	

4.1 Respondent's Profile

Out of the total 388 respondents, the majority of the respondents were male 243 (62.6 %), whereas 145 (37.4 %) respondents were female. Mostly the respondents were between the age of 25-29 and 30-39 years showing 32% and 29.6% respectively. The highest level of education turned out to be undergraduate 163 (42 %) and postgraduate 141 (36.3%) respectively. Furthermore, personal income was also asked from the respondents, the majority of the respondents' i.e 135 and 118 were having salaries between 20001-40000 and 40001-70000 with 34.8% and 30.4 % respectively. Lastly, the respondents were asked about the frequency of PET bottle exchange. The findings showed that 151 (38.9%) of the respondent's exchange PET bottles sometimes in their life and 92 (23.9%) of the respondents never exchange PET bottles.

4.2 Correlation analysis

Results of the correlation revealed that there is a significant and strong positive relationship between PGV impact and outcomes. Perceived green value impact is positively related to AC ($r=.633, p<0.01$). Results of the correlation revealed that there is a significant and strong positive relationship between AC and outcomes. Awareness

of consequence (AC) of VBN is positively related to the ascription of responsibility (AR), ($r=.689, p<0.01$). Results of the correlation revealed that there is a significant and strong positive relationship between AR impact and outcomes. Perceived green value impact is positively related to PN ($r=0.551, p<0.01$). Results of the correlation revealed that there is a significant and strong positive relationship between NEUT impact and outcomes. Neutralization impact is negatively related to PETBEI ($r=-0.311, p<0.01$). Results of the correlation revealed that there is a significant and strong positive relationship between consumer knowledge impact and outcomes. Consumer knowledge impact is positively related to PETBEI ($r=0.211, p<0.01$). Results of the correlation revealed that there is a significant and strong positive relationship between attitude outcomes. PET bottle exchange attitude impact is positively related to PETBEI ($r=0.7471, p<0.01$). The details are also shown in table 2.

Table 2. Correlation Matrix

Variable Name	PGV	AC	AR	PN	NEUT	CKOW	ATT	PETBEI
PGV	1							
AC	.633*	1						
AR	.620*	.689*	1					
PN	.451*	.526*	.551*	1				
NEUT	.501*	.383*	.453*	.300*	1			
CKOW	.363*	.353*	.303*	.214*	.532**	1		
ATT	.561*	.582*	.442*	.450*	.227**	.194**	1	
PETBEI	.569*	.606*	.537*	.494*	.311**	.221**	.747*	1

Table 3. Model Results

	Items	Mean	SD	AVE	PGV	AC	AR	PN	ATT	NEU	CKOW	PETBEI
PGV	15	52.9124	9.94676	0.579	0.761							
AC	5	18.8760	3.80688	0.773	0.394	0.879						
AR	5	18.5155	3.37452	0.580	-0.009	-0.152	0.762					
PN	6	31.1525	8.13838	0.677	0.421	0.553	0.138	0.823				
ATT	3	9.8608	3.39040	0.628	0.486	0.453	0.155	0.453	0.793			
NEU	10	38.9637	8.52216	0.636	0.466	0.627	0.141	0.600	0.507	0.798		
CKOW	5	22.6408	6.12120	0.698	0.466	0.520	0.135	0.634	0.401	0.631	0.835	
PETBEI	3	10.4356	3.04123	0.742	0.274	0.406	0.223	0.520	0.355	0.422	0.447	0.862

Table 4. Regression Model

	Estimates	R2	Adjusted R2	F	t-value	Sig.	Results
PGV -> AC	.633	.400	.399	256.905	16.028	.000 ^b	Supported
AC -> AR	.689	.475	.473	347.892	18.652	.000 ^b	Supported
AR -> PN	.551	.304	.302	167.848	12.956	.000 ^b	Supported
PN -> ATT	.450	.202	.200	97.560	9.877	.000 ^b	Supported
ATT -> PETBEI	.747	.558	.557	487.123	22.071	.000 ^b	Supported
CKOW -> PETBEI	.221	.049	.047	19.832	4.453	.000 ^b	Supported
NEUT -> PETBEI	.311	.097	.094	41.160	6.416	.000 ^b	Supported

4.3 Regression Analysis

The regression analysis was examined for further analysis to study the relationship between the variables used in the current study. For examining the effect of VBN theory dimensions with possible outcome variables of the study, every path of the framework was analyzed. In this section, linear regression analysis was carried out to test the hypothesis about the direct effect of PGV on Awareness of consequence (AC) on Ascription of responsibility (AR) on personal norms (PN), then personal norms to the PET bottles exchange attitude and at the last effect on the PET bottles exchange intention. Finally, the effect of the neutralization technique was examined on the PET bottle exchange intention and the effect of other moderator consumer knowledge on PET bottle exchange is measured. Further, the results of the model summary (R2), ANOVA (F value), and coefficient value (t-value, sig value, and beta value) presented the relationship of variables with one another. Especially the investigation of research questions about the possible impact of the variables was carried out to test each hypothesis. All the hypotheses were supported and the detail is mentioned in table 4.

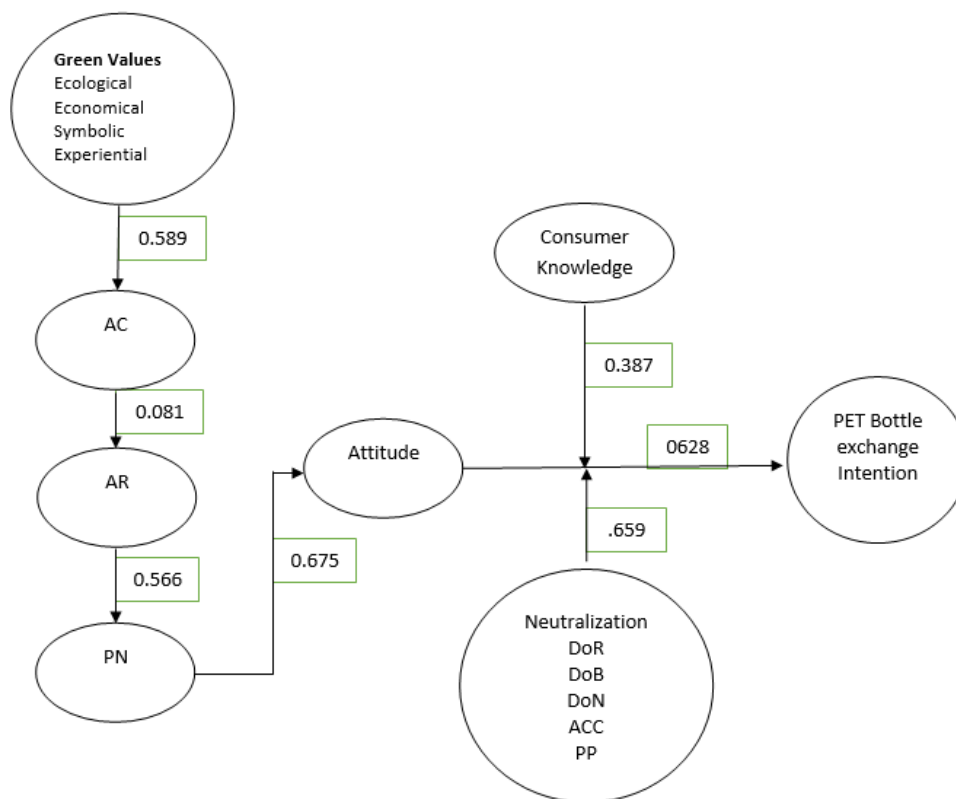


Figure 1. Research Framework

5. Discussion

The involvement of customers in the reverse exchange of PET bottles can be well understood with the understanding of VBN theory which suggests that people with more

personal green values and beliefs have a more positive attitude and intention towards PET bottle reverse exchange that shows their positive relationship between the human being and natural environment. Several studies have been conducted that proved the VBN theory successful to explain the individual's environmentally friendly attitude (Davis et al., 2014; Faize & Akhtar, 2020; Hwang et al., 2020). Besides this theory of planned behavior in combination with VBN theory has also been conducted by López-Mosquera & Sánchez, (2012), Yousafzai et al., (2010), Zhang et al., (2020), and Carfora et al., (2021) to predict the human decision making while engaging the utilization of environmentally friendly products and ecological friendly activities

Therefore, this study found a positive and significant relationship between the PGV and Awareness of consequence (AC). Among the PGV constructs, symbolic representation of individuals while engaging in PET bottle exchange was found prominent which showed that individuals engage in PET bottle exchange to demonstrate others that they are more conscious regarding environmental wellbeing. Besides this, the other factor that contributed marginally is the economical factor while exchanging the PET bottles exchange with a third party or with the company. This aspect highlights that people are engaging in PET bottle exchange as it is more convenient and easier to exchange the bottles soon after usage without making any extra physical or financial effort. Recently, Jabeen et al., (2021) conducted a study regarding the adoption of green energy technologies among Pakistani customers and found positive nexus between the PGV constructs and pro-environmental behavior. Similarly, Jayashankar et al., (2018) considered the adoption of IoT technology among US farmers and found that perceived green values are positively associated with the adoption of these technologies.

This study findings were also consistent with previous studies in establishing the positive and significant relationship between awareness of consequence (AC) and ascription of responsibility (AR). Among the AC items, the belief in a continuous increase in the waste of natural resources was found prominent followed by the representation of a resource shortage problem which showed that people are engaging in the PET bottle exchange to optimize the usage of natural resources. Similarly, the lowest priority of the respondents was found to decrease the greenhouse effect due to PET bottle exchange. As consumer knowledge was found to be low regarding the PET bottle exchange and environmental concerns due to which, it was found this priority. Previous research conducted by Steg et al. (2005) found that there was a strong positive linkage between AC and AR from the perspective of ecologically friendly behavior like appreciation of policies that are related to saving energy. Along with this, there was a significant positive relationship found between the ascription of responsibility (AR) and personal norms. Among the items of PN, thinking regarding the betterment of the environment in daily life was found prominent followed by personal norms regarding minimizing the wastage of resources.

The findings of this study are consistent with the previous research in the context of VBN implementation regarding public sphere pro-environmental behavior of Mongolian students and minimizing the use of energy (Liu et al., 2018; Steg & Vlek,

2009; Stern et al., 1999) or the behavior of customers regarding the use of environmentally friendly electricity and pro-environmental car pricing policy (Hansla et al., 2008; Hiratsuka et al., 2018). This study also found a strong relationship between PET bottle exchange attitude and PET bottle exchange intention. Among the intention items, a strong commitment by the respondents has been shown to engage themselves in PET bottle exchange activities. Numerous studies had proved that consumers' positive attitudes affect ecologically friendly intentions (Hartmann & Apaolaza-Ibáñez, 2012; Jung et al., 2020).

Lastly, the role of the two moderators' i.e consumer knowledge and neutralization technique were evaluated. Consistent with the previous studies regarding consumer knowledge from the perspective of the environment, this study also proved the low level of knowledge. Among the items of consumer knowledge, reduction in environmental pollution due to the exchange of PET bottles was found very prominent among the respondents. Moreover, the weakest knowledge regarding environmental regulations was found among the respondents. However, being a moderator, consumer knowledge has played a role between attitude and intention. So far inconsistent findings have been found regarding the relationship between consumer knowledge and intention. Our research supports the most recent findings of (Faize & Akhtar, 2020; Haron et al., 2005; Maurer & Bogner, 2020; Paço & Lavrador, 2017; Zhao et al., 2014) that state that customer environmental knowledge is a strong determinant of customer attitude and intention.

The second moderator, neutralization has also supported the previous studies. Among the items of neutralization, the role of companies regarding the reverse exchange of PET bottles was found prominent by the customers. Besides this, the excuse of not knowing enough about PET bottle exchange and considering environmental problems too big played a moderate excuse or neutralization. Similar findings were reported by the previous literature regarding the implementation of neutralization and deviant behavior (Brunner, 2014; Fukukawa et al., 2019; Sharma, 2020; Zhou et al., 2022).

6. Conclusion

This study was conducted to explain whether the value belief norm theory is successful in explaining the customer intention towards PET bottle exchange or not? The majority of the studies were conducted from the perspective of suppliers or operational end only a few studies have been conducted in the light of customer behavioral intention. This study provides empirical evidence for the relationship between VBN and customer intention. According to Stern (1999), the VBN theory helps highlight an individual's perception regarding his/her ethical obligations. Especially, this theory explains the mechanism of moving forward from a person's awareness regarding the consequences of environmental well-being or degradation to the sense of adopting friendly behavior regarding his/her actions. Hence, as a result, this sense of friendly behavior transfers into the attitude. Similarly, this study is consistent with the previous studies held on value belief norm theory (Ghazali et al., 2019; Hwang et al., 2020; Liobikienė & Poškus, 2019; Stern et al., 1999). Moreover, this study also elaborates on the

predecessors of consumers' PET bottle exchange attitudes with the help of a chain of five variables that impact each other. This study elaborates on values, especially green values, awareness of consequences (AC), the ascription of responsibility (AR), and individual norms, and also provides deep insight into the human attitude toward environmental wellbeing or environmental degradation. Besides this, four main dimensional scales regarding PGV i.e ecological, economical, symbolic, and experiential have also been examined and confirmed in the PET bottle exchange perspective. In addition, moderating the role of neutralization is also been discussed and results provide a deep insight into how a customer may promptly make excuses for not adopting the PET bottle exchange in their daily activities (Gruber & Schlegelmilch, 2014).

6.1 Theoretical and Practical Implications

6.1.1 Theoretical Implications

This study has provided several theoretical and practical implications. This study has majorly focused on the practical implications as developing countries need managerial and legislative supports and implications that could promote reverse logistics functions among developing nations like developed countries. From a theoretical implication perspective, this study has adopted the VBN theory to explain the customer role in reverse logistics as customers were neglected in SCM literature. Further, the implementation of two moderators has provided an integrated hybrid model to SCM researchers that could help them to understand the important role of customers and these moderators in promoting customer attitude and intention.

6.1.2 Practical Implications

The existing research on supply chain management focuses on the supplier and operations end only. This research participates in the previous contribution in a new context. This was the study among very few empirical studies in supply chain management that considers customers and understands the PET bottle exchange perception of the customers. This contribution may have some very significant implications for supply chain managers. The perspective of value addition for the customers in supply chain management has been discussed by Ho, Au, and Newton (2002) by incorporating vital business processes in the supply chain. These vital elements of business processes consist of building a relationship with customers, service provision to customers, fulfillment of customer demands, manufacturing flow management, purchasing, and development of new products. This research entails that reverse logistics may promote valuable psychological methodology to promote PET bottle exchange behavior among customers. Besides this, the study also entails that logistics managers should efficiently promote environmentally friendly messages in the promotion campaigns for their products so that customer neutralization can be reduced.

Moreover, to promote the acceptance of PET bottles exchange behavior frequency among customers, advertising efforts by promoters should be in line with government policies because this methodology increases the customer's awareness regarding the environment and also increases the responsibility towards ecological wellbeing.

Managers should promote the concept of reverse exchange regarding PET bottles as it is beneficial both for the customers and companies. Government policies should be implemented and backed by companies regarding environmental safety. Managers should also promote plastic waste management in line with the government to reduce the waste in the environment. Furthermore, our results highlighted that PET bottle users lack a comprehensive knowledge of waste management and disposal of PET bottles. Along with this marketing department of PET, bottle manufacturers and user companies should formulate a marketing strategy so that the customers perceived values and beliefs concerning PET bottles might be enhanced. This type of program should promote tricks that include advertisements on television, paper advertisement, seminars, and awareness campaigns. These types of programs not only enhance consumer knowledge regarding the reverse logistics of PET bottles and environmental well-being but also strengthen the relationship between companies and customers.

An additional very significant implication of this research work for RL officials is to enhance customer service in collaboration with the retailers as a bridge for exchanging knowledge among the producers and consumers. It may be very beneficial for the supply chain officials to raise knowledge among the retailers and use them as an effective medium between the producers and consumers of PET bottles to promote customers perceived green value and PET bottle exchange attitude and intention. In Pakistan, customers of PET bottles don't have adequate knowledge and technology/medium regarding their used PET bottle exchange. Although an adequate number of people are doing the exchange as the study reveals that they don't have a proper understanding of and purpose of this exchange. Besides this, companies in Pakistan also don't have the proper technology and services to recollect these used PET bottles for possible reuse, remanufacturing, recycling, or proper disposal. To promote the reverse exchange of PET bottles companies should adopt the following steps:

- 1). Companies have to establish a logistic system that is responsible for the recollection of PET bottles, their backward transportation, stock management of PET bottles, attracting customer attention towards the reverse exchange of PET bottles, and also control the system used to make these bottles able for re-use. These activities enhance value addition and hence increase the producer-seller relationship and enhance customer satisfaction and motivation.
- 2). Companies need to build up their sales to improve customer service. Customers are the key stakeholders in the reverse logistics of any product. Without their participation and willingness, the process of reverse logistics especially in the context of PET bottles is difficult to succeed. Moreover, a stipend provided to customers and selling the right product to them can boost their motivation and commitment regarding the reverse exchange.

6.2 Limitations, and Future Research

Like other studies, this study has also some limitations that could serve as future research directions. Firstly, the geographical area for this study was narrowed and the

study used cross-sectional data for analysis. Due to narrowed geographical area, and cross-sectional nature, the results' generalizability was compromised. Future research can be conducted through longitudinal data collection by enhancing the geographical area to gauge behavioral intention. Secondly, the researcher used a non-probability sampling technique due to an unknown population that was considered inadequate in the generalization of results (Saunders et al, 2009). Future research can be conducted through probability sampling to gauge the generalization of the findings. Thirdly, the response of the respondents was inadequate due to the newly established concept of reverse logistics in the Pakistani context. A comprehensive strategy was adopted to educate the respondents regarding the reverse logistics concept. Therefore, 70 % of the data was gathered through hard copies, and distribution was carried out by visiting the respondent's offices and residences. In the future, all available mediums of data collection like Facebook, WhatsApp, LinkedIn, and emails should be adopted to cope with the financial implications of studies. Lastly, the researcher has used two moderators. In the future, other moderators like green marketing, governmental support, environmental concern, and facility accessibility may be incorporated (Sari et al, 2021).

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All authors equally in the Manuscript.

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References

- Abdulrahman, M. D., Gunasekaran, A., & Subramanian, N. (2014). Critical barriers in implementing reverse logistics in the Chinese manufacturing sectors. *International Journal of Production Economics*, 147, 460–471. <https://doi.org/10.1016/j.ijpe.2012.08.003>
- Agyemang, M., Kusi-Sarpong, S., Khan, S. A., Mani, V., Rehman, S. T., & Kusi-Sarpong, H. (2019). Drivers and barriers to circular economy implementation: An explorative study in Pakistan's automobile industry. *Management Decision*, 57(4), 971–994. <https://doi.org/10.1108/MD-11-2018-1178>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211. De Young, 509–526.

- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84(5), 888–918. <https://doi.org/10.1037/0033-2909.84.5.888>
- Alba Joseph, W., & Hutchinson Wesley, J. (1987). Dimensions of Consumer Expertise, *Journal of Consumer Research*. 13 (March), 411–454.
- Asees Awan, M., & Ali, Y. (2019). Sustainable modeling in reverse logistics strategies using fuzzy MCDM: Case of China Pakistan Economic Corridor. *Management of Environmental Quality: An International Journal*, 30(5), 1132–1151. <https://doi.org/10.1108/MEQ-01-2019-0024>
- Bartiaux, F. (2008). Does environmental information overcome practice compartmentalisation and change consumers' behaviours? *Journal of Cleaner Production*, 16(11), 1170–1180.
- Beiler, B. C., Ignácio, P. S. de A., Pacagnella Júnior, A. C., Anholon, R., & Rampasso, I. S. (2020). Reverse logistics system analysis of a Brazilian beverage company: An exploratory study. *Journal of Cleaner Production*, 274, 122624. <https://doi.org/10.1016/j.jclepro.2020.122624>
- Berry, D., Towill, D. R., & Wadsley, N. (1994). Supply chain management in the electronics products industry. *International Journal of Physical Distribution & Logistics Management*.
- Bettman, J. R., & Park, C. W. (1980). Effects of prior knowledge and experience and phase of the choice process on consumer decision processes: A protocol analysis. *Journal of Consumer Research*, 7(3), 234–248.
- Bouzon, M., Govindan, K., & Rodriguez, C. M. T. (2018). Evaluating barriers for reverse logistics implementation under a multiple stakeholders' perspective analysis using grey decision making approach. *Resources, Conservation and Recycling*, 128, 315–335.
- Brucks, M. (1985). The effects of product class knowledge on information search behavior. *Journal of Consumer Research*, 12(1), 1–16.
- Brunner, T. A. (2014). Applying neutralization theory to fair trade buying behaviour. *International Journal of Consumer Studies*, 38(2), 200–206.
- Carfora, V., Cavallo, C., Catellani, P., Del Giudice, T., & Cicia, G. (2021). Why do consumers intend to purchase natural food? Integrating theory of planned behavior, value-belief-norm theory, and trust. *Nutrients*, 13(6), 1904.
- Chang, J., Morrison, A. M., Lin, S. H.-H., & Ho, C.-Y. (2020). How do food consumption motivations and emotions affect the experiential values and well-being of foodies? *British Food Journal*, 123(2), 627–648. <https://doi.org/10.1108/BFJ-04-2020-0355>
- Chatzidakis, A., Smith, A., & Hibbert, S. (2006). Ethically concerned, yet unethically behaved?: Towards an updated understanding of consumer's (un) ethical decision making. *ACR North American Advances*.
- Chen, Y.-S., & Chang, C.-H. (2012). Enhance green purchase intentions. *Management Decision*.
- Cowan, D. M., Dopart, P., Ferracini, T., Sahmel, J., Merryman, K., Gaffney, S., & Paustenbach, D. J. (2010). A cross-sectional analysis of reported corporate environmental sustainability practices. *Regulatory Toxicology and Pharmacology*, 58(3), 524–538.

- Creusen, M. E., & Schoormans, J. P. (2005). The different roles of product appearance in consumer choice. *Journal of Product Innovation Management*, 22(1), 63–81.
- Davis, T. D., Gerry, C. J., & Tan, D. S. (2014). General platform for systematic quantitative evaluation of small-molecule permeability in bacteria. *ACS Chemical Biology*, 9(11), 2535–2544.
- De Groot, J. I., & Steg, L. (2007). Value orientations and environmental beliefs in five countries: Validity of an instrument to measure egoistic, altruistic and biospheric value orientations. *Journal of Cross-Cultural Psychology*, 38(3), 318–332.
- Faize, F. A., & Akhtar, M. (2020). Addressing environmental knowledge and environmental attitude in undergraduate students through scientific argumentation. *Journal of Cleaner Production*, 252, 119928. <https://doi.org/10.1016/j.jclepro.2019.119928>
- Fukukawa, K., Zaharie, M.-M., & Romonți-Maniu, A.-I. (2019). Neutralization techniques as a moderating mechanism: Ethically questionable behavior in the Romanian consumer context. *Psychology & Marketing*, 36(2), 138–149.
- Gauthier, D. K. (2001). Professional lapses: Occupational deviance and neutralization techniques in veterinary medical practice. *Deviant Behavior*, 22(6), 467–490.
- Ghazali, E. M., Nguyen, B., Mutum, D. S., & Yap, S.-F. (2019). Pro-Environmental Behaviours and Value-Belief-Norm Theory: Assessing Unobserved Heterogeneity of Two Ethnic Groups. *Sustainability*, 11(12), Article 12. <https://doi.org/10.3390/su11123237>
- Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). Environmental behavior in a private-sphere context: Integrating theories of planned behavior and value belief norm, self-identity and habit. *Resources, Conservation and Recycling*, 148, 145–156.
- Govindan, K., & Gholizadeh, H. (2021). Robust network design for sustainable-resilient reverse logistics network using big data: A case study of end-of-life vehicles. *Transportation Research Part E: Logistics and Transportation Review*, 149, 102279. <https://doi.org/10.1016/j.tre.2021.102279>
- Grosse-Ruyken, P. T., & Wagner, S. M. (2010). Does supply chain “Fit” matter to investors. *Supply Chain Quarterly*, 4(4), 44–50.
- Gruber, V., & Schlegelmilch, B. B. (2014). How Techniques of Neutralization Legitimize Norm- and Attitude-Inconsistent Consumer Behavior. *Journal of Business Ethics*, 121(1), 29–45. <https://doi.org/10.1007/s10551-013-1667-5>
- Hansla, A., Gamble, A., Juliusson, A., & Gärling, T. (2008). Psychological determinants of attitude towards and willingness to pay for green electricity. *Energy Policy*, 36(2), 768–774.
- Haron, S. A., Paim, L., & Yahaya, N. (2005). Towards sustainable consumption: An examination of environmental knowledge among Malaysians. *International Journal of Consumer Studies*, 29(5), 426–436.
- Harris, L. C., & Dumas, A. (2009). Online consumer misbehaviour: An application of neutralization theory. *Marketing Theory*, 9(4), 379–402.
- Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, 65(9), 1254–1263.

- Hendershott, R. J., Lee, D. E., & Tompkins, J. G. (2002). Winners and losers as financial service providers converge: Evidence from the Financial Modernization Act of 1999. *Financial Review*, 37(1), 53–72.
- Hiratsuka, J., Perlaviciute, G., & Steg, L. (2018). Testing VBN theory in Japan: Relationships between values, beliefs, norms, and acceptability and expected effects of a car pricing policy. *Transportation Research Part F: Traffic Psychology and Behaviour*, 53, 74–83. <https://doi.org/10.1016/j.trf.2017.12.015>
- Huffman, L. C., Mehlinger, S. L., Kerivan, A. S., Cavanaugh, D. A., Lippitt, J., & Moyo, O. (2001). *Off to a Good Start: Research on the Risk Factors for Early School Problems and Selected Federal Policies Affecting Children’s Social and Emotional Development and Their Readiness for School*.
- Hwang, J., Kim, W., & Kim, J. J. (2020). Application of the value-belief-norm model to environmentally friendly drone food delivery services: The moderating role of product involvement. *International Journal of Contemporary Hospitality Management*, 32(5), 1775–1794. <https://doi.org/10.1108/IJCHM-08-2019-0710>
- Jabeen, G., Ahmad, M., & Zhang, Q. (2021). Factors influencing consumers’ willingness to buy green energy technologies in a green perceived value framework. *Energy Sources, Part B: Economics, Planning, and Policy*, 16(7), 669–685. <https://doi.org/10.1080/15567249.2021.1952494>
- Janse, B., Schuur, P., & de Brito, M. P. (2010). A reverse logistics diagnostic tool: The case of the consumer electronics industry. *The International Journal of Advanced Manufacturing Technology*, 47(5–8), 495–513.
- Jayashankar, P., Nilakanta, S., Johnston, W. J., Gill, P., & Bures, R. (2018). IoT adoption in agriculture: The role of trust, perceived value and risk. *Journal of Business & Industrial Marketing*, 33(6), 804–821. <https://doi.org/10.1108/JBIM-01-2018-0023>
- Jung, H. J., Choi, Y. J., & Oh, K. W. (2020). Influencing Factors of Chinese Consumers’ Purchase Intention to Sustainable Apparel Products: Exploring Consumer “Attitude–Behavioral Intention” Gap. *Sustainability*, 12(5), Article 5. <https://doi.org/10.3390/su12051770>
- Karp, D. G. (1996). Values and their effect on pro-environmental behavior. *Environment and Behavior*, 28(1), 111–133.
- Kautish, P., & Sharma, R. (2019). Value orientation, green attitude and green behavioral intentions: An empirical investigation among young consumers. *Young Consumers*, 20(4), 338–358. <https://doi.org/10.1108/YC-11-2018-0881>
- Kianpour, K., Jusoh, A., Mardani, A., Streimikiene, D., Cavallaro, F., Nor, K. M., & Zavadskas, E. K. (2017). Factors influencing consumers’ intention to return the end of life electronic products through reverse supply chain management for reuse, repair and recycling. *Sustainability*, 9(9), 1657.
- Koller, M., Floh, A., & Zauner, A. (2011). Further insights into perceived value and consumer loyalty: A “green” perspective. *Psychology & Marketing*, 28(12), 1154–1176.
- Le, T. H., Wu, H. C., Huang, W.-S., Liou, G.-B., Huang, C.-C., & Hsieh, C.-M. (2021). Evaluating Determinants of Tourists’ Intentions to Agrotourism in Vietnam using Value

- Belief – Norm Theory. *Journal of Travel & Tourism Marketing*, 38(9), 881–899. <https://doi.org/10.1080/10548408.2021.1985040>
- Levitt, J. A., Zhang, P., DiPietro, R. B., & Meng, F. (2019). Food tourist segmentation: Attitude, behavioral intentions and travel planning behavior based on food involvement and motivation. *International Journal of Hospitality & Tourism Administration*, 20(2), 129–155. <https://doi.org/10.1080/15256480.2017.1359731>
- Liobikienė, G., & Poškus, M. S. (2019). The Importance of Environmental Knowledge for Private and Public Sphere Pro-Environmental Behavior: Modifying the Value-Belief-Norm Theory. *Sustainability*, 11(12), Article 12. <https://doi.org/10.3390/su11123324>
- Liu, X., Zou, Y., & Wu, J. (2018). Factors Influencing Public-Sphere Pro-Environmental Behavior among Mongolian College Students: A Test of Value–Belief–Norm Theory. *Sustainability*, 10(5), Article 5. <https://doi.org/10.3390/su10051384>
- López-Mosquera, N., & Sánchez, M. (2012). Theory of Planned Behavior and the Value-Belief-Norm Theory explaining willingness to pay for a suburban park. *Journal of Environmental Management*, 113, 251–262.
- Maruna, S., & Copes, H. (2005). What have we learned from five decades of neutralization research? *Crime and Justice*, 32, 221–320.
- Maurer, M., & Bogner, F. X. (2020). Modelling environmental literacy with environmental knowledge, values and (reported) behaviour. *Studies in Educational Evaluation*, 65, 100863. <https://doi.org/10.1016/j.stueduc.2020.100863>
- Minor, W. W. (1981). Techniques of neutralization: A reconceptualization and empirical examination. *Journal of Research in Crime and Delinquency*, 18(2), 295–318.
- Mitchell, V.-W., & Ka Lun Chan, J. (2002). Investigating UK consumers' unethical attitudes and behaviours. *Journal of Marketing Management*, 18(1–2), 5–26.
- Nordlund, A. M., & Garvill, J. (2002). Value structures behind proenvironmental behavior. *Environment and Behavior*, 34(6), 740–756.
- Orhan, A., Adebayo, T. S., Genç, S. Y., & Kirikkaleli, D. (2021). Investigating the Linkage between Economic Growth and Environmental Sustainability in India: Do Agriculture and Trade Openness Matter? *Sustainability*, 13(9), Article 9. <https://doi.org/10.3390/su13094753>
- Orth, U. R., & De Marchi, R. (2007). Understanding the relationships between functional, symbolic, and experiential brand beliefs, product experiential attributes, and product schema: Advertising-trial interactions revisited. *Journal of Marketing Theory and Practice*, 15(3), 219–233.
- Oskamp, S., & Schultz, P. W. (2005). *Attitudes and opinions*. Psychology Press.
- Paço, A., & Lavrador, T. (2017). Environmental knowledge and attitudes and behaviours towards energy consumption. *Journal of Environmental Management*, 197, 384–392. <https://doi.org/10.1016/j.jenvman.2017.03.100>
- Park, C. W., & Lessig, V. P. (1981). Familiarity and its impact on consumer decision biases and heuristics. *Journal of Consumer Research*, 8(2), 223–230.
- Punzo, G., Panarello, D., Pagliuca, M. M., Castellano, R., & Aprile, M. C. (2019). Assessing the role of perceived values and felt responsibility on pro-environmental behaviours: A

- comparison across four EU countries. *Environmental Science & Policy*, 101, 311–322. <https://doi.org/10.1016/j.envsci.2019.09.006>
- Rao, A. R., & Sieben, W. A. (1992). The effect of prior knowledge on price acceptability and the type of information examined. *Journal of Consumer Research*, 19(2), 256–270.
- Reverse Logistics. (2020). Reverse Logistics Association. <https://www.rla.org/>
- Ritchie, L., Burnes, B., Whittle, P., & Hey, R. (2000). The benefits of reverse logistics: The case of the Manchester Royal Infirmary Pharmacy. *Supply Chain Management: An International Journal*.
- Rosenbaum, M. S., Kuntze, R., & Wooldridge, B. R. (2011). Understanding unethical retail disposition practice and restraint from the consumer perspective. *Psychology & Marketing*, 28(1), 29–52.
- Sánchez, M., López-Mosquera, N., Lera-López, F., & Faulin, J. (2018). An extended planned behavior model to explain the willingness to pay to reduce noise pollution in road transportation. *Journal of Cleaner Production*, 177, 144–154.
- Sarkis, D. (2017). *Green Supply Chain Management: A Concise Introduction*. Routledge & CRC Press. <https://www.routledge.com/Green-Supply-Chain-Management-A-Concise-Introduction/Sarkis-Dou/p/book/9781138302815>
- Sas, I., Thoney, K. A., Joines, J. A., King, R. E., & Woolard, R. (2015). Reverse Logistics of US Carpet Recycling. In T.-M. Choi & T. C. E. Cheng (Eds.), *Sustainable Fashion Supply Chain Management: From Sourcing to Retailing* (pp. 3–30). Springer International Publishing. https://doi.org/10.1007/978-3-319-12703-3_1
- Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, 25(1), 1–65.
- Schwartz, S. H., & Bilsky, W. (1987). Toward a universal psychological structure of human values. *Journal of Personality and Social Psychology*, 53(3), 550.
- Sharma, S. (2020). I want it my way: Using consumerism and neutralization theory to understand students' cyberslacking behavior. *International Journal of Information Management*, 53, 102131.
- Statistics, P. B. of. (2017). *Provisional Summary Results of 6th Population and Housing Census–2017*. Government of Pakistan Islamabad.
- Steg, L., & Vlek, C. (2009). Encouraging pro-environmental behaviour: An integrative review and research agenda. *Journal of Environmental Psychology*, 29(3), Article 3.
- Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review*, 81–97.
- Strutton, D., Vitell, S. J., & Pelton, L. E. (1994). How consumers may justify inappropriate behavior in market settings: An application on the techniques of neutralization. *Journal of Business Research*, 30(3), 253–260.

- Teevan, J. J., & Dryburgh, H. B. (2000). First person accounts and sociological explanations of delinquency. *Canadian Review of Sociology/Revue Canadienne de Sociologie*, 37(1), 77–93.
- Thompson, W. E., & Harred, J. L. (1992). Topless dancers: Managing stigma in a deviant occupation. *Deviant Behavior*, 13(3), 291–311.
- Ture, R. S., & Ganesh, M. P. (2014). Understanding pro-environmental behaviours at workplace: Proposal of a model. *Asia-Pacific Journal of Management Research and Innovation*, 10(2), 137–145.
- Wang, X., Van der Werff, E., Bouman, T., Harder, M. K., & Steg, L. (2021). I Am vs. We Are: How Biospheric Values and Environmental Identity of Individuals and Groups Can Influence Pro-environmental Behaviour. *Frontiers in Psychology*, 12, 618956. <https://doi.org/10.3389/fpsyg.2021.618956>
- Wicker, A. W. (1969). Attitudes versus Actions: The Relationship of Verbal and Overt Behavioral Responses to Attitude Objects. *Journal of Social Issues*, 25(4), 41–78. <https://doi.org/10.1111/j.1540-4560.1969.tb00619.x>
- Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining Internet Banking Behavior: Theory of Reasoned Action, Theory of Planned Behavior, or Technology Acceptance Model? *Journal of Applied Social Psychology*, 40(5), 1172–1202. <https://doi.org/10.1111/j.1559-1816.2010.00615.x>
- Zhang, L., Ruiz-Menjivar, J., Luo, B., Liang, Z., & Swisher, M. E. (2020). Predicting climate change mitigation and adaptation behaviors in agricultural production: A comparison of the theory of planned behavior and the Value-Belief-Norm Theory. *Journal of Environmental Psychology*, 68, 101408.
- Zhao, H., Gao, Q., Wu, Y., Wang, Y., & Zhu, X. (2014). What affects green consumer behavior in China? A case study from Qingdao. *Journal of Cleaner Production*, 63, 143–151.
- Zhou, C., Li, K., & Zhang, X. (2022). Why do I take deviant disclosure behavior on internet platforms? An explanation based on the neutralization theory. *Information Processing & Management*, 59(1), 102785.