IMPACT OF GREEN PACKAGING ON CONSUMERS BUYING BEHAVIOR: THE MEDIATING ROLE OF ATTITUDE

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Abstract - *Sustainable development stands as a global imperative, addressing the multifaceted challenges encompassing climate action, environmental preservation, resource efficiency, and the responsible use of raw materials. As global consciousness shifts toward environmental protection and the principles of sustainability, eco-friendliness has emerged as the prevailing zeitgeist. Within the manufacturing sector, particular attention has been directed towards green packaging. This study draws upon meticulously gathered data from 200 respondents through a thoughtfully designed survey to dissect the influential factors shaping consumer buying behavior. Employing the principal factor analysis technique, we unveil four primary factors underpinning consumers' buying behavior: eco-labeling, willingness to pay, environmental concern, and attitude. These findings underscore a growing scholarly and research interest in these dimensions, evident in the increasing volume of academic publications in recent years. Moreover, the insights derived from this research will empower manufacturers and businesses to formulate strategies aimed at securing competitive advantages, bolstering sales, and enhancing brand image.*

Key Words: Sustainability, Green Packaging, Eco-Labelling, Willingness to Pay, Environmental Concern, Attitude.

1.INTRODUCTION *(Size 11, Times New roman)*

Packaging of a product is essential to protect the product but non-recyclable packaging of a product have a negative impact on environment. Environmental Concerns are not new, several measures are already taken since 1960 to reorganize and to take preventive measures on production system (Gallastegui, 2002). Many researches are already conducted on green/sustainable packaging, eco-packaging and environment friendly packaging. Conservative consumers are worried about environmental effect especially through product packaging. Most of the manufacturing companies have researched and introduced environment friendly packaging so that wastage and harmful impact on environment could be minimized. This initiative has also helped companies to achieve competitive advantage and to prove their environmental concern to potential customers and overall society. Consumers play a very major role by selecting green or clean commodities as environmental harm caused by secondary sector decreases (Yokessa & Marette, 2019). A recent study concluded that consumer behavior is affected by some factors like consumer ethnocentrism, cultural sensitivity etc (Wang, et al., 2018).

Continuous development is a worldwide objective, which causes societal challenges of environment and climate change. For this purpose, the promotion of green packaging is required.

The packaging of a product has multiple functions like it protects the product and provides convenience to consumers (Hao, et al., 2019). Green packaging main component is its environment-friendly nature because in the product production process: which includes the contributions of research department along with sales and production department, green packaging does not harm the environment or consumer health (Hao, et al., 2019). Studies on green packaging is organized in two groups, one from consumer perspective and the other from manufacture perspective (Nguyen, Parker, Brennan, & Lockrey, 2020). In terms of packaging, most of the research is done on packaging composition and packaging manufacture (Wandosell, Meroño, Alcayde, & Baños, 2021).

Research scholars has categorized green packaging. The first category of packaging focuses on materials and processes. For instance: designs for packaging were introduced that were thin and simple (Liu & Bin, 2010). The second category deals with macro perspective-status quo of green packaging. There must be legislation and regulations followed by all stakeholders for a good functioning recycling system (Hao, et al., 2019). Whereas the third category deals and studies the consumer behavior. Regional, cultural and psychological differences are also considered in third category to determine the relationship of consumer behavior, consumer characteristics with green packaging. Yıldız, Çiftçioğlu, & Kadırgan,(2017) concluded that packaging waste management system have a significant impact on consumers and residential health. The third category focuses on green packaging' impact on different consumers and ignores the effect of consumers on green packaging (Hao, et al., 2019). According to (Wang, et al., 2018) it is very important to collect and recycle materials for green packaging consumers' benefit.

Green Products demand has also increased in Pakistan as consumers are preferring green because of their increase interest in the environment. This study would be beneficial to understand factors that affects the consumer behavior. Recyclable packaging or reusable packaging would be beneficial to save and protect environment, by minimizing waste, pollution and depletion of resources. Moreover, this study will help companies to achieve competitive advantage and to prove their environmental concern to potential customers and overall society. Sustainable environment practices and eco marketing minimizes or eliminates the threat of activities, which damages environment. Consumers play a very major role by selecting green or clean commodities as environmental harm caused by secondary sector, decreases (Yokessa & Marette, 2019). The table 1 shows the working definitions of the constructs used in the study.

Table 1: Working definitions of the variables

Constructs	Working Definitions
Eco-Labelling	Eco labelling is a certificate of environment performance. Labels are used as a tool for promoting environment friendly products by manufacturers (Song, Qin, & Yuan, 2019).
Willingness to Pay	Premium amount paid by customers to acquire anything (Kashif & Rani, 2021).
Environmental Concern	Environmental concern are activities that impact soil, water and air positively, whereas, environmental issues are harmful for human and ecology (Shannon & Manata, 2020).
Attitude	Attitude has a notable role that influences purchase intention, especially for green packaged products. They will buy more in positive attitude and vice versa (Mishra J. 2017).
Consumer Buying Behavior	Consumer buying behavior refers to the desire or eagerness of customer towards a product. Theory of planned behavior is the most significant tool to determine purchase intention or consumer buying behavior (Loera, et al., 2022).

1.1 SIGNIFICANCE OF STUDY

According to Bharadwaj, Yadav, & Varshney (2020) the major cause of environmental pollution is the non-biodegradable packaging, which does not dissolve or break down naturally, which impacts environment and further results in pollution. Consumers considers green packaging as an essential factor during buying process; according to theory of value-based pricing, perceived value encourages consumers to pay higher prices (Singh & Pandey, 2018).

To promote the development of green packaging in Packaging, it is of key importance to know consumers buying behavior. The present study possesses the potential importance in highlighting the factors that affect consumer buying behavior. Four variables affecting consumer buying behavior are uncovered in this study: eco labelling, willingness to pay, environmental concern and attitude. This study will be beneficial for manufacturers, businesses in order to develop strategies, to achieve competitive advantage, increasing sales and improving brand image.

1.2 OBJECTIVE OF THE STUDY

To understand the green packaging' impact on consumer buying behavior, while considering attitude as mediating variable; the research objectives are:

- To investigate the impact of Eco-Labelling on Consumer Buying Behavior.
- To investigate the impact of Willingness to Pay on Consumer Buying Behavior.
- To investigate the impact of Environmental Concerns on Consumer Buying Behavior.
- To investigate the "Attitude" as a mediating variable between Eco-Labelling, Willingness to Pay, Environmental Concerns and Consumer Buying Behavior.

1.3 SCOPE OF THE STUDY

This study will contribute to the literature of green packaging by integrating pre-established constructs (such as eco-labelling, willingness to pay and environmental concern) in a comprehensive practice model, which will be helpful to determine consumers' buying behavior. Secondly, this study emphasizes on the mediating role of "attitude" while green packaging impact consumers' buying behavior. Joshi & Rahman (2016) argued that attitude of a customer is formed by the knowledge of ecology and environment.

Moreover, population for this study are university students of Pakistan. Data for this study was collected in time period of eight months. Theory of planned behavior is also considered to understand consumer buying behavior in more depth.

2. LITERATURE REVIEW

Green packaging ensures sustainable environment and individual's health; to resolve the environmental issues, reusable and recyclable packaging is important (Davis & Song, 2018). The use of green packaging not only attracts consumers but also achieves competitive advantage, for instance: Starbucks's green practice includes use of paper packaging, McDonald's uses bio-degradable packaging material for food packaging while Walmart implements 4Rs principal to minimize packaging waste (Auliandr, Armanu, Rohman, & Rofiq, 2018).

To resolve these issues, an important strategy could be the promotion of green packaging. Jafarzadeh, et al., (2020) suggested that different fragments of plant like seeds, leaves, roots and branches could be used for green packaging which would also increase shelf life of food products. (Singh & Pandey, 2018) describes packaging as a 5th P of Marketing Mix, which safeguards and conserve the actual product; and author also associated green packaging with 4R1D principal, that is, reduce, reuse, reclaim, recycle and degradable.

Mishra, Jain, & Motiani (2017) investigated consumer behavior towards green packaging, in India, considering attitude as mediating variable. Auliandri, Thoyib, Rohman, & Rofiq (2018) conducted similar research on green packaging and observed attitude as mediating variable to measure consumer's purchase intentions. (Zheng, Siddik, Masukujjaman, Alam, & Akter, 2020) also researched on green buying behavior through mediating effect of attitude. For detail description of variables, theory and context, refer to table 2.

Table 2: Green Buying Behavior in Asian Countries

Authors	Context	Products	Guiding Theory	Dependent Variable	Independent Variable
(Souri, Sajjadian, Sheikh, & Sana, 2018)	Bangladesh	Grocery	Theory of Planned Behavior	Consumer Purchase Behavior	• Environmental Awareness • Environmental Concern • Purchase Intention
(Adrita, 2020)	Bangladesh	Grocery	Theory of Planned Behavior	Consumer Purchase Behavior	• Purchase intention • Information • Price
(Nekmahmud & Fekete-Farkas, 2020)	Bangladesh	Grocery	Theory of Planned Behavior	Consumer Purchase Behavior	• Willingness to pay for green Products • Green products • Perceived Benefits • Price
(Bashir, Khwaja,	Pakistan	Hotel	Theory of	Green Consum	• Environmental

Turi, & Toheed, 2019)			Planned Behavior	er Behavior	Consciousness • Behavioral Intention • personal Norms
(Ashraf, Joarder, & Ratan, 2019)	Bangladesh	Organic Products	Theory of Planned Behavior	Organic Food Purchase	• Trustworthiness • Attitude • Normative Structure
(Jahanshahi & Jia, 2018)	Bangladesh	Grocery	None	Green Purchase Behavior	• Desire for Uniqueness • Customer's belief • Socio-demographics
(Sumi & Kabir, 2018)	Bangladesh	Tea	None	Buying Intention	• Trust • Perceived Price • Product Attributes • Environmental Concern
(Misra & Singh, 2016)	India	Food	None	Growth	• Safety and Health • Lifestyle • Trust • Availability
(Uddin & Khan, 2016)	India	Grocery	None	Green Purchasing Behavior	• Perceived Effectiveness • Environmental Attitude
(Joshi & Rahman, 2016)	India	Grocery	Theory of Planned Behavior Theory of Reasoned Action	Consumer Behavior	• Environmental Knowledge • Eco-labelling • Recycling
(Ghosh, Datta, & Barai, 2016)	India	Organic Food	None	Purchase Behavior	• Eco-Friendliness • Certification • Availability • Price
(Khare A. , 2015)	India	Grocery	Theory of Planne	Purchase	• Environmental Norms • Environme
			d Behavior Theory of Reasoned Action	behavior	ntal Attitudes
(Kumar & Ghodeswar, 2015)	India	Grocery	None	Green Product Purchase	• Experience • Environment • Friendliness • Environmental Protection and Responsibility
(Lee, Lee, & Gunarathne, 2019)	Sri Lanka	Hotel	None	Revisit Intention	• Willingness / Intention to Pay Premium • Green Awards • Certifications
(Samarasinghe & Samarasinghe, 2013)	Sri Lanka	Food	Theory of Planned Behavior	Actual Purchase	• Environmental Concern • Demographics • Environmental Knowledge • Purchase Intention

Source: (Zheng, Siddik, Masukujjaman, Alam, & Akter, 2020)

2.1 CONSUMER BUYING BEHAVIOR- *THEORETICAL PERSPECTIVE*

Theory of planned behavior and theory of reasoned action are mostly used (table 2) to determine consumer buying behavior for food and grocery products (Zheng, Siddik, Masukujjaman, Alam, & Akter, 2020). In product market, consumer's desire and habits are often determine by theory of reasoned action or theory of planned behavior (Auliandri, Thoyib, Rohman, & Rofiq, 2018).

Theory of Planned behavior is broadly used Souri, Sajjadian, Sheikh, & Sana (2018) to justify consumer purchase intention (Zheng, Siddik, Masukujjaman, Alam, & Akter, 2020). Recent research also confirmed that theory of planned

behavior provides good conception and prediction on an individual motivation in consuming green packaged product (Auliandri, Thoyib, Rohman, & Rofiq, 2018).

This study attempts to extend the behavior and intentions model, i.e., theory of planned behavior by including independent variables (eco labelling, willingness to pay and environmental concern) and mediating variable (attitude) to investigate consumer buying behavior.

2.2 ECO-LABELLING

Eco labels are symbols or signal to attract customers to purchase green products, over large number of competitors (Yokessa & Marette, 2019). The use of eco labelling helps to differentiate products from competitors' product. These labels also ensure manufacturers that not only they but customers also care about environment, so they always introduce new packaging ideas and designs to reduce impact on environment. Customer's preference has changes, they buy those products which includes eco labels on packaging (Kong, Harun, Sulong, & Lily, 2014). These eco label confirms that these packaging would have minimum negative impact on environment, reduces the dangerous impact on health and protects climate and resources. The use of eco labels by manufacturers guarantees the social responsibility of business and have high standards in environmental protection (Yazdanifard & Mercy, 2011). According to (Gallastegui, 2002), eco labels provide consumers with information about the product and its impact on environment, during consumption, disposal as well as in manufacturing activity. Eco labels are usually owned by NPOs and private firms; in 2012, only 17 % eco labels were owned by public (Gruere, 2015).

In general, there are three types of eco labels. Eco labels type 1 portrays as an ISO standardization, to establish ecological standards and principles. These (eco label type 1) labels are used by voluntary and government organizations. Examples of type 1 labels are, Blue label of Germany and EU labels (Gallastegui, 2002). Eco labels type 2 are used by organizations, these labels could also be symbols and usually this category of eco labels' cover food products (Boyatzis, 1998; Knight et al., 2007). Type 2 labels only focuses on one attribute of a product, like CFC free product and are used by manufacturers, retailers and importers of that particular product (Gallastegui, 2002). Whereas, eco labels type 3 consider parameters like buying or selling of packaged raw materials, spare parts or components etc.; these products are not for customers but use in manufacturing or by secondary sector of an economy. Type 3 labels are rarely found on products (Gallastegui, 2002).

The use of eco labels on packaging of a product ensures customers and other stakeholders regarding safe environment protection through packaging (Bech-Larsen and Esbjerg, 2006). These labels also tell customers about environmental quality of product and how that product's life cycle impacts environment. There are already number of laws, regulations and corporate policies regarding extraction and disposal of materials use in packaging. The labels also portray company efforts and spending to save environment through environment practices. Eco label develops and promote company image as environment friendly company, in competitive environment where number of competitors are very high, this helps to increase sales and gain competitive advantage.

Eco labels will only be beneficial if consumers are aware of environmental threat. For instance, the dolphin eco label, introduced by fishers, was very much successful to stop killing of dolphins, the number of deaths was reduced (Yokessa & Marette, 2019). Yokessa & Marette (2019) suggested that eco-labels could be included in environmental strategy and policy for developing and developed countries.

2.3 ENVIRONMENTAL CONCERN

It is important for firms to balance between economic growth and environmental concerns because of regulatory and community pressures

(Seman, Zakuan, Jusoh, & Arif, 2012). Environmental issues consist of climate change, global warming, water pollution and air pollution. 85 percent natives of developed economies believe that the most important and major public issue is the environment (Carson & Moulden, 1991). Environmental concern can be defined as people' efforts and willingness to reduce issues that directly impact environment. According to (Bharadwaj, Yadav, & Varshney, 2015) one of the major cause of environmental pollution is the non-biodegradable packaging. This might be because of the problem with bio-degradable packaging' raw material. These materials do not dissolve or break down naturally, which impacts environment and further results in pollution.

An individual knowledge and awareness about environment lead to environmental concerns. Proper environmental knowledge and relationship between environment and eco system helps individuals and firms to develop strategies and different factors to resolve environmental problems. Private households are responsible for 30 – 40 percent of environment degradation (Grunert, 1993). Shen, et al. (2020) concluded that sustainable packaging is the best strategy through which environmental degradation and environmental pollution can be controlled. It is not the duty of a specific person or a particular firm, however it is a collective responsibility of all citizens of the country to have a sustainable environment.

Most of the time, customers are not mindful of the environmental impact produced by their purchase decision because environmental impact cannot be measured and checked before purchase (Yokessa & Marette, 2019). These consumers make unlettered purchase decisions based on rumors and word of mouth of friends. It was also concluded by (Prakash & Pathak, 2017) that knowledge of environmental concerns in individuals and people, makes them to act in ecological manner: which is by causing minimal damage to the environment. People having proper environmental information would purchase and prefer food items in green packaging as these product does not affect atmosphere, natural environment and also causes no pollution. The concept of environmental awareness also tells customer about certain activities that leads to degradation of environment. Consumers are also aware about firms that pollute the environment by using non-recycled material that cannot be disposed or reused. From all of this discussion, we can say that an individual or a business that wants to protect environment, focuses and works to preserve or save environment; which reflects environmental concerns.

Multiple researches are already conducted on environmental concerns. Davis & Song (2006) discussed that how the remains and raw material of crops, effects environment. Green packaged products are purchased by those, who wishes to save environment and natural resources. According to (Smith, 1990), due to increase in environmental knowledge, this has forced consumers to purchase green products; for instance, 80 percent of UK population confirmed that they are worried for environment and 1 out of 5 individual purchased green product.

2.4 WILLINGNESS TO PAY

Consumer are willing to pay on material' eco friendliness because consumer perceives paper packaging is ecofriendly while plastic packaging is harmful for environment. As the quantity of packaging has increased due to increase in sales and demand, environment pollution has become a major problem (Hao, et al., 2019). Green packaging has contributed towards environment protection (Grönman, et al., 2013). Most of the consumers has started purchasing green packaged goods as they are eager to pay for it (Nordin & Selke, 2010). It was concluded that purchasing of eco-friendly products is mainly influenced by factors like environmental fears, norms, also consumers' willingness to pay (Prakash & Pathak, 2017). The preference of green packaged products differs from customer to customer because of social impacts (Rokka & Uusitalo, 2008). According to (Hao, et

al., 2019) foreigners and local consumers usually have different consumption preferences and willingness because of differences in social background and culture.

Customers are willing to pay higher prices if food comes in (green) paper bags, as it gives feel of healthiness. Buying vegetables in such bags, gives consumers a feel of fresh product and they are enthusiastic to pay premium. Eco packaging could be a mainstream of competitive advantage, which results in lower cost of production. Hence, sales increase. Subsidies and incentives could be provided to manufacturers, eco labels should be considered as a policy by manufacturers to attract customers with high level of willingness to pay prices (Yokessa & Marette, 2019).

The results Hao, et al. (2019) predicted that even consumers don't have adequate knowledge of green packaging, however they are willing to pay for it due to practicality of green packaging, which includes elements like reusability and convenience. Table 3 shows defined variables which are influenced by willingness to pay (Singh & Pandey, 2018).

Table 3: Variables which are Influenced by Willingness to Pay

Variables (influenced by WTP)	**References**
Environmentally Safe Packaging Material	(Zhang & Zhao, 2012)
Recyclable	(Zhang & Zhao, 2012)
Biodegradable	(Zhang & Zhao, 2012)
Human Health	(Zhang & Zhao, 2012)
Reclaimable	(Zhang & Zhao, 2012)
Shelf Life	(Prendergast & Pitt, 1996)
Does not React with the Inside Product	(Kassaye & Verma , 1992)
Climate Conditions	(Kassaye & Verma , 1992)
Livestock Health	(Zhang & Zhao, 2012)
Leak Proof	(Kassaye & Verma , 1992)
Air Tight	(Kassaye & Verma , 1992)
Environmentally Safe Labels	(Chuang & Yang, 2014)
Environmentally Safe Endorsements	Expert Views
Disposal Instructions	(Kassaye & Verma , 1992)
Safe vs. Unsafe for the Environment	(Smallbone, 2005)
Environmentally Safe Printing Material	Expert Views
Reusability	(Chuang & Yang, 2014; Kassaye & Verma , 1992)
Reseal-ability	(Chuang & Yang, 2014)
Packaging Size	Expert Views
Packaging Simplification	(Chuang & Yang, 2014)
Ease of Disintegration	(Chuang & Yang, 2014)
Reducing Waste	(Shang, Lu, & Li, 2010)
Minimum Pollution	(Shang, Lu, & Li, 2010)
Minimum Energy	(Shang, Lu, & Li, 2010)

Source: (Singh & Pandey, 2018)

Very little research is done for green packaging in terms of willingness to pay or consumption preference (Hao, et al., 2019). In 1998, tax rates for factories were reduced to promote green packaging; which resulted consumers to buy these green packaged products due to lower costs (Fullerton & Wu, Policies for Green Design, 2018). Okoe, Boateng, Quansah, & Omane (2018) concluded that elements like perception, self-esteem have significant impact on consumer behavior and their willingness to pay premium prices.

2.5 ATTITUDE

With respect to green packaging, the attitude of a customer is formed by the knowledge of ecology and environment. The study of sustainable packaging from the buyer perception includes the

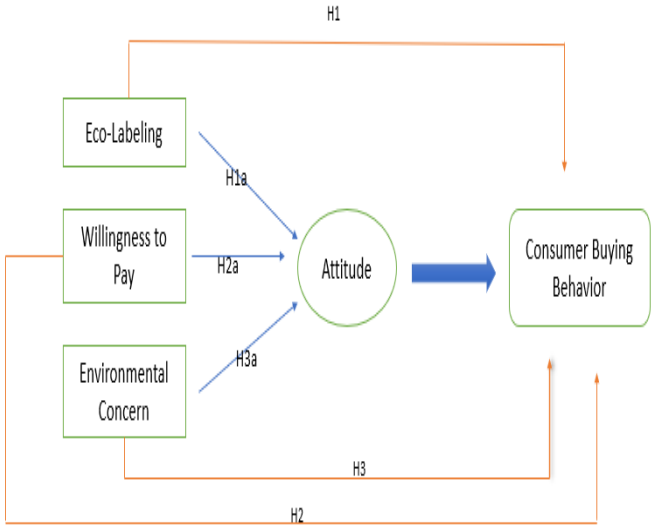
study of consumer opinions about green packaging and their purchase decisions. Information provided on the back of a product packaging, which is of green or organic product, becomes part of knowledge. The consumers' perspective has great significance in green packaging as they demand products with longer shelf lives. This increase in demand has led manufacturers to use green packaging and develop sustainable policies (Wandosell, Meroño, Alcayde, & Baños, 2021). Regulating the behavior of a consumer is a tough task and requires some initial data and knowledge of determinants of behavior. It was concluded (Engel, Blackwell, & Miniard, 1993) that due to knowledge, attitudes and determinants of behavior, the health-conscious consumers do study eco labels along with health benefits like basic nutrition and these consumers prefer products which are packaged in recycled cartons or plastic.

The consumption pattern of consumers play a vital role in development of sustainable world (Andrés, Martínez, & Vallejo, 2011). Ecological purchasing behavior and consumers attitude has been investigated in multiple papers from different theoretical perspectives (Dennis, Risco, Horna, Cespedes, & Sekar, 2019). Multiple factors were acknowledged for ecological purchasing and environmental behavior, however attitudes of the participants was significant and stand out among all other factors (Eagles & Demare, 1999). Other factors were knowledge, awareness and environmental concern (Johnson & Manoli, 2008). The past purchasing habits of individual are associated with attitudes and patterns for consumption of ecological products (Chan, 2001).

Research was conducted in 2009 which showed that even 89 percent of Lima's population prefers environmentally friendly packaging of a product, however, the environment was harmed or deteriorated by 96 percent (Mayo, 2009). In another study, a significant relationship was found between attitudes and sustainable packaged products (Ahn, Koo, & Chang, 2012).

Theoretical Framework

Figure 1: Conceptual framework of consumer buying behavior



2.6 HYPOTHESIS

H1: Eco-labelling has a significant relationship with Consumer Buying Behavior.

H2: Willingness to Pay has a significant relationship with Consumer Buying Behavior.

H3: Environmental Concern has a significant relationship with Consumer Buying Behavior.

H1a: Attitude mediates the relationship between Eco Labelling and Consumer Buying Behavior.

H2a: Attitude mediates the relationship between Willingness to Pay and Consumer Buying Behavior.

H3a: Attitude mediates the relationship between Environmental Concern and Consumer Buying Behavior.

3. METHODOLOGY

3.1RESEARCH TYPE

Research model is planted on the theory of planned behavior. The current study type is quantitative and the purpose of this paper is to investigate how green packaging impacts consumer buying behavior. The unit of analysis for this study are individual consumers of green packages food products.

3.2 DATA TYPE AND RESEARCH INSTRUMENT:

Amberg & Fogarassy (2019) carried out research in Hungary to investigate green consumer behavior in the cosmetic market through questionnaires. Structured questionnaire consists of 5 points itemized rating Likert scale, in which respondents have to choose from "Strongly Agree" to "Strongly Disagree". 1 represents strongly agree, 2: agree, 3: neutral, 4: disagree and 5: strongly disagree (Novita & Husna, 2020).

Questionnaire comprises of two sections. The first sections contain basic collection of the participant's demographic profile. The second section measures Eco Labeling, Willingness to Pay, Environmental Concern, Attitude and Consumer Buying Behavior. Questionnaire, attached in appendix A. Table 4 shows the no. of items of the variables adopted in the study.

Table 4: Factor Loadings

Variables	No. of Items	Source
Eco Labelling	6	(SUKI, 2020)
Willingness to Pay	3	(Khan & Kirmani , 2020)
Environmental Concern	4	(Varah, Mahongnao, Pani, & Khamrang, 2021)
Attitude	4	(Varah, Mahongnao, Pani, & Khamrang, 2021)
Consumer Buying Behavior	6	(Khare A. , 2019)

3.3 SAMPLE SIZE AND RESEARCH PERIOD

Target population for this study are young adults, aged between 18 – 40. Out of 290 questionnaires, 200 were chosen based on the complete questionnaires. Data collection period last for eight months. Participants were approached to fill out the questionnaire through google forms.

3.4 SAMPLING TECHNIQUE

Responses were collected by adopting convenient sampling method, which is a non-probability sampling technique (Amir & Asad, 2018). Convenient sampling technique is chosen because data is collected from respondents in timely manner and google forms are cost-effective to collect and process data. The questionnaire will be shared using social media applications (Amberg & Fogarassy, 2019)

3.5 STUDY AREA AND PARTICIPANTS

Green packaging impact was investigated on young consumers in Romania and the unit of analysis were university students (Kardos, Gabor, & Cristache, 2019). For present study, population will be young adults, aged between 18-40, whereas sample size includes students from private university sector of Pakistan.

3.6 DATA ANALYSIS TOOLS AND TECHNIQUES

The data is calculated by SPSS, using a simple regression method to determine the impact of green packaged food products on consumer buying behavior. Descriptive statistics along with Pearson method is used for validation, reliability test and Enters method for regression analysis is carried out (Rahadian, Prayogo, Sodikin, & Saribanon, 2020). Moreover, Andrew's Hayes Process is used for mediation.

4 RESULTS

In this chapter, quantitative data, which was collected using questionnaire is analyzed using SPSS software. Tests like correlation analysis, regression analysis (anova test) is used to find the results of the hypothesis.

4.1 RESULTS FOR HYPOTHESIS

H1: Eco-Labelling has a significant relationship with consumer buying behavior.

Regression analysis is used to find the strength between dependent and independent variables. In this hypothesis, the dependent carriable is consumer buying behavior whereas independent variable is eco labelling. R value shows the correlation between eco labelling and consumer buying behavior, which is 0.583 as mentioned in table 5. The value of R-square is 0.340, which is less than 0.5: it indicates moderate relationship between

variables. Eco labelling have 34% impact on Consumer Buying Behavior.

Moreover, Anova is the statistical value through which the hypothesis acceptance is tested. As F value is 90.6 as shown in Table 6 which is greater than 1 and Significance value is less than 0.05, makes hypothesis accepted. The value of Beta is positive, which shows that Eco Labelling and Consumer Buying Behavior are direct proportional, indicates that 1-unit increase in Eco Labelling will Increase Consumer Buying Behavior by 77.7% as shown in Table 6**.**

H2: Willingness to Pay has a significant relationship with consumer buying behavior.

Regression analysis is used to find the strength between dependent and independent variables. In this hypothesis, the dependent carriable is consumer buying behavior whereas independent variable is willingness to pay.

R value shows the correlation between willingness to pay and consumer buying behavior, which is 0.601 as indicated in table 5 . Thus, willingness to pay and consumer buying behavior and positively corelated. The value of R-square is 0.362, as expressed in table 5 which is less than 0.5, it indicates moderate relationship between variables. Willingness to Pay have 36.2% impact on Consumer Buying Behavior.

The F value as proclaimed in table 6 is 101.5 which is greater than 1, whereas Significance value is less than 0.05, i.e., 0.0. This hypothesis is accepted. The value of Beta is positive as mentioned in table 6 which shows that Willingness to Pay and Consumer Buying Behavior are direct proportional, indicates that if 1 unit of Willingness to Pay is increase, Consumer Buying Behavior will increase by 54.3%.

H3: Environmental concern has a significant relationship with consumer buying behavior.

Regression analysis is used to find the strength between dependent and independent variables. In this hypothesis, the dependent carriable is consumer buying behavior whereas independent variable is environmental concern. The value of R determines correlation. As the R value is 0.302 as indicated in table 5 , it means that environmental concern and consumer buying behavior are positively correlated. The value of R-square is expressed in table as 0.091 which is less than 0.5, it indicates moderate relationship between variables. Environmental Concern have 9.1% impact on Consumer Buying Behavior.

The F value appeared in table 6 as17.9 which is greater than 1, whereas Significance value is 0.0 which is less than 0.05. This hypothesis is accepted. The value of Beta is positive, which shows that Environmental Concern and Consumer Buying Behavior are directly proportional, which further indicates that 1-unit increase in Environmental Concern will increase Consumer Buying Behavior by 34.2%, as shown in table 6.

Table 5: Model Summary

		MODEL SUMMARY		
Constant	**R**	**R-Square**	**Adjusted R Square**	**Std. Error of the Estimate**
Eco-Labelling	0.583	0.34	0.336	0.71137
Willingness to Pay	0.601	0.362	0.358	0.69554
Environmental Concern	0.302	0.091	0.086	0.82991
* Dep Variable: Consumer Buying Behavior				

Table 6: ANOVA and Coefficients

	ANOVA & Coefficients			
Constant	**Mean Square**	**F**	**Sig**	**Beta**
Eco- Labelling	45.88	90.664	0	0.777
Willingness to Pay	49.081	101.454	0	0.543
Environmental Concern	12.39	17.99	0	0.342
* Dep Variable: Consumer Buying Behavior				

Table 7: Summary of Results

Hypotheses	Results
H1: Eco-Labelling has a significant relationship with consumer buying behavior.	Accepted
H2: Willingness to Pay has a significant relationship with consumer buying behavior.	Accepted
H3: Environmental concern has a significant relationship with consumer buying behavior.	Accepted

4.2 RESULTS FOR MEDIATION

H1a: Attitude mediates the relationship between Eco Labelling and Consumer Buying Behavior.

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OUTCOME VARIABLE:
 ATT

Model Summary
          R       R-sq        MSE          F        df1        df2
      .5651      .3193      .5103    81.1460     1.0000   173.0000      .0

Model
             coeff         se          t          p       LLCI       ULCI
constant      .4697      .1930     2.4338      .0160      .0888      .8506
EL            .7391      .0820     9.0081      .0000      .5771      .9010

**************************************************************************
OUTCOME VARIABLE:
 CBB

Model Summary
          R       R-sq        MSE          F        df1        df2
      .6454      .4166      .4436    61.4075     2.0000   172.0000      .0

Model
             coeff         se          t          p       LLCI       ULCI
constant      .6329      .1830     3.4588      .0007      .2717      .9940
EL            .5198      .0927     5.6063      .0000      .3368      .7028
ATT           .3345      .0709     4.7192      .0000      .1946      .4744
```

Figure 2

Value of R signifies the correlation. As R is 0.56, which means that eco labelling and attitude are positively correlated. The second R value is 0.64 which means that eco labelling and attitude are positively correlated with the dependent variable, which is consumer buying behavior.

The R square value for Eco Labelling and Attitude is .03193, which is less than 0.5 and Significance value is also less than 0.05 which clearly indicates a moderate relationship between these two variables.

The combined R square value for Eco Labelling and Attitude is 0.4166, which is acceptable because Significance value is less than 0.05.

The Beta value for Eco Labelling is 0.5198 which concludes that 1 unit increase in Eco Labelling will increase Consumer Buying Behavior by 51.9%; whereas, 1 unit increase in Attitude will increase Consumer Buying Behavior by 33.4% as Beta value is 0.3345.

Result: This hypothesis (H1a) is accepted.

H2a: Attitude mediates the relationship between Willingness to Pay and Consumer Buying Behavior.

```
**************************************************************************
OUTCOME VARIABLE:
 ATT

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6403      .4100      .4361   122.2809     1.0000   176.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant      .7172      .1383     5.1873      .0000      .4443      .9900
WTP           .5775      .0522    11.0581      .0000      .4744      .6805

**************************************************************************
OUTCOME VARIABLE:
 CBB

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .6335      .4013      .4497    58.6450     2.0000   175.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant      .9909      .1507     6.5735      .0000      .6934     1.2884
WTP           .3531      .0690     5.1139      .0000      .2168      .4893
ATT           .3107      .0765     4.0589      .0001      .1596      .4618
```

Figure 3

Value of R signifies the correlation. As R is 0.64, which means that willingness to pay and attitude are positively correlated. The second R value is 0.63 which means that willingness to pay and attitude are positively correlated with the dependent variable, which is consumer buying behavior.

The R square value for Attitude and willingness to pay is .410, which is less than 0.5 and Significance value is also less than 0.05 which clearly indicates a moderate relationship between these two variables.

The combined R square value for willingness to pay and Attitude is 0.4013, which is acceptable because Significance value is less than 0.05.

The Beta value for willingness to pay is 0.3531 which concludes that 1 unit increase in willingness to pay will increase Consumer Buying Behavior by 35.3%; whereas, 1 unit increase in Attitude will increase Consumer Buying Behavior by 31% as Beta value is 0.3107.

Result: This hypothesis (H2a) is accepted.

5. CONCLUSION

The purpose of this research was to find out the impact of green packaged food products on consumer buying behavior and whether attitude mediates the relationship between eco labelling, willingness to pay and environmental concern with consumer buying behavior. Theory of planned behavior was also discussed to understand the consumer behavior and intentions. H1 was accepted which states that eco labelling has a significant relationship with consumer buying behavior. As Bech-Larsen and Esbjerg (2017) concluded that use of eco labelling on packaging ensures customers and other stakeholders regarding safe environment protection which further impacts the customers purchase intention. Moreover, some studies have confirmed and concluded that information provided by eco labels to customer helps them to make environmentally informed purchased decisions (Taufique, Vocino, & Polonsky, 2017).

H2 was accepted which states that willingness to pay has a significant relationship with consumer buying behavior. It was concluded that purchasing of eco-friendly products is mainly influenced by factors like environmental fears, norms and also through consumers' willingness to pay (Prakash & Pathak, 2017). Consumer are willing to pay on material' eco friendliness because consumer perceives paper packaging is ecofriendly while plastic packaging is harmful for environment (Singh & Pandey, 2018). Hao, et al., (2019) stated that even consumers don't have adequate knowledge of green packaging, however they are willing to pay for it due to practicality of green packaging, which includes elements like reusability and convenience.

H3 was accepted which states that environmental concern has a significant relationship with consumer buying behavior. It was concluded by (Prakash & Pathak, 2017) that knowledge of environmental concerns in individuals and people, makes them to act in ecological manner: which is by causing minimal damage to the environment. People having proper environmental information would purchase and prefer food items in green packaging as these product does not affect atmosphere, natural environment and also causes no pollution. Green packaged products are purchased by those, who wishes to save environment and natural resources. According to (Smith, 1990), due to increase in environmental knowledge, has forced consumers to purchase green products

H1a, H2a and H3a were accepted which states that attitude mediates the relationship between eco labelling, willingness to pay, environmental concern and consumer buying behavior. These hypotheses were accepted and results were also linked with previous researches. As discussed in theory of planned behavior and consumer behavior model that attitude have a direct impact on buying behavior and it also mediates other variables (Taufique, Vocino, & Polonsky, 2017).

6. LIMITATIONS

- Data was gathered only from Lahore and Islamabad.
- Study was conducted with few variables.
- Consumers' buying behavior could change in future.
- Sample size does not reflect purchase intention or buying behavior of the population.

7. RECOMMENDATIONS

- Study with more independent variables and mediating variables.
- Data should be collected from universities of different cities.
- Increase in sample size.

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