



A Study on Design Appeal of Green Packaging in China

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ABSTRACT

This quantitative study examines the relationship between consumption functionality and green packaging dimensions among 484 consumers in China. The data was analyzed using SPSS and AMOS to test the impact of consumption functionality on product meaningfulness and willingness to purchase, as well as the mediating role of green packaging. As packaging has evolved to add functional, emotional and social value to products, influencing brand image, this study investigates the design appeal of green packaging. The aim is to determine how consumption functionality affects product meaningfulness and willingness to purchase green packaged products, and whether green packaging mediates these relationships. The variables studied include consumption functionality, product meaningfulness, willingness to purchase, and green packaging components such as symbolic, economic and altruistic values. The literature review examined prior research on the impacts of consumption functionality on product meaningfulness and purchase willingness. It also covered studies on the symbolic, economic and altruistic values of green packaging and its potential mediating effects. The results provide insights into Chinese consumer responses to green packaging, specifically the mechanisms by which consumption functionality and green packaging influence product meaningfulness and willingness to purchase. This helps marketing practitioners determine effective positioning and messaging approaches for green packaged goods. It provides guidance on tactical elements like packaging design. The findings can shape creative strategies for brands looking to leverage green packaging appeals among Chinese consumers. Further research can build on this study to deepen knowledge in this emerging area as the popularity of sustainable packaging grows.

Keywords: marketing strategy, packaging design, consumer research, sustainable packaging.

1. INTRODUCTION

Packaging has become an essential component of a product's functional value, and it contributes a large part to the overall price of the product (Boz et al., 2020). With the increasing manufacturing rate of various products, the consumption of plastics is also being increased rapidly for packaging purposes. In normal practice, plastic is being utilized for packaging consumer goods, i.e. used once and is then discarded. However, this has increased plastic pollution globally. The one-time utilization of plastic is considered to have a damaging impact on the environment of the world. Therefore, many companies have taken the initiative to introduce green packaging. Government regulations, as well as the public, are pressurizing various companies to cut off plastic packaging to improve environmental sustainability. The knowledge of sustainable development has influenced the public's mind greatly, and many consumers are supporting green strategies. However, being one of the fastest-growing developing countries in the world, China is pressured to promote ecological balance. The packaging industry is found to be closely related to sustainable development; thus, green packaging has become the new pursuit of consumers to attain the balance between ecological development and economic growth but still the economy of the China has been discussed as the one of the most pollutions emitting country and one of the major reasons behind this tag was the pollution that comes with the waste materials including plastic (Wang et al., 2019). In addition to this, the Chinese industries have been extensively producing tons of plastic wastes and wasting it using different sources like oceans, burning and decomposing and several authors have been shedding light on this critical factor. The country has been surrounded by oceans and marines accumulated with plastic wastes and has been highlighted as a country poor sustainable practice (Hao & Jiang, 2023).

The information provided on the packaging and label of the products helps in attracting the attention of consumers. It has been observed that most consumers are attracted by the packaging of products irrespective of their actual attributes, and the purchasing intentions of the consumers are largely influenced by the packaging of the products and the material used for packaging the product. In this regard, green packaging has emerged as a new eco-friendly product. It has contributed to various factors in protecting the environment. Consumers are more likely to buy eco-friendly products irrespective of their costs as compared to general products (Prakash et al., 2019). Various factors such as attitude, behaviour, environmental concerns and willingness to pay also impact the buying behaviour of consumers. Additionally,

the symbolic, economic and altruistic values of packaging also impact the buying behaviour of the consumers. However, in today's modern world, various technologies are being used to improve packaging techniques, and people are more concerned regarding the sustainability of the environment rather than the prices of the products.

Besides this, green packaging is also considered to have certain important factors which are beneficial in ensuring the safety of food and preventing contamination and leaching chemicals. Many consumers feel better about buying green products, but these products usually have higher costs which negatively impacts many consumers purchasing intentions.

Consequently, by exploring this much critical side effects of plastic pollution, its long-term devastating consequences, the changing trend of the perception and mindset of the customers towards green packaging and sustainability practices, the researcher realized the urgent and incumbent need of `facilitating the industry with a road map that will empower the firms of the industry in improving their CSR activities, sustainable approaches and high profits. Therefore, the present research study has developed its aim determining the impact of consumption functionality on willingness to purchase and product meaningfulness. Further, the researcher has aimed to explore the consumers perspectives in three different dimensions including economic value, social value and altruistic value; all together to illustrate the consumers mindset towards these green packaging aspects.

The novelty is added to the present study by focusing on the relationship between consumption functionality and green packaging dimensions. This study also focuses on the impact of consumption functionality on consumers' willingness to purchase and product meaningfulness. Therefore, the present study is found to be effective in filling the research gaps observed from past conducted studies as it focuses on the symbolic, economic and altruistic values of green packaging and their influence on the buying attitudes of consumers. The concept of green packaging is not only limited to the protection and sustainability of the environment, but it also includes the relationship between social and ecological factors promoting the development of the socio-economic environment. The present study is also beneficial in understanding the need of promoting the consumption functionality of green packaging to encourage more consumers to purchase products with green packaging as compared to other general items.

2. LITERATURE REVIEW

2.1 The Theory of Consumption Values (TCV)

TCV suggests that the customers purchase decisions are usually determined by the perceived value of the product including the brand choice and product type choice (Sheth et al., 1991). The concept of perceived value is crucial in the research of consumer behavior. It represents the overall assessment of value by a person i.e. attained from the individual's interaction with the sellers and other buyers along with the shopping experience. It also represents the customer's assessment of benefits and drawbacks of a choice (Zailani et al., 2019). This assessment of value is critical for consumers to make consumption choices and preference judgments. One of the past studies conducted on determining the consumer behavior in the context of drinks, stated that various factors impact the choices and judgments of a consumer made in regard of a certain product. These factors included intrinsic attributes (such as taste in this case), perceived quality of the product, product convenience, extrinsic factors such as product price, category, brand and other related factors. This helps in depicting the impact of consumption experience in determining the value assessments of a consumer (Chakraborty et al., 2022).

2.2 Impact of Consumption Functionality on Willingness to Purchase

Packaging is considered to improve the consumption functionality of a product. According to Efendioğlu (2022), adding aesthetic value to packaging along with functional values play a vital role in gaining the attention of many consumers. Additionally, the usage of packaging also improves the attitude of the consumers impacting their purchasing behaviour. Its functionality determines the functional outcomes of a product. However, in green packaging, consumers' emotional and social values also contribute to their buying decisions. Therefore, consumption functionality is considered to play a significant impact in the buying behaviours of consumers. Many other studies (Nosi et al., 2020) also opposed this belief, stating that the consumption functionality does not effectively impact the willingness to purchase of consumers. Apart from this, other various factors, such as costs, image, brand name etc., were considered to be essential in this regard. In contrast, many other past studies (Coderoni & Perito, 2020) showed neutral results stating that consumption functionality, along with other factors, play an essential role in influencing consumers' buying decisions. Thus, the present study is effective in determining the impact of consumption functionality on consumers'

willingness to purchase. The above discussion from the past studies is effective in developing the following hypothesis for the present study:

H1: Consumption functionality positively impacts willingness to purchase.

2.3 Impact of Consumption Functionality on Product Meaningfulness

Past studies (Baccarella et al., 2021; Ketron et al., 2021) have shown that the meaningfulness of a product is valued by the consumer based on their involvement level with the product. The knowledge of the consumer regarding the new product also plays an essential role in this regard. A study conducted by (Christen, 2018) also stated that product meaningfulness largely impacts the buying decisions of consumers. The consumers' perceptions are essential in understanding creativity and its impact on the evaluation of the product. This is effective in defining various values for the new product development, ensuring the consumption function of the product. Scholars have also observed the inconsistency of new product outcomes. While many past studies (Liu et al., 2020; Miguel et al., 2022) have also advocated the positive outcomes of new products, including differentiation, competitive, and competitive advantage and product performance and quality. Previous research stated that the meaningfulness and novelty of the product result in an improved perceived value of the product. Therefore, product meaningfulness greatly impacts the attitude and behaviour of consumers, and their decision-making processes for buying a product largely depend on its novelty and meaningfulness. This argument is also advocated by various studies (Huang et al., 2019), which provided empirical evidence in the context of a positive relationship between product meaningfulness or novelty and buying behaviours of consumers.

H2: Consumption functionality positively impacts product meaningfulness.

2.4 Mediating role of green packaging

The consumption functionality and willingness to purchase a commodity are highly linked with the symbolic value of the product. Through the literature, it has been identified that with the advanced attributes of consumption functionality, the willingness to purchase increases by the customer as long as the symbolic value is there. DAHLANDER et al. explained that customers still purchase their favorite products without symbolic value. Still, they become more confident towards their purchase when the value attached to a product is verified and worthy. Thus the following hypothesis is formulated:

H3: Symbolic value strongly mediates the relationship between consumption functionality and willingness to purchase

The consumers intend to buy products only that fulfil their criteria of assumptions. The consumers thus expect the amount spent to align entirely with the products' intrinsic and extrinsic attributes. Thus, the symbolic value is the linguistic or non-linguistic pointer of something other than the core bearer of value that distinguishes a product from its competitors and adds tremendous confidence to the consumer's mindset regarding purchase. The symbolic value is also a sort of addition to the product's attributes. The clearer the symbol of a product, the better the outcome (Kingston & Paulraj, 2024). The concept of GSVO, commonly known as global symbolic-value orientation, directs the consumers' desire, aim, and authenticity or will to gain the symbols that result in a potential strengthening of their global citizenship. Because consumers are willing to pay on behalf of the product's qualities and intrinsic trends, the enhancement of symbolic value is natural, and the consumption function is also a bonus in this relationship (Nguyen Hoai, 2017; Rambabu & Porika, 2020).

H4: Symbolic value significantly mediates the relationship between consumption functionality and product meaningfulness.

Further, another study evaluated the ecological and economic value of the green products and investigated their significance for the consumers buying attitudes and buying intentions for green products (Jan et al., 2019). For the investigation, the study pursued the quantitative research approach and targeted the green products consumers in China and revealed some unusual results. The results showed insignificant regression values for economic values and supported the health and safety values. Thus, revealed that consumers pay more attention and value to the hygiene values as compared to economic values (Jan et al., 2019). Therefore, this study has designed the basic aim of investigating the economic value for enhancing the consumers green purchase intentions and can act as a catalyst for consumption functionality of the green products. The economic value thus strengthens the willingness to purchase and consumption functionality. The following hypothesis is thus formulated:

H5: Economic value significantly mediates the relationship between consumption functionality and willingness to purchase.

The economic value thus highlights the concept of aligning the product's price that the customer is agreed to pay against purchasing any product (Acuti et al., 2022; Asgarpour et al.,

2014). When the benefit drawn from the product is worth the price that the consumer paid against its consumption, then the economic value is justified (Beneke et al., 2013). The consumption functionality thus illustrates the accurate performance of the product when a consumer purchases it. Economic value is thus tend to play an important role in this regard (Elsholz et al., 2019). The economic value thus increases the product's meaningfulness and the consumption functionality and strengthen linkage of these two. So, the following hypothesis is formulated after the review of literature:

H6: Economic value significantly mediates the relationship between consumption functionality and product meaningfulness.

These factors according to Panda et al. (2020) may include altruism, buying intention, customer evangelism and loyalty. The study is based on past literature to establish hypotheses along with the questionnaire technique which was tested using structural equation model. The finding of the research has shown a direct impact of variables on each other and the role of altruism as a bridge gap between the variables in developing green brands. The study provides analysis which constructs positive association and can help the future researchers to draw future predictions (Panda et al., 2020). At very other place a researcher attempts to find the altruism and egoistic value in the purchase intention of green apparels among the consumers. The study by Song and Kim (2019) conducted an online survey for data collection. A total of 586 responses were gathered which were used by the researcher. The researchers i.e. Song and Kim (2019) attempt to answer the reason behind the purchase of green apparels by using the impure altruism. The study is basically a quasi-experiment. The study first finds the reason behind altruistic warmth. The results have shown that communal harmony and global wellbeing among individuals lead to altruistic warmth. Altruistic warmth then in turn contributes to establish egoistic warmth. The process of reaching egoistic warmth through altruistic means makes the altruistic warmth impure. The research provides policy suggestion and found the vital role of altruistic warmth in the domain of sustainable consumer behavior among communities (Song & Kim, 2019). Therefore, the studies from past have suggested that:

H7: Altruistic Value mediates the relationship between Consumption Functionality and Product meaningfulness

A recent study (Sarpong et al., 2021) investigated the mediating role of the altruistic values of the customers in between the consumers environmental attitude and their willingness to buy

and use the water saving efficient appliances. For this investigation, the study adopted the convenience sampling and targeted the Chinese people for empirical model investigation. In the findings, the study illustrated significant and positive results for the derived relationships and the results supported the altruistic and ecological values of green products as a supportive positive mediator in increasing the customers intentions to use the water saving efficient appliances that have an environmental reserving concept (Sarpong et al., 2021). Thus, with the help of these mentioned studies, the researcher found enough empirical evidence to investigate the altruistic values as a mediator and can cast a catalytic effect for stimulating the customer intentions to use green packaged products. So, the based on the empirical literature, the following hypothesis has been synthesized:

H8: Altruistic value mediates the relationship between Consumption functionality and willingness to purchase

Another study investigated the impact of the different factors of the green packaging in defining and increasing the customers perception for green or sustainable packaging. For this purpose, the study investigated the perception of the customers within China to empirically illustrate the designed research model. The study adopted the quantitative research approach and collected data with the help of questionnaire. After analysis, the study revealed many factors that were ignored while thinking about the green packaging. The study highlighted the environmental impact of the packaging, its commodity, price and quality as principal indicators of the green packaging and also extended that the customers also pay significant attention to factors like convenience, reusability, and protective capability (Hao et al., 2019). Thus, this study highlighted such incumbent and unrevealed factors of green packaging that are observed by the customers while defining their willingness to pay. So, by considering the robustness of green packaging, the researcher has assumed the mediating role of the green packaging and has constructed the following hypothesis:

H9: Green packaging strongly mediates the relationship between consumption functionality and willingness to purchase.

Additionally, a study (Felix et al., 2022) observed the impact of the gender in evaluating the purchase intentions for green packaged products with perceived product attributes like product effectiveness, package color and perceived masculinity. For this, the study grounded its research working on the local residents of US and conducted the analysis on the collected

primary data and concluded that product green packaging attributes, perceived masculinity and perceived product effectiveness are strongly associated in a flow chain and revealed the significant attention of the females towards the packaging attributes and its effectiveness. Thus, this study has perceived and developed the concept for investigation that green packaging and its attributes possesses a strong hold in measuring the effectivity and meaningfulness of the products (Felix et al., 2022), so green packaging can act as a robust facilitator in increasing the functional attributes of the product as well as its meaningfulness in the eyes of the customers. So, the following hypothesis has been synthesized:

H10: Green packaging strongly mediates the relationship between consumption functionality and product meaningfulness

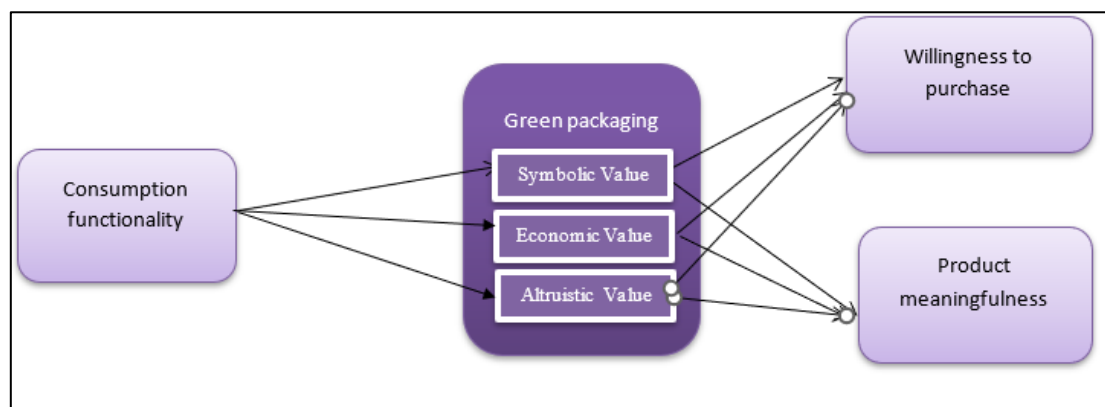


Figure 2.1: Research framework

3. METHODOLOGY

3.1 Population and setting

In this research the researcher has analysed the organic food industry in China where the focus is on the design appeal among the consumers of those green products. The target population that is organic food industry in examined in accordance with the consumption functionality among the consumers. As the current research has chosen consumers of organic food products as the sample of the research due to the fact that the organic industry is more focused to adopt green practices which include green packaging also. The sample size is described to vary from 250-300 consumers. The questionnaires on green packaging are distributed among the sample of 300 consumers of organic food from whom the questions regarding the design appeal are asked. The sample size is confined to 300 consumers because it is hard to cover all the

industries of organic food. The present research uses purposive sampling technique. The research helped the researcher to draw accurate results without any bias (Serra et al., 2018). Moreover, the non-probability purposive technique helps in conducting the empirical based results from the data gathered through the research on design appeal among organic food consumers in China. Therefore, non-probability purposive sampling proves to fit best for the present research as it fulfills the criteria for the research on green packaging in Chinese organic food industry. That's why the researcher has particularly adopted this research sampling technique and has targeted the customers of the organic food sector of China for data collection.

3.2 Measurement scales

Measurement scale is used for the information provided in numbers. These scales help in the numeric analysis of the research data. The measurement scales help in the categorization of the variables of the research. The measurement scales used for each variable of the research on designs appeal of green packaging among Chinese organic food consumers are given below in the table:

Table 3.1: *The measurement of measures explanation*

Variables	No. of items	References
Consumption Functionality	9	(Dinh et al., 2022)
Willingness to Purchase	5	(Erdogan & Hakan, 2017)
Product Meaningfulness	6	(Baccarella et al., 2021)
Green Packaging	4	(Salhieh & Abushaikha, 2016)
Symbolic Value	9	(Wright, 2005)
Economic Value	6	(Allenby et al., 2014)
Altruistic Value	9	(Manzur & Olavarrieta, 2021)

4. ANALYSIS AND RESULTS

4.1. Measurement Model

The measurement model is the evaluation and calculation of the associations between the variables and their internal measures (Miles, 2015). The researcher has debated a comprehensive discussion on each step of the measurement model in the subsequent headings.

To ensure the efficient factor loading and internal associations, the researcher used the test of rotated component matrix and calculated the factor loadings of the variable's items. After analysis, the researcher got revealed with very high factor loading above 0.6, however, there were some cross loading issues for which the researcher adopted a very well-known basic rule that from the output table, if there is any cross-loading issue, a total of 25 figures or scores can be deleted, so by using this rule of thumb, the researcher deleted only two values that have cross loading issue and got facilitated with all values above 0.6 which was above the threshold range i.e., 0.6. The following table shows the output of the analysis and factor loading of all the variables within their respective columns.

Table 4.1: *The factor loadings of the items*

	1	2	3	4	5	6	7
ALV1		.842					
ALV2		.794					
ALV3		.802					
ALV4		.815					
ALV5		.830					
ALV6		.838					
ALV7		.802					
ALV8		.798					
ALV9		.778					
ECV1				.843			
ECV2				.826			
ECV3				.827			
ECV4				.810			
ECV5				.828			
ECV6				.876			
SV1			.758				
SV2			.637				
SV3			.672				
SV4			.719				
SV5			.704				
SV6			.693				
SV7			.727				

SV8		.650	
SV9		.633	
PM1			.768
PM2			.823
PM3			.799
PM4			.789
PM5			.776
PM6			.825
WP1			.822
WP2			.835
WP3			.831
WP4			.773
WP5			.810
GP1			.658
GP2			.631
GP3			.633
GP4			.618
CF1	.870		
CF2	.840		
CF3	.778		
CF4	.770		
CF5	.772		
CF6	.755		
CF7	.773		
CF8	.838		
CF9	.836		

Convergent validity has been defined as the extent to which the measures of the same construct correspond with each other in a real statistical context (Bhandari, 2023). The convergent validity has an indicator used to predict the convergent validity level in the collected data i.e., AVE which stands for average variance explained. This indicator or measure has been adopted by the researcher for measuring the convergent validity. The AVE indicator has a threshold range of value above 0.5 and it has been accepted as a rule of thumb for ensuring the appropriate validity level in the data (Cheung & Wang, 2017).

Table 4.2: *The convergent validity output*

	C R	AV E	MS V	CFN	ALV L	SYM V	ECN V	PMG	WTP	GP G
CFN	0.95 2	0.690	0.445	0.830						
ALV L	0.94 8	0.672	0.201	0.311* **	0.820					
SYM V	0.91 8	0.556	0.564	0.562* **	0.441* **	0.745				
ECN V	0.94 6	0.745	0.252	0.318* **	0.144* *	0.456* **	0.863			
PMG	0.93 5	0.705	0.273	0.335* **	0.449* **	0.523* **	0.401* **	0.840		
WTP	0.94 4	0.772	0.294	0.379* **	0.341* **	0.519* **	0.502* **	0.446* **	0.879	
GPG	0.92 3	0.750	0.564	0.667* **	0.418* **	0.751* **	0.350* **	0.425* **	0.542* **	0.866

After computing the convergent validity, the researcher analyzed the other type of construct validity which was the discriminant validity. The Fornell Larcker discriminant validity has a threshold value above 0.8 (Ab Hamid et al., 2017). The researcher used Fornell Larcker for computing the discriminant validity and after computing the validity through master validity analysis. So, based on the computed results, the researcher verified the discriminant validity status in the data. The following table shows the output of both discussed and conducted analysis.

Table 4.3: *The Fornell Larcker discriminant validity through master validity*

	ALVL	SYMV	ECNV	PMG	WTP	GPG
CFN						
ALVL	0.820					
SYMV	0.441***	0.745				
ECNV	0.144**	0.456***	0.863			
PMG	0.449***	0.523***	0.401***	0.840		
WTP	0.341***	0.519***	0.502***	0.446***	0.879	

GPG	0.418***	0.751***	0.350***	0.425***	0.542***	0.866
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Table 4.4: *The model fit measures*

Measure	Estimate	Interpretation
CMIN	2846.866	--
DF	1055.000	--
CMIN/DF	2.698	Excellent
CFI	0.918	Acceptable
SRMR	0.040	Excellent
RMSEA	0.059	Excellent

The table above represents the model fit measures for the researched model. As it is evident that the CMIN indicator has a value of 2.698 and this value is less than the described benchmark value of 3, thus, it revealed that the CMIN indicator has indicated the good model indicators. Next, the table has reported the CFI value that is 0.918 and this value is also above the benchmark value of 0.9, so by using this indicator, the model fitness is approved. Next, the researcher also evaluated the RMSEA value that should be less than 0.6 and the derived results showed the significant output with an RMSEA value 0.059. Thus, by individual evaluation of the model fit measures, the researcher verified that the designed items or latent variables and their constructs are sufficient to explain the designed model. The following figure was generated as the output of the CFA test.

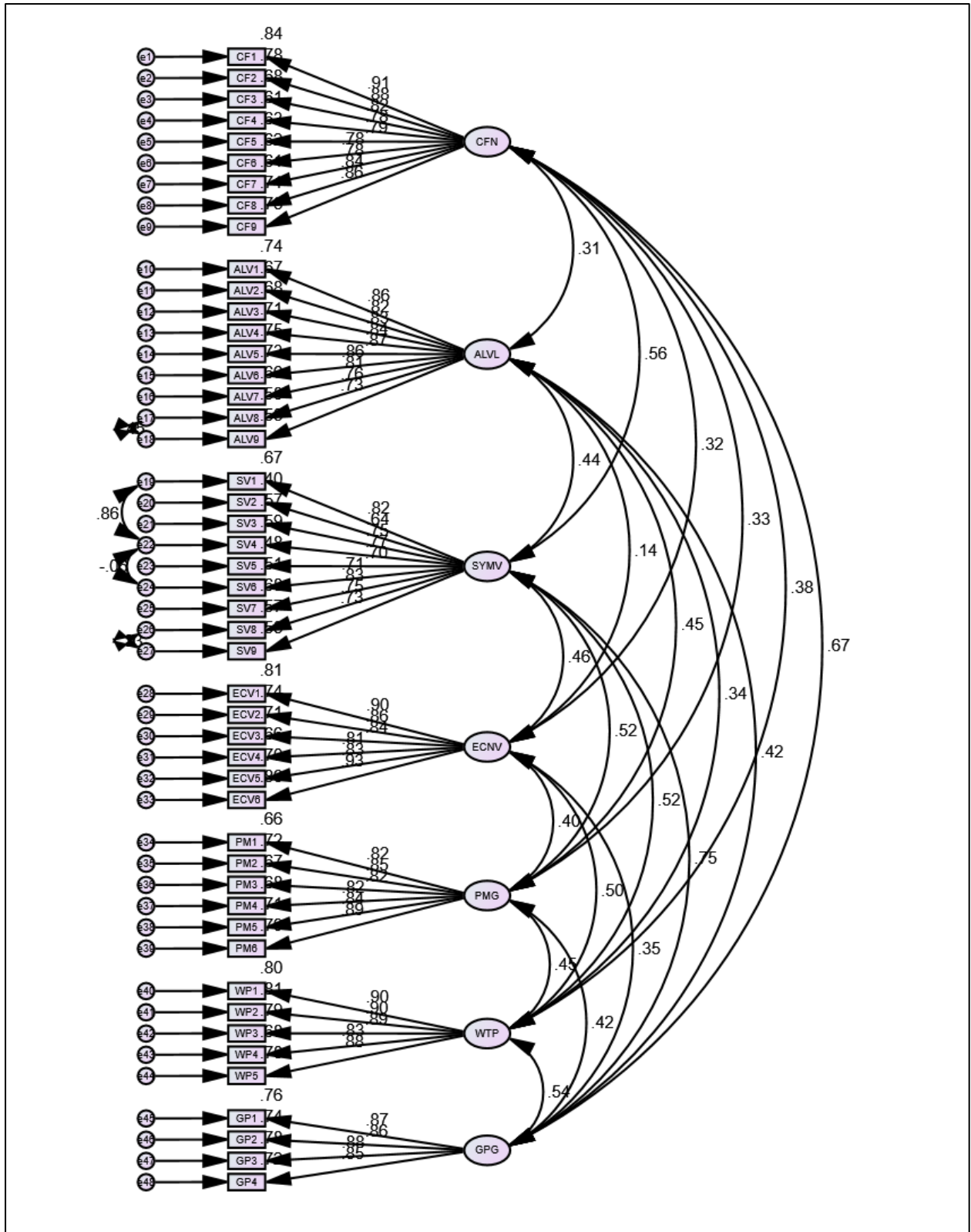


Figure 4.1: CFA output

4.2 Structural Equational Modeling

Table 4.5: *The SEM of direct effects*

Parameter	Estimate	Lower	Upper	P
AV <--- CF	.296	.229	.364	.007
GP <--- CF	.632	.576	.692	.007
EV <--- CF	.314	.239	.371	.009
SV <--- CF	.525	.470	.583	.009
WP <--- AV	.137	.082	.216	.005
PM <--- CF	.028	-.056	.117	.547
WP <--- CF	-.026	-.091	.068	.791
PM <--- AV	.279	.198	.367	.008
PM <--- SV	.246	.160	.347	.009
PM <--- GP	.040	-.083	.132	.566
PM <--- EV	.236	.136	.326	.013
WP <--- SV	.106	.008	.213	.085
WP <--- GP	.329	.234	.422	.013
WP <--- EV	.326	.269	.399	.010

The above table shows the regression estimates of the independent variable and the targeted variables. In the domain of direct relationships, the researcher designed two hypotheses covering the relationship between the consumption functionality and willingness to pay for green packaged organic food products in the first hypothesis and the data analysis rejected this assumption. The computed result computed the regression value for this association as -0.26 with the p-value of 0.79, thus by comparing the computed p-value with the pre-described threshold range which was 0.01 or 0.05. So, by using this evaluated interpretation of the result, the researcher revealed the insignificance for the association between consumption functionality and willingness to pay.

In the same domain, the researcher has constructed a direct effect of the consumption functionality and product meaningfulness in the second hypothesis. The output of the result also dis-supported this assumed relationship. Table 4.13 has presented the estimated regression weight of this relationship as 0.28 and a p-value of .547 and it was evident that the p-value is insignificant. That's why the researcher revealed that the consumption functionality of organic

food products does not influence the product meaningfulness of the organic food products. The following figure was generated as the output of the SEM analysis in Amos.

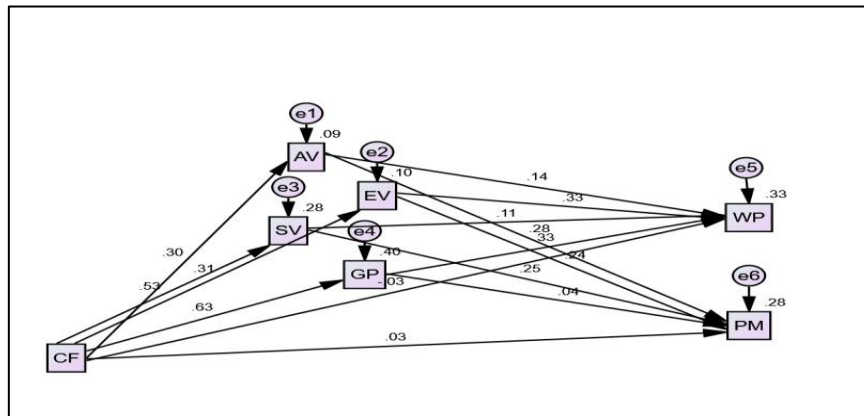


Figure 4.2: The structural equation modeling output

Table 4.7: The indirect effects

Indirect Path	Unstandardized Estimate	Lower	Upper	P-Value	Standardized Estimate
CF --> AV --> WP	0.046	0.024	0.074	0.001	0.040***
CF --> AV --> PM	0.080	0.053	0.114	0.001	0.083***
CF --> GP --> PM	0.025	-0.045	0.087	0.526	0.025
CF --> GP --> WP	0.234	0.161	0.310	0.001	0.208**
CF --> EV --> PM	0.072	0.043	0.108	0.001	0.074***
CF --> EV --> WP	0.115	0.085	0.153	0.001	0.102***
CF --> SV --> PM	0.126	0.077	0.174	0.001	0.129**
CF --> SV --> WP	0.062	0.009	0.127	0.061	0.056†

The researcher has computed all the indirect or mediating effects and has reported them in the table above. In the chapter on literature, the researcher has developed different mediating relationships of green packaging, symbolic value, economic value, and altruistic value in between the relationships of independent variable consumption functionality and dependent

variables' willingness to pay, and product meaningfulness. There was a total of 10 hypotheses in the section on relationship building in the literature review. The output of the results showed significant results for 6 hypotheses out of 8 of the mediation effects. The compiled results showed that the consumption functionality has a significant indirect effect on the willingness to purchase with the mediation of altruistic value, green packaging and economic value with the p-values of 0.001 for both results. However, the mediation of symbolic value was revealed as insignificant in supporting the relationship between the consumption functionality and willingness to pay. In the same domain, the researcher also constructed three mediation relationships between the consumption functionality and product meaningfulness. The output of the results supported all the mediation effects of the symbolic value, economic value, and altruistic value for strengthening the association between the consumption functionality and product meaningfulness. The output of the result indicated the p-values for all these associations was 0.001. Meanwhile, the impact of the green packaging was revealed as an insignificant mediator for supporting the consumption functionality and product meaningfulness.

5. DISCUSSION AND CONCLUSION

The present study is conducted by focusing on the relationship between consumption functionality and green packaging dimensions. Over the years, packaging has become more than just protecting the product and is also considered to add functional, emotional and social values to the product influencing the brand image. The present investigation is conducted in this regard to determine the design appeal of green packaging in China. The study include variables such as consumption functionality, product meaningfulness, willingness to purchase, and green packaging. The aim of the study is to find out the impact of the consumption functionality on the product meaningfulness and the willingness to purchase among the consumers of green packaging in China. The study also examine the mediation impact of green packaging on the relation between consumption functionality and the product meaningfulness among the consumers of green packaging in China. The mediation impact of green packaging on the relation between consumption functionality and the willingness to purchase among the consumers of green packaging in China has also been examined in the present study. Literature review for the present study was conducted to find out the impact of consumption functionality on the product meaningfulness and willingness to purchase. Moreover, literature review has

also been conducted to find out the mediating role of green packaging and its values such as symbolic, economic, and altruistic values.

5.1. Implications

The research on the aesthetic appeal of environmentally friendly wrapping in China adds a great deal to the body of knowledge in several significant dimensions. The research primarily addresses a significant gap of the current literature by concentrating on the circumstances of China, the country that is rapidly urbanizing and developing economically. Although environmentally friendly packaging has become more popular worldwide, it is crucial for researchers and professionals to comprehend its design target in a particular cultural as well as economic environment like China. This study contributes to the body of current literature by exploring the Chinese marketplace and offering insights into customer tastes, behaviors, as well as perceptions regarding sustainable packaging style in the backdrop of a changing and dynamic economy. Moreover, by examining the complex relationship among packaging design components and environmental awareness, the research adds to the body of literature. The study looks into how color schemes, visual components, and design aesthetics affect how consumers view environmentally friendly packaging. This thoughtful investigation expands one's knowledge of the mental factors affecting consumer decisions in an increasingly eco-aware market. Businesses looking to match their goods with changing consumer values must recognize the importance of aesthetic appeal as Chinese consumers grow more conscious of environmental problems.

Policies intended to promote cooperation between governmental agencies, corporations, and academic institutions can be influenced by the study's findings. Legislators can encourage collaborations and team projects aimed at creating novel approaches to environmentally friendly packaging. Policymakers can quicken the rate of technological progress in environmentally friendly packaging by promoting a cooperative ecosystem, which will result in more adaptable and efficient solutions. By researching, developing, and implementing ecologically friendly packaging techniques, companies can be fully engaged in sustainability initiatives. This collaborative strategy can also be expanded to public-private collaborations. In addition, the study's results may also have an impact on import/export as well as trade regulations, especially when it comes to international supply chains. By pushing for the inclusion of environmental factors in trade pacts, policymakers can persuade trading partners to implement and uphold sustainable wrapping practices. This guarantees that products hitting

the market adhere to specific ecological standards while also encouraging a collective commitment to ecological responsibility. Policymakers can help bring about a global move towards ethical and sustainable trade practices by coordinating trade regulations with sustainability objectives.

5.2. Research Limitations

The study has certain limitations as well which have been explained below;

- The influence of contextual factors or outside events on customer opinions has not been adequately taken into account in this study. Public opinion as well as behavior regarding environmentally friendly packaging is significantly impacted by modifications in government regulations, the press's coverage of ecological problems, or world events, all these have not received enough attention in the study.
- The study did not fully account for China's diverse cultural landscape. The consumer's opinions regarding environmentally friendly packaging are influenced by cultural norms as well as values that are unique to different locations of the country. If these differences are not taken into consideration, the study may not be able to offer a thorough comprehension of aesthetic appeal in a variety of cultural settings.
- The study's participant sample size has an effect on the findings' generalizability and dependability. The wide range of consumer views may not be sufficiently captured by a minimal or insignificant sample, which could result in biased findings that do not accurately reflect the general population.
- The majority of the research has been done on aesthetics, with little attention paid to other senses like touch or smell. Beyond aesthetic appeal, consumers may have preferences for environmentally friendly packaging, a more multifaceted analysis could offer a more comprehensive knowledge of the factors influencing their decisions.
- The study did not go into great detail about the emotional bond customers have with environmentally friendly packaging. Buying decisions can be significantly influenced by emotional reactions, so a more thorough examination regarding the emotional connections between sustainable packaging options and decisions could improve the study's thoroughness.
- The impact of evolving technologies on customer opinions and sustainable packaging design was not taken into account in this study. Technological developments in packaging,

like interactive layouts or smart packaging, may influence consumer choices in ways not covered in the research study.

- The research has largely ignored other sensory elements that influence customer experiences in favor of concentrating on the aesthetic factors of ecological packaging design. Non-visual components, like the texture or sound of the wrapping, might affect how consumers perceive a product, but they are not fully examined.

5.3. Recommendations for Future Research

This study offers various recommendations for future research, that are explained below:

- More research on the components and aspects of consumption functionality could provide a more sophisticated knowledge of its impact on consumer behavior. In-depth research of consumption functionality requires looking into its various components, such as how simple something is to use, its practical benefits, and how convenient it is; all in relation to eco-friendly packaging.
- Longitudinal Study: Implementing it can allow researchers to better understand how people's attitudes towards eco-friendly packaging vary, allowing businesses to adjust their strategy to reflect these evolving emotions.
- Moderating Factors: Investigating how other variables might modify the relationship between people's attitudes towards eco-friendly packaging is similar to investigating what else might influence consumer ideas. Factors such as socio-economic status, environmental consciousness, or demographic characteristics could moderate the effect of green packaging on willingness to pay and product meaningfulness.

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