Acceptance Model for the Use of Biopolymer Packaging in Food Shopping Delivery through the Go Food Application

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Abstract

The increase in online food shopping activities along with the development of technology has led to an increase in the amount of single-use packaging waste. There are still a few people who are willing and aware of buying food products with environmentally friendly packaging through the use of food delivery services through the GoFood online application. The application and development of biopolymers has attracted attention in the food packaging industry, so an acceptance model is needed that can illustrate the acceptance of the use of biopolymer packaging in food shopping delivery through the Go Food application. using the theory of planned behavior approach by adding environment knowledge, environment concern and willingness to pay variables. the hypothesis was tested using the Structural Equation Modeling (SEM) method with the help of PLS SEM and SPSS AMOS software. The results of the study show that the variables that can be used in developing an acceptance model for the use of biopolymer shipping packaging for purchasing food through the Go Food application are attitude, perceived behavior, green packaging intention and green packaging behavior, the additional variables of environmental knowledge and willingness to pay can influence the use of biopolymer shipping packaging for purchasing food through the GoFood application.

Keywords
Acceptance model, Biopolymer Packaging, Structural Equation Modeling, PLS-SEM, SPSS AMOS software

1. Introduction
It is estimated that, by 2050, a 50% increase in global demand for food supply will be due to an increase in global population growth (Guillard et al. 2018). As the demand for food increases, so does the demand for food packaging. Packaging materials need to be adjusted to be able to maintain food quality as well as other increasing demands from consumers, producers, and legislative powers. These demands have grown very dynamically, with concern not only for the quality of food, but also for it to be delivered using sustainable packaging that has less impact on consumer health and also the environment.

GoFood is an application provided by GoJek that serves food delivery services in Indonesia. It is known that through www.gojek.com, Go-Food already has partners with approximately 125,000 restaurants. Go-Food partners do not only consist of luxury restaurants, but also small community businesses, such as street vendors, to food made by the SME industry. Lifestyle is an aspect related to the level of welfare, especially in cities, which will affect the composition of waste, especially food plastic packaging waste. Currently, the recycling rate for waste is still low at only 9-10%, so if the rest is not disposed of in the environment (oceans, rivers, land, etc.), it will end up in the soil.
About 7 out of 10 Indonesians admit that they highly consider sustainability when shopping for groceries. This is one of the highest scores globally, ahead of countries such as the United States, Japan, Australia; and above the global average of 52%. The results of a survey conducted by (Trivium Packaging 2021), the desire of young consumers to buy products with environmentally friendly packaging is quite high. The age group 18-24 years, 25-34 years and 35-44 years have a desire to pay more by 59%, 57% and 54%.

People's consumption behavior is starting to switch to choosing environmentally friendly products (green products), especially products with environmentally friendly packaging (environmentally friendly packaging), which aims to reduce environmental pollution. The increasing level of public knowledge about environmental issues (environmental knowledge) can be one of the factors that encourage people to choose products with environmentally

friendly packaging. However, environmental knowledge alone is not enough. Not everyone is willing to pay more to buy products with environmentally friendly packaging. There are still many people who consider products with environmentally friendly packaging to be expensive and not in accordance with their purchasing power. Research (Kong, Harun, Sulong, & Lily. 2014) in Malaysia shows that only 20% of consumers are willing to buy more for environmentally friendly products.

One theory that is widely used to measure consumer decision-making processes is using the Theory of Planned Behavior (TPB) developed by (Ajzen 1991) which explains that attitude towards behavior is a basic view of an individual's approval of what is the stimulus for his response, whether positive or negative. This research will identify what factors can influence a person's desire to buy products with environmentally friendly packaging and their relationships. Are there other factors that can encourage someone to change consumption patterns to be environmentally friendly and how can this influence the final decision in purchasing food products with environmentally friendly packaging. Understanding the attitudes and behavioral intentions of consumers to buy products with environmentally friendly packaging, will assist policy makers in determining the right strategy for the target group. This research also aims to develop a model that can assist in preparing suitable marketing strategies to introduce and promote products with environmentally friendly packaging, especially among the Y and Z generations in Indonesia.

1.1 Objectives
The increase in online food shopping activities in line with the development of technology has led to an increase in the amount of single-use packaging waste. There are still very few people who are willing and aware of buying food products with environmentally friendly packaging through the GoFood application. Research on models for accepting the use of environmentally friendly packaging for shopping through online platforms has been widely used as writing material in several previous studies, but so far no research has been found regarding model of acceptance of the use of polymer packaging in food shopping delivery through the gofood application.

2. Literature Review
2.1 Biopolimer Packaging
The application and development of biopolymers has attracted attention in the food packaging industry (Bishai et al. 2014; Kuswandi 2016; Peelman et al. 2013). Biopolymers are degraded relatively quickly by natural microorganisms under suitable conditions such as oxygen, humidity, and temperature without environmental problems (Courgneau et al. 2011; Usman. 2014; Rhim et al. 2013). Biopolymers are divided into three different classes based on their origin and method of synthesis : Natural polymers such as proteins, polysaccharides, and lipids derived from plants or animals (Khalil et al. 2018; Rhim et al. 2013; Sumrith et al. 2019), Synthetic polymers produced by various condensation or ring-opening polymerizations. Among the synthetic biopolymers, polylactic acid (PLA), polycaprolactone (PCL), aromatic co-polyesters (eg, PBAT), and aliphatic co-polyesters (eg, PBSA) have been studied in detail (Mohanty and Swain 2017; Othman 2014; Valdés et al. 2014; Zhong et al. 2019), Biopolymers produced by different types of microorganisms such as bacteria in special media fed by suitable nutrients. This group includes polymers such as polyhydroxyalkanoates (PHA), polyhydroxybutyrate (PHB), and polyhydroxybutyrate-valerate (PHBV) (De Silva et al. 2016; Khalil et al. 2018; Mangaraj et al. 2019; Sanyang and Jawaid 2019; Sharif and Hoque 2019; Sumrith et al. 2019; Vieira et al. 2011; Zhong et al. 2019).

2.2 Theory of Planned Behavior (TPB)
One theory that is widely used to measure consumer decision-making processes is using the Theory of Planned Behavior (TPB) developed by (Ajzen 1991) which explains that attitude towards behavior is a basic view of an individual's approval of what is the stimulus for his response, whether positive or negative. Scholars have also found that attitudes are significantly related to consumer adoption behavior in several contexts, including green buying behavior (Yadav and Pathak 2017), web-rooming behavior (Arora and Sahney 2018), and food waste behavior (Stefan et al. 2013) and excessive food ordering behavior (Talwar et al. 2022). In the context of this study, he proposes the Theory of Planned Behavior (TPB), namely the effect of attitudes, subjective norms, perceived behavioral control and intention to use the use of delivery packages for food shopping through the GoFood application.

2.3Structural Equation Modeling (SEM)

SEM as a combination of confirmatory factor analysis and path analysis makes researchers think about the two main components of SEM: measurement models and structural models. The SEM measurement model allows the researcher to evaluate how well the observed (measured) variables are combined to identify the underlying hypothetical constructs. The development of a measurement model is one of the few places where a researcher can misjudge the model.a. Model Specifications Model specification occurs when a researcher determines which relationship is hypothesized to exist or not exist between the observed variables and the latent variables. In order to estimate the relationship between latent variables, each latent variable must have an assigned scale. Overall model fit is the same regardless of the option selected.b. identification, In SEM, model identification is a complex concept to understand. By determining fewer relationships between variables than elements in a correlation matrix, researchers can test hypotheses about which relationships are significantly different from zero and which are not.c. Data-related issues are ideally model defined and identified prior to data collection. The sample size issue is one of the few on which there is no consensus, except to suggest that missing or non-normally distributed data require a larger sample than complete, normally distributed data.d. estimates, After defining the model, determining that the model is identified, collecting data from a sizable sample of participants, and addressing any issues with the data, the researcher is finally at the point of estimating the model.e. Model Fit and Interpretation After estimation, the fit of the model with the data must be evaluated.f. Modification Rarely is a model proposed as the most suitable model. As a result, modifications (respecifications) may be required. As Martens (2005) reports, researchers generally complete modifications by using a statistical search strategy (often called specification search) to determine which adjustment results in a more fit model.g. Testing Alternative Models Statisticians skilled in SEM have commented that social scientists often fail to test alternatives to proposed models.

3. Methods

There are five steps in the research methodology, namely problem identification, literature review, data collection and processing, analysis as well as conclusions and suggestions.

1. Problem Identification Problem identification, problem formulation, research objectives and benefits, as well as research limitations that are used as guidelines in carrying out research.

2. Literature study Literature Study This chapter covers the concepts and theories used as the basis for research work, starting from explaining the construct model and methods used, as well as explaining the state of the art of the research.

3. Data collection and processing techniques

a. The data collection technique used in this study was to use a questionnaire (questionnaire). In this study the questionnaire was addressed to active users of GoFood services on the GoJek application. Data collection in this study was carried out by first creating a questionnaire which would be distributed via Google form via social media such as WhatsApp, Instagram, and line. The list of questions on the questionnaire uses a Likert scale of 1-5 which is used to measure Environmental Knowledge, Environmental Concern, Attitude, Positive Emotions, Negative Emotions, Intention to buy packaging Green (Green Packaging Purchase Intention) towards receiving environmentally friendly shipping packaging for food shopping through the GoFood application.

b. Data Processing Techniques, research data obtained through questionnaires were analyzed using statistical tools through the help of the SPSS version 21 program. The several tests that will be used are as follows:

1) Test the validity of the data Data validity is a measure that refers to the degree of correspondence between the collected data and the actual data in the data source. Valid data will be obtained if the data collection instrument is also valid with validity calculations based on comparisons between r-counts and r-tables. If the r-count value > r-table at 5% significance then the data is valid or if the r-count value < r-table at 5% significance then the data is invalid

2) Data reliability test The reliability of a measuring instrument relates to the degree of consistency and stability of the data resulting from the data collection process using the instrument. There are two measurements that are commonly used to determine the degree of reliability of data collection instruments, namely the stability of the instrument and the internal consistency of the instrument. A reliable research construct if it has a Cronbach alpha value > 0.60.

3) Data processing with Structural Equation Modeling (SEM) To identify the factors in the acceptance model proposed for using delivery packaging for food shopping through the GoFood application, the help of the Smart PLS software version 3.2.9 is used. The stages in data processing using SEM are divided into 2, namely testing the measurement model and testing the structural model.

4. Data Collection
4.1. Identify variables and question items.
The variables used in the proposed model are 6 variables, which consist of Environmental Knowledge, Environmental Concern, Attitude, Perceived Behavior, Willingness to Pay, Green Packaging Purchase intention and Green Packaging behavior. The number of each variable Environmental Knowledge with 5 indicators, Environmental Concern with 4 indicators, Attitude with 3 indicators, Perceived Behavior with 3 indicators, Willingness to Pay with 3 indicators, Green Packaging Purchase Intention with 5 indicators and Green Packaging behavior with 4 indicators. The variables and indicators contained in the conceptual model can be seen in table 1. the following.

Table 1. Variabel and Indicator of Acceptance Model

No	Variable	Code	Indicator
1	Environmental Knowledge (EK)	EK1	Using Biopolymer packaging when ordering food through the GoFood application will benefit the environment
		EK2	Using Biopolymer packaging in ordering food through the GoFood application contributes to preventing climate change.
		EK3	I understand the phrases and environmental symbols on product packaging when ordering food through the GoFood application
		EK4	I know that I buy food products and packages through the GoFood application that are safe for the environment
		EK5	Using Biopolymer packaging in ordering food through the GoFood application allows reducing the amount of harmful plastic
2	Environmental concern (EC)	EC1	The Indonesian environment is my main concern.
		EC2	I'm worried about the deteriorating quality of the environment in Indonesia as a result of ordering food through the GoFood application..
		EC3	I am emotionally involved in environmental protection issues in Indonesia through the use of packaging in ordering food through the GoFood application.
		EC4	When I have to choose one of two similar products, I prefer the one with green packaging
3	Attitude (A)	A1	Shopping at food vendors through the GoFood application that practices environmentally friendly packaging Biopolymer makes me feel happy
		A2	Shopping at food vendors through the GoFood application that practices Biopolymer eco-friendly packaging makes me feel satisfied
		A3	Shopping at food vendors through the GoFood application that practices Biopolymer eco-friendly packaging makes me feel responsible for the environment
4	Perceived Behaviour (PE)	PE1	When I buy products with biopolymer packaging, I feel I have given something positive for the environment
		PE2	I believe the decision to choose biopolymer packaging directly affects the environment as a whole
		PE3	My choice to buy food products with biopolymer packaging directly affects the environment
5	Willingness to Pay (WP)	WP1	I am willing to pay more for green packaging
		WP2	I am proud to use green packaging, even though it is more expensive than conventional packaging
		WP3	I am willing to pay a higher price for more eco-friendly products
6	Green packaging intention (GPI)	GPI1	When shopping for food through the GoFood app, I would consider switching to sellers who use Biopolymer eco-friendly packaging for ecological reasons.

		GPI2	When shopping for food through the GoFood application, I hope to buy food using Biopolymer packaging in the future because of the positive environmental contribution.
		GPI3	When shopping for food through the GoFood application, I will consider buying food that uses Biopolymer packaging because it does not cause pollution in the future.
		GPI4	When shopping for food through the GoFood application, I choose to buy food products that use Biopolymer packaging instead of being wrapped in conventional packaging.
		GPI5	When shopping for food through the GoFood application, I definitely want to buy food that uses Biopolymer packaging in the near future
7	Green packaging behaviour (GPB)	GPB 1	I am very satisfied ordering food at a restaurant or food store on the Gofood application which practices the use of Biopolymer packaging in its food delivery.
		GPB 2	I am encouraged to order food at restaurants or food stores on the Gofood application which practices the use of Biopolymer packaging in their deliveries.
		GPB3	I say good things about a restaurant or food shop on the Gofood application that practices the use of Biopolymer packaging in its food delivery
		GPB4	I recommend my relatives and friends to order food at a restaurant or food store on the Gofood application which practices the use of Biopolymer packaging in its delivery.

4.2. Respondent
The minimum sample size required for a model is 200 respondents based on a review of studies in different research areas, including operations management (Shah and Goldstein 2006) and education and psychology (MacCallum and Austin 2000). The amount of data in this study is as much as 260 data.

4.3. Pilot Testing
Pretesting is the process of evaluating questionnaires and survey procedures beforehand to assess whether they will cause problems for respondents and interviewers and whether the survey meets its objectives (Presser et al., 2004). Questionnaires were distributed to Indonesian residents from all over Indonesia. Dissemination is done using the online media Google Form. The number of respondents required in the pilot survey is 30 to 40 respondents (Kieser & Wassmer, 1996). The data from the pilot survey were then analyzed for validity and reliability. Testing was carried out using the internal consistency reliability approach, namely the Cronbach's Alpha method. This method looks at the relationship or correlation of respondents' answers with one another with a minimum Alpha value of 0.60 (Cohan, Pant & Sharp, 2001). The data from the pilot survey were then tested for validity and reliability. The results of the validity and reliability tests can be seen in the following Table 2.

Table 2. Pilot Testing

Variable	Indicator	Factor Loading	R tabel	Validation	Initial construct reliability		Reliability after repair	
					Value	Information	Value	Information
Environmental Knowledge (EK)	EK1	0,311	0,361	Invalid	0,702	Reliable	0,693	Reliable
	EK2	0,109	0,361	Invalid				
	EK3	0,607	0,361	Valid				
	EK4	0,608	0,361	Valid				
	EK5	0,398	0,361	Valid				
Environmental Concern (EC)	EC1	0,513	0,361	Valid	0,563	Unreliable	0,519	Unreliable
	EC2	0,246	0,361	Invalid				
	EC3	0,565	0,361	Valid				
	EC4	0,734	0,361	Valid				
Attitude (A)	A1	0,743	0,361	Valid	0,734	Reliable	0,734	Reliable

	A2	0,789	0,361	Valid				
	A3	0,564	0,361	Valid				
Perceived Behaviour (PE)	PE1	0,699	0,361	Valid	0,626	Reliable	0,626	Reliable
	PE2	0,517	0,361	Valid				
	PE3	0,708	0,361	Valid				
Willingness To Pay (WP)	WP1	0,820	0,361	Valid	0,550	Unreliable	0,914	Reliable
	WP2	0,748	0,361	Valid				
	WP3	0,317	0,361	Invalid				
Green Packaging Intention (GPI)	GPI1	0,736	0,361	Valid	0,827	Reliable	0,827	Reliable
	GPI2	0,428	0,361	Valid				
	GPI3	0,548	0,361	Valid				
	GPI4	0,808	0,361	Valid				
	GPI5	0,750	0,361	Valid				
Green Packaging Behaviour (GPB)	GPB1	0,756	0,361	Valid	0,874	Reliable	0,874	Reliable
	GPB2	0,761	0,361	Valid				
	GPB3	0,751	0,361	Valid				
	GPB4	0,779	0,361	Valid				

Table 2 shows 4 invalid indicators based on the criteria of validity value > 0.361, namely EK1, EK2, EC2, WP3. Then the construct or variable is found to be unreliable, namely Environmental concern (EC).

5. Results and Discussion
5.1 Model Specification
At the stage of preparing the research conceptual model. The conceptual model is compiled based on literature studies on previous research. The preparation of the conceptual model is based on several theories and models of acceptance of use, namely: theory of planned behavior (TPB) in which the model uses variables adapted to the research object, namely Green Packaging Behavior, Interest in green packaging (Green Packaging Intention), Attitude (Attitude), perceived behavior (Perceived Behavior). Furthermore, how many previous research models were used as an additional two variables in the proposed conceptual model. The conceptual model for the Acceptance Model for the Use of Biopolymer Packaging in Food Shopping Delivery Through the GoFood Application can be seen in Figure 1.
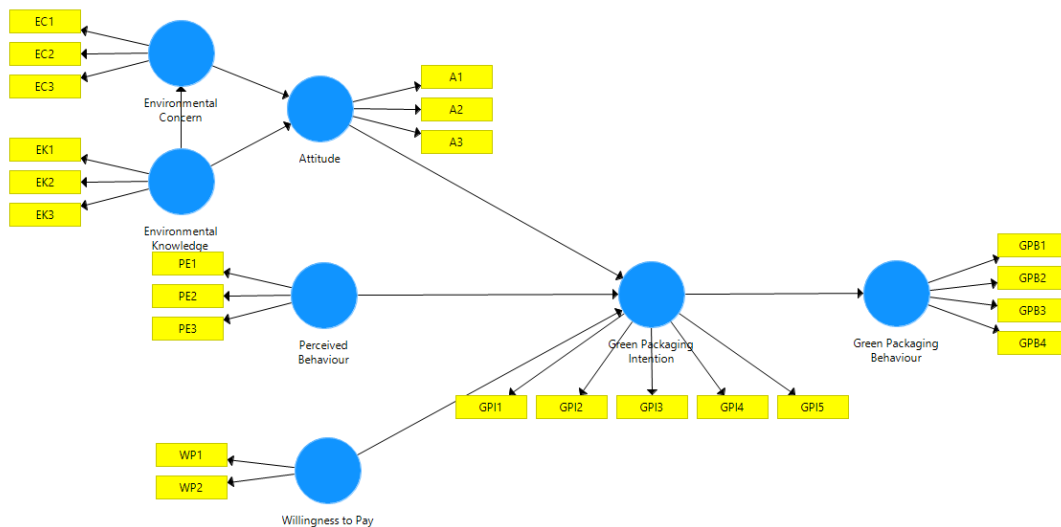

Figure 1. Construct Model Initial Testing

Hypothesis testing using the Structural Equation Model (SEM) method. Data processing is carried out using confirmatory factor analysis, the following are the hypotheses to be tested:

Environmental Knowledge
H1: Environmental knowledge has a positive effect on environmental awareness.
H2: Environmental knowledge has a positive effect on attitudes.

Environmental concern
H3: Environmental concern has a positive effect on attitudes

Attitude
H4: Attitude has a positive effect on green packaging intentions

Perceived Behavior
H5: Perceived behavior has a positive influence on green packaging intentions.

Willingness to Pay
H6: Willingness to pay has a positive effect on green packaging intentions.

Green Packaging Intentions
H7: The intention of green packaging has a positive influence on the behavior of green packaging.

5.2. Test of The Hypothesized
5.2.1. Evaluation of the Measurement Model (Outer Model)

Evaluation of measurement models to test the validity and reliability of indicators so they can be used to measure latent variables. Validity and reliability tests were carried out using PLS SEM software. Evaluation of validity and reliability is seen based on the factor loading value> 0.7; composite reliability >0.7; average variance extracted (AVE)> 0.5. The results of the analysis of indicator validity, construct reliability and convergent validity can be seen in Table 3.

Table 3. Test Results for the Validity and Reliability of the Measurement Model

Construct	Indicator	Factor Loading	Pvalue	Validity	Cronbach's Alpha	Composite Reliability (CR)	Average Variance extracted (AVE)	Reliability
Environmental knowledge	EK3	0,70	<0,00	Valid	0,60	0,79	0,56	Reliable
	EK4	0,81	<0,00	Valid				
	EK5	0,73	<0,00	Valid				
Attitude	A1	0,86	<0,00	Valid	0,34	0,75	0,60	Reliable
	A2	0,67	<0,00	Invalid				
Perceived of Behaviour	PE1	0,70	<0,00	Valid	0,33	0,75	0,59	Reliable
	PE3	0,85	<0,00	Valid				
Willingness to Pay	WP1	0,85	<0,00	Valid	0,65	0,85	0,74	Reliable
	WP2	0,87	<0,00	Valid				
Green Packaging Intention	GPI3	0,71	<0,00	Valid	0,70	0,83	0,63	Reliable
	GPI4	0,82	<0,00	Valid				
	GPI5	0,84	<0,00	Valid				
Green Packaging Behaviour	GPB1	0,87	<0,00	Valid	0,52	0,80	0,67	Reliable
	GPB3	0,77	<0,00	Valid				

Based on the results of the validity and reliability tests in Table 4. there is 1 variable that is not valid because the factor loading value is <0.7. Then the composite reliability results for all constructs and the variables calculated for all constructs are declared reliable because they have a CR value > 0.7. Furthermore, it is known that the average varianced extracted value of all variables has results > 0.5, then construct validity has been fulfilled. Then the discriminant validity test was carried out using cross loading evaluation. Secondly, Discriminant validity (Cross Loading), The discriminant validity assessment has the goal to ensure that a reflective construct has the strongest relationships with its own indicators in the PLS path model (Hair et al. 2022). The results of the cross loading test can be seen in Table 4. the following :

Table 4. Discriminant Validity Test Results Using Cross Loadings

Indicator	Attitude (A)	Environmental Knowledge (EK)	Green Packaging Behaviour (GPB)	Green Packaging Intention (GPI)	Perceived Behaviour (PE)	Willingness to Pay (WP)
A1	0.862	0.499	0.311	0.199	0.275	0.129
A2	0.673	0.242	0.369	0.300	0.385	0.184
EK3	0.319	0.696	0.292	0.232	0.193	0.113
EK4	0.419	0.806	0.264	0.122	0.117	0.093
EK5	0.377	0.733	0.229	0.175	0.133	0.076
GPB1	0.361	0.265	0.870	0.477	0.280	0.300
GPB3	0.338	0.315	0.768	0.368	0.390	0.244
GPI3	0.249	0.216	0.328	0.714	0.252	0.291
GPI4	0.270	0.188	0.397	0.816	0.374	0.421
GPI5	0.216	0.153	0.494	0.841	0.286	0.434
PE1	0.340	0.246	0.291	0.249	0.691	0.301
PE3	0.302	0.079	0.325	0.340	0.848	0.434
WP1	0.217	0.118	0.323	0.412	0.467	0.853
WP2	0.116	0.096	0.253	0.430	0.367	0.866

Based on the results of the discriminant validity test using cross loading in Table 4. shows that all loading values on all indicators have the highest values on the variables compared to the loading values of these indicators on other variables, then discriminant validity meets the requirements.

5.2.2. Inner Model testing
Evaluation of the structural model was carried out to see the evaluation of predictive ability and the relationship between constructs by looking at the evaluation criteria used, namely the significance value, the coefficient of determination (R^2), the size effect value (f^2), and the evaluation of predictive relevance value (Q^2). The results of the structural model evaluation are based on the criteria of goodness of fit. Evaluation of the structural model with the coefficient of determination can be seen in Figure 2. the following :
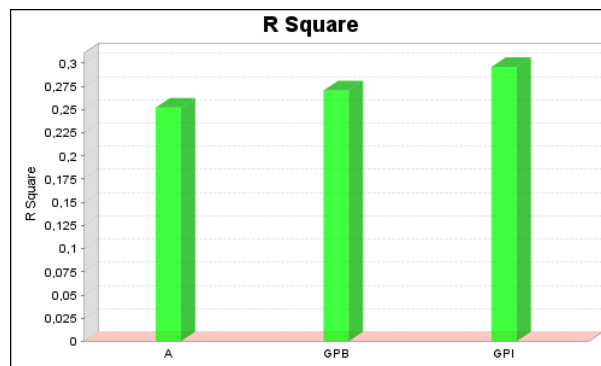

Figure 2. Value of R Square

The results show that the R^2 value for the attitude variable is 0.252 or 25.2%, the green packaging behavior variable is 0.271 or 27.1% and the Green Packaging Intention has an R^2 value of 0.296 or 29.6%. The R^2 value on the variable attitude, green packaging intention and green packaging behavior is included in the weak classification.

Evaluation of another structural model is the value of the effect size or f^2. This value indicates the contribution of each exogenous variable to its endogenous variables. Contributions are considered large if $f^2 \geq 0.35$, moderate contributions if f^2 values ≥ 0.15 and weak contributions if $f^2 \geq 0.02$ (Ghozali & Latan, 2017). The results of the analysis show that the contribution of attitude towards green packaging intention is 0.039 which states that the value

of the contribution is weak. Then the contribution value to the environment knowledge variable to attitude with a value of 0.337 which states that the value contributes strongly, the contribution value to the green packaging intention variable to green packaging behavior with a value of 0.371 which states that the value contributes strongly, the contribution value to the green perceived behavior variable to green packaging intention with a value of 0.014 which states that the value contributes weakly, the contribution value in the variable willingness to pay to green packaging intention with a value of 0.171 which states that the value contributes weakly.

Furthermore, testing was carried out on the value of the suitability of the model based on the goodness of fit criteria. This test aims to find out how the level of fit between the proposed model and existing data. The standards used to assess the goodness of fit in this research include standardized root mean square residual (SRMR) <0.10, the model is considered suitable (See HU & Bentler, 1999) then the normal fit index (NFI) is between 0 and 1, the closer to 1, the more in accordance with the proposed model. The results of the goodness of fit test can be seen in table 5. the following :

Table 5. *Goodness of Fit* Model

Criteria	Reference	Result	Conclusion
SRMR	<0,10 model is considered suitable (See HU & Bentler, 1999)	0,09	Suitable Models
NFI	0 and 1	0,33	The model is close to the proposed model

Evaluation of the proposed goodness of fit structural model with a standardized root mean square residual (SRMR) value of 0.09 where the result is <0.10 so it can be concluded that the proposed model is suitable. The normal fit index (NFI) is between 0 and 1, the closer to 1 the more in line with the proposed model, from the results obtained the NFI value is 0.33 which can be concluded that the proposed model is less close to the normal fit model.

Evaluation of the structural model can be seen from the level of significance of the effect of the indirect effect and the total effect of the construct. Indirect effect describes the influence of an exogenous variable on endogenous variables through other latent variables. The total effect is the total effect of an exogenous variable on the endogenous variable directly. The following table shows the results of the indirect effect structural model evaluation model and the total effect can be seen in Table 6.

Table 6. Estimation of Direct, Indirect and Total Effects on the Acceptance Model

Line	Type	*Total effect*	P-Value	*Standard error*	T-Statistic	Conclusion
A -> GPB	*Indirect*	0,09	0,003	0,04	2.708	Significant
A -> GPI	*Indirect*	0,13	0,001	0,06	2.990	Significant
EK -> A	*Indirect*	0,35	0,000	0,04	12.174	Significant
EK -> GPB	*Indirect*	0,05	0,006	0,02	2.551	Significant
EK -> GPI	*Indirect*	0,09	0,003	0,03	2.818	Significant
GPI -> GPB	*Indirect*	0,36	0,000	0,05	11.175	Significant
PE -> GPB	*Indirect*	0,06	0,031	0,03	1.877	Significant
PE -> GPI	*Indirect*	0,08	0,025	0,06	1.963	Significant
WP -> GPB	*Indirect*	0,14	0,000	0,04	5.272	Significant
WP -> GPI	*Indirect*	0,28	0,000	0,06	6.339	Significant

The effect of exogenous variables on endogenous variables is concluded to be significant if the absolute t-value $\geq$ 1.96, p-value <0.05. Table 6. shows that the values between exogenous variables and endogenous variables have significant values

5.4. Result

Acceptance or rejection of the research hypothesis is determined by testing the structural model with the bootstrapping procedure. The test results have been described in Table 6. where based on this table the results of the hypothesis analysis can be explained based on the structural model testing.

1. Environmental Knowledge

   H_{01}: Environmental knowledge has no positive effect on attitude

   H_1: Environmental knowledge has a positive effect on attitudes.

   Based on the results of the analysis, the p-value is <0.05 and the t-value is ≥1.96. Then H_{01} is rejected and H1 is accepted, so environmental knowledge has a positive effect on attitude.

2. Attitude

   H_{02}: Attitude has no positive effect on green packaging intentions.

   H_2: Attitude has a positive effect on green packaging intentions.

   Based on the results of the analysis, the p-value is <0.05 and the t-value is ≥1.96. Then H_{02} is rejected and H_2 is accepted, so attitude has a positive effect on green packaging intentions

3. Perceived Behavior

   H_{03}: perceived behavior has no positive influence on green packaging intentions

   H_3: perceived behavior has a positive influence on green packaging intentions

   Based on the results of the analysis, the p-value is <0.05 and the t-value is ≥1.96. Then H_{03} is rejected and H_3 is accepted, so that the perceived behavior has a positive influence on green packaging intentions.

4. Willingness to Pay

   H_{04}: Willingness to pay has no positive effect on green packaging intentions

   H_4: Willingness to pay has a positive effect on green packaging intentions

   Based on the results of the analysis, the p-value is <0.05 and the t-value is ≥1.96. Then H_{04} is rejected and H_4 is accepted, so the Willingness to pay has a positive effect on green packaging intentions

5. Green Packaging Intentions

   H_{07}: Green packaging intentions do not have a positive influence on green packaging behavior

   H_7: Green packaging intentions have a positive influence on green packaging behavior

   Based on the results of the analysis, the p-value is <0.05 and the t-value is ≥1.96. Then H_{07} is rejected and H_7 is accepted, so green packaging intentions have a positive influence on green packaging behavior

6. Conclusion

The aim of the research is to develop a model that is able to explain the relationship between the variables in the proposed model in the acceptance of the use of biopolymer shipping packaging for purchasing food through the Go Food application using the theory of planned behavior (TPB) approach. The results of the study show that the variables that can be used in developing an acceptance model for the use of biopolymer shipping packaging for purchasing food through the Go Food application are attitude, perceived behavior, green packaging intention and green packaging behavior. or Green Packaging Behavior.

Model development was also carried out by using 2 additional variables to look at factors that could influence the use of biopolymer shipping packaging for purchasing food through the GoFood application. The results of the study show that the additional variables of environmental knowledge and willingness to pay can affect the use of biopolymer shipping packaging for purchasing food through the GoFood application.

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