Uncovering the determinants of environmentally-friendly apparel purchase intention in Indonesia: Incorporating environmental concern and knowledge into the theory of planned behavior

by Elissa Dwi Lestari

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Abstract: The clothing industry is a high-growth industry that is attractive to be occupied by the business. However, behind its appeal, this industry brings harmful impacts to the environment. The fashion industry is considered the 2nd most destructive industry in the world. Environmental damage due to industry occurs not only in the production process but also in consumption and disposal. As the growth of this industry cannot be separated from consumer intervention, efforts to improve the environmental impact caused by this industry also require consumers' role. Consumers can improve the environment through their consumption choices, such as replacing the usual products with more sustainable products. Therefore, it is essential to discover what factors can encourage consumers to consume more environmentally friendly apparel. This study intends to explore consumer motivation in deciding to buy environmentally friendly apparel by applying the extended theory of planned behavior. As an extension, this study includes two additional variables, namely environmental concern and environmental knowledge. This study involved 407 respondents who have followed some environmentally friendly apparel brands. The collected data would then be analyzed with smartPLS 3.0. The result of the study showed that all variables are proven to be significant in influencing consumers' purchase intention for environmentally-friendly apparel, except for environmental concern, which

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influence is indirect through attitude. The result of this study gives new insight into what shapes the intention of buying environmentally-friendly apparel.

Keywords: theory of planned behavior, environmentally-friendly apparel, environmental concern, environmental knowledge

1. Introduction

1.1. Research background

The fashion industry is often regarded as one of the most environmentally damaging industries. This industry is even right behind the oil industry in terms of the amount of pollution (Villemain, 2019). There are various environmental damages caused by the fashion industry. The first impact is on the availability and condition of the water. As an illustration, to produce 1 kg of cotton cloth, the amount of water used is approximately 20000 liters. (Leahy, 2015). On average, the water consumed by the fashion industry per year is billion cubic meters. Moreover, about 20% of the waste in water globally is contributed by the fashion industry (Shihab, 2019).

In addition, the fashion industry is also considered to contribute to the increase in gas emissions in the world. Approximately 10% of gas emissions in the world can be accounted to the fashion industry; this amount is the same as the number of emissions produced by the aviation industry worldwide (Ro, 2020). The fashion industry is also one of the causes of the high levels of nitrogen dioxide. This substance is considered to be much more potent and dangerous when compared to carbon dioxide. The fashion industry produces nitrogen dioxide through a synthetic polymer production process which is a material to make fabrics last longer (Jaye, 2019).

The fashion industry itself is proliferating. Reporting on the results of ShareCloth's research, as of December 2018, the number of transactions in the fashion industry has reached $ 1.7 trillion. Indonesia's fashion industry grows by 4% yearly (Shihab, 2019). The rapid growth of the fashion industry is due to the development of fast fashion. Fast fashion has created a new lifestyle, where consumers can easily buy clothes and change their dress style. Today's consumers bought clothes five times more often than consumers 20 years ago. However, it is stated that the usage period is much shorter. Based on the data, 85% of clothes are eventually thrown away and become garbage every year. Waste in the form of clothes is difficult to decompose, and the decomposition takes a long time, which is tens to hundreds of years (Beall, 2020). The process of washing clothes also has a destructive impact on the environment. Each year, about 500,000 tons of microfiber are dumped into the sea. As a comparison, the microfiber waste resulting from washing clothes is equivalent to 50 billion plastic bottles (McFall-Johnsen, 2019).

Due to the significant impact of the fashion industry on environmental damage, there is a growing urgency to produce fashion products that are more environmentally friendly. This urgency is not only related to business awareness of environmental issues but also to business prospects for environmentally friendly fashion products. Currently, consumer awareness is starting to emerge about the importance of protecting the environment and the seriousness of environmental issues (Connell, 2010). Consumers are also beginning to realize that they can contribute to improving environmental conditions through the actions and choices they make. One of the ways is through the purchase of environmentally friendly products or slow fashion products (Mostafa, 2007). Unfortunately, although consumer awareness of the importance of protecting the environment has started to emerge (Connell, 2020), their interest in buying slow fashion or sustainable fashion products is still low (Awaliyah, 2019). This is because environmental issues in Indonesia are often ignored and forgotten (Octaviyani, 2019). As an illustration, only 20% of Indonesia's total population is aware of and concerned about environmental issues (Kustiani, 2021).

It is believed that adopting a more environmentally-friendly product alternative can solve environmental problems (Zhang et al., 2019). For this reason, an understanding of what factors can further encourage consumers to consume environmentally friendly fashion products is needed (Wu & Cheng, 2019). Understanding what factors can further encourage consumers to consume environmentally-friendly fashion products is very important for business people and the government in designing the right strategies and policies. Therefore, this study intends to explore the antecedents of environmentally friendly apparel purchase intention by expanding the theory of planned behavior. The theory of planned has been commonly used to elucidate the various types of the intention of behavior, including environmentally-friendly behavior, and is considered one of the

most prominent approaches to explaining behavior and intention (Jang et al., 2014). Additionally, this theory has also been extensively applied to explain the buying intention of green products (Hsu et al., 2017)

To increase the explaining power of the theory of planned behavior, some studies have added additional variables to this theory (Zhang et al., 2019). The added variables are moral norms (Liu et al., 2019), social impression and environmental ethics (Chen and Hung, 2016), environmental concern (Zhang et al., 2019; Yadhav & Pathak, 2016, Paul et al., 2016; Chen & Tung, 2014), country of origin (Hsu et al., 2017), self-concept (Nguyen et al., 2019) and environmental knowledge (Yadav & Pathak, 2016). This study also included two additional variables in the model, namely environmental concern and environmental knowledge. Environmental concern is included because some studies found that this variable can influence both attitude (Yadav & Pathak, 2016; Smith & Paladino, 2010) and intention (Paul et al., 2016; Yadav & Pathak, 2016). It is believed that an individual with a more serious concern for the environment would also portray a more favorable attitude towards environmentally-friendly products, increasing the likelihood of purchasing the products. Meanwhile, environmental knowledge is added because it is one of the vital factors in explaining an individual's decision to engage in sustainable behavior, including purchasing environmentally-friendly products (Scott & Vigar-Ellis, 2014). It has been proven that people tend to have a positive attitude toward a behavior when they possess sufficient knowledge regarding that behavior (Rizkalla & Erhan, 2020). In the case of the purchase of environmentally-friendly apparel, if the consumers have adequate knowledge about the product, this will influence their attitude toward the product, which will motivate them to purchase it (Haron et al., 2005).

This research is conducted in Indonesia for several reasons. First of all, most of the studies about implementing the theory of planned behavior and its application to environmentally-friendly products have been conducted in developed countries (D'souza & Taghian, 2005). Therefore, it is essential to perform the same study on the developing country to validate this theory's effectiveness in explaining environmentally-friendly behavior in the different cultural and economic contexts (Soyez, 2012). Next, there is still very few literatures discuss the consumption behavior of environmentally friendly fashion products (Ellis et al., 2012), especially in Indonesia.

1.2. Literature review

The theory of planned behavior has been widely acknowledged as one of the most critical and prominent theories in elucidating various types of intention (Chen & Deng, 2016; Wu & Chen, 2014). The theory of planned behavior is a refinement of the theory of reasoned action from Ajzen and Fishbein. Based on the theory of reasoned action, individual behavior is formed by two factors, which are attitude and subjective norm. Ajzen then expanded this theory to become the theory of planned behavior by adding an additional factor, namely perceived behavior control, which is someone's belief regarding the ease or difficulty of carrying out a behavior (Kostadinova, 2016). With this addition, it is assumed that consumers are well aware of the obstacles of carrying out behavior and take them into account when making decisions to carry out these behaviors (Hansen, 2008). This theory itself consists of three determinants. The first one is an attitude, defined as the extent to which a person has an evaluation of good and bad judgment (Ajzen, 1991). The second one is the subjective norm which refers to the social pressure felt to do something or not to do something (Ajzen, 1991). The third is perceived behavioral control, which refers to the perceived ease or difficulty in carrying out behavior and is assumed to reflect past experiences and anticipated obstacles (Ajzen, 1991).

1.2.1. Environmental concern

Environmental concern is defined as the degree of an individual's concern towards the environment, ecological degradation, and environmental protection (Nguyen et al., 2019). It refers to an individual's awareness to be proactively involved in finding environmental degradation solutions (Paul et al., 2016). Environmental concern holds a vital role in decision-making (Diamantopoulos et al., 2003). It is considered the defining antecedent of purchase intention for environmentally-friendly products (Bamberg, 2003). Environmental concern is also believed to be able to influence purchase intention directly and indirectly through the attitude (Hartmann & Apaolaza-Ibáñez, 2012; Lin & Syrgabayeva, 2016; Jaiswal & Kant, 2018). As mentioned by Yadav & Pathak (2017), environmental concern does not only influence the purchase intention of environmentally-friendly products but also the attitude of individuals towards the aforementioned product. An individual's higher level of environmental concern led to a more positive evaluation of the product (attitude) and a more likelihood of purchasing the product (Chen & Tung, 2014). As also postulated by Jaiswal & Kant (2018), individuals with a higher level of environmental concern would

have a higher tendency to perform environmentally-friendly behavior than those with a lower level of environmental concern (Jaiswal & Kant, 2018). Therefore, this hypothesis is formed

H1: Environmental concern has a positive effect on attitude

H3: Environmental concern has a positive effect on purchase intention of environmentally friendly apparel

1.2.2. Environmental knowledge

Environmental knowledge is defined as individuals' comprehension and knowledge of the environment and its related issues (Mostafa, 2009). It is believed that individuals with higher knowledge of the environment would have more tendency to conduct pro-environmental behavior than those with a lower level of environmental knowledge (Kollmuss & Agyeman, 2002). Additionally, individuals would be more motivated to be involved in environmental preservation activities if they were more aware of environmental issues (Barber et al., 2010). Likewise, if they feel unfamiliar with the environmental issue, they would be more reluctant to perform pro-environmental behavior (Vicente-Molina et al., 2013). Concerning the theory of planned behavior, environmental knowledge plays a part in influencing behavior directly and indirectly through attitude. Several studies have proved that environmental knowledge can shape individuals' attitudes toward purchasing green products (Mostafa, 2009). Likewise, as Yadav & Patak (2016) asserted, environmental knowledge was able to influence the attitude, which further would also shape the individuals' behavior. However, the type of knowledge is also essential. It is mentioned that subjective knowledge is more powerful than objective knowledge in influencing behavior. Rizkalla & Erhan (2020) postulated that knowledge attained from direct experience could affect individuals' perceptions, beliefs, and behavior. Additionally, subjective knowledge, also known as action-related knowledge, is considered more likely to shape behavior (Tanner & Kast, 2003). Therefore, this study would incorporate subjective knowledge instead of objective knowledge. Thus, this hypothesis is formed

H2: Environmental knowledge has a positive effect on attitude

H4: Environmental knowledge has a positive effect on purchase intention of environmentally friendly apparel

1.2.3. attitude

Attitude can be defined as the favorable or unfavorable psychological reaction an individual shows towards a specific object or behavior (Eagly & Chaiken, 2007). Regarding environmentally-friendly product buying behavior, attitude is defined as the degree to which consumers evaluate environmentally friendly products to be either positive or negative (Chen & Deng, 2016). It is a fundamental psychological emotion that can predict consumers' behavior, including pro-environmental behavior like buying environmentally-friendly fashion products (Moon & Attiq, 2018). Attitude has been significant in influencing an individual's decision to buy environmentally-friendly products (Bamberg & Moser, 2007., Hartmann & Apaolaza-Ibáñez, 2012). In some studies, the attitude has the most extensive prediction magnitude than other variables (Liang, 2014). Attitude is found to be positively and directly affecting purchase intention of several types of environmentally friendly products, like the green hotel (Han et al., 2010; Chen & Tung, 2014), organic food (Chen, 2007; Zhou et al., 2013; Nguyen et al., 2019; Lee et al., 2015). Therefore, the following hypothesis is formulated.

H5: Attitude has a positive effect on purchase intention of environmentally friendly apparel

1.2.4. Subjective norm

A subjective norm is defined as the individual's perception of how other people think about a specific object or behavior (Ajzen, 1991). Subjective norm is not the actual reflection of people's view about behavior but rather a belief of an individual of what other people might think about the specific behavior (Borusiak et al., 2020). Subjective norm is considered the same with a group or peer pressure that can form individual attitude, perception, and behavior (Jones et al., 2011). In the context of this study, individuals will be more willing to purchase an environmentally-friendly fashion product if they think that their friends would approve or praise this behavior. Subjective norm has been proven to be able to predict environmentally friendly-related behavior, like intention to purchase organic food (Chen, 2007; Lee et al., 2015; Teng & Wang, 2015) and revisit intention of the green hotel (Han et al., 2010; Chen & Tung, 2014; Teng et al., 2015). According to Teng & Wang

(2015), Subjective norm is more powerful than attitude and perceived behavioral control in influencing purchase intention. Based on these narrations, the following hypothesis is proposed:

H6: Subjective norm has a positive effect on purchase intention of environmentally friendly apparel

1.2.5. Perceived behavioral control

Perceived behavior control is the individual's perceived ease or difficulty with a particular behavior (Ajzen, 1991). In this sense, certain behavior is more likely to happen if the individual possesses the motivation and ability to conduct the behavior (Zhou et al., 2013). Perceived behavioral control is essential as it plays a significant role in individual decisions on whether to perform a behavior or not (Liobikiene et al., 2016). It has been proven to be able to influence purchase intention for green products (Moser, 2015), organic food (Chen, 2007., Lee et al., 2015; Thøgersen, 2016; Tarkiainen & Sundqvist, 2015), and green hotels (Han et al., 2010; Chen & Tung, 2014). In the case of environmentally-friendly fashion products, individuals should possess adequate knowledge, access (in terms of time and location), and resource to make purchase decisions of these products. When individuals experience any inconvenience in purchasing and decision-making (for example, having a doubt due to lack of knowledge, not feeling confident due to budget and time constraints), this will hinder them from buying a particular product (Chen & Tung, 2014). This implies that perceived behavioral control can influence purchase intention, which is the purchase intention of environmentally-friendly fashion apparel in this study context. Based on these postulations, the following hypothesis is proposed:

H7: Perceived behavioral control has a positive effect on purchase intention of environmentally friendly apparel

1.2.6. Research framework

Below is the research framework used by this study. As shown in Figure 1, this study consists of 6 constructs, 2 of which are exogen variables, while the rest are endogen. In this study, seven research hypotheses will be tested to analyze the application of the extended theory of planned behavior in the purchase intention of environmentally-friendly apparel.

Figure 1: Research model
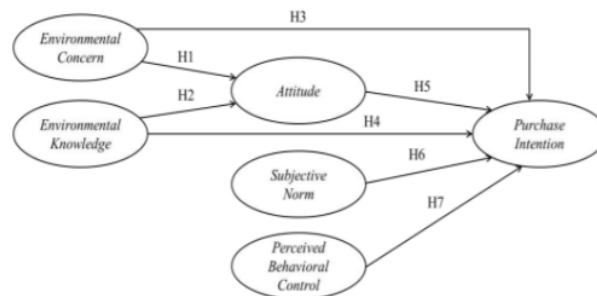
2. Research methodology

To achieve our objective, we conduct the survey in Jakarta and its urban area (Greater Jakarta or Jabodetabek). The Greater Jakarta area is chosen because it is considered one of the most polluted areas in Indonesia. It is even mentioned as one of the most environmentally-vulnerable cities globally, along with New Delhi (Karyza, 2021). Moreover, Greater Jakarta is also the most populated area in Indonesia, in which the total population of this area in 2021 is around 26 million people (World Population Review). Regarding consumption and buying power, Greater Jakarta is also ahead of other cities in Indonesia. It is mentioned that most of Indonesia's money is circulated in the Greater Jakarta Area. This buying power is relevant for environmentally-friendly fashion apparel, as most are relatively more expensive than the non-environmentally friendly ones (Khatib, 2021).

The respondents of this study are Millennials and older Gen Z aged between 22 – 40. This age range is chosen because 22 years old is the average age of finishing university level in Indonesia and starting to enter work force. We select this age range because we assume that they have already earned their own income and thus become fully responsible for their spending decisions. Moreover,

it is mentioned that gen Z and millennials have a higher likelihood of being involved in pro-environmental behavior as they are more sustainably oriented than the older generation (Yamane & Kaneko, 2021). As for the research instruments, we adopted the items for each variable from various sources.

Items for measuring attitude were adopted from Yadav & Pathak (2016). As for subjective norms, the items were adopted from Zhang et al. (2019). Meanwhile, perceived behavior control was measured by items from Maichum et al. (2016) and Liu et al.(2019), while environmental concern was measured by items from Al Mamun et al. (2016). Last but not least, the measurement for purchase intention was adopted from Maichum et al. (2016). The detail of measurement is presented in Table 1 Below

Table 1: Measurements and outer loadings

Variable	Items	Code	Outer Loadings
Purchase Intention	I intend to purchase environmentally-friendly apparel in my next purchase.	PI1	0.874
	I would like to purchase environmentally-friendly apparel	PI2	0.775
	I would like to consider purchasing environmentally-friendly apparel first	PI3	0.727
Attitude	Purchasing environmentally-friendly apparel is a good idea.	ATT1	0.856
	Purchasing environmentally-friendly apparel is a wise idea	ATT2	0.869
	Purchasing environmentally-friendly apparel would be pleasant	ATT3	0.806
Subjective Norm	My society expects me to purchase environmentally-friendly apparel	SN1	0.824
	I value the opinion and feeling of my family on purchasing environmentally-friendly apparel	SN2	0.838
	I value the opinion and feelings of my friends on purchasing environmentally-friendly apparel	SN3	0.718
Perceived Behavioral Control	Whether or not I buy green products is up to me.	PB1	0.786
	I am free to choose environmentally-friendly apparel when purchasing it	PB2	0.827
	I have resources, time, and opportunities to purchase environmentally-friendly apparel	PB3	0.759
Environmental Concern	I believe major social changes are necessary to protect the natural environment	EC1	0.703
	I believe humans must live in harmony with nature in order to survive	EC2	0.807
	I think environmental problems are very important to address	EC3	0.892
	I think we should care more about environmental problems	EC4	0.845
Environmental Knowledge	I prefer to check the eco-labels and certifications on environmentally-friendly apparel before purchase	EK1	0.825
	I want to have a deeper insight of the inputs, processes and impacts of environmentally-friendly apparel before purchase	EK2	0.873
	I would prefer to gain substantial information on environmentally-friendly apparel before purchase	EK3	0.855

The questionnaires in this study were initially developed in English and then translated to Indonesian using the back-translation technique. This back-translation technique is employed to ensure that the meaning of the items would not be altered when they were translated to another language (McGorry, 2000). In this study, the non-probability sampling method, specifically purposive sampling, was employed. An online survey is administered via personal contact and Instagram. We first gave the respondents the lists of 14 local slow fashion brands in Indonesia and asked them whether they had already known and followed the Instagram accounts of the given brands. If the respondents state that they know and have already followed at least three brands, they are eligible to fill the rest of the questionnaire. However, if the respondents do not know or know only one or two brands, they may stop filling out the questionnaire. After the screening process, a total of 407 questionnaires would be used for the final analysis. This is deemed to be sufficient as, according to Tabachnick & Fidell (2013), 300 observations are the basic rule of an adequate sample size. As for data analysis, this study used component-based SEM analysis processed by smartPLS 3.0.

3. Result and analysis

This part will be a discussion about the profile of our respondents. This study consisted of 407 respondents consisting of 21.6% male and 78.4% female. Most of the respondents are 22-24 years old with 48.89%, followed by 25-27 years old with 25.3%. As for employment, most of them are employees with 36.6%. Details of the respondent's profile can be seen in Table 2 below:

Table 2: Profile of the respondents		
Age Group	**Frequency**	**Percentage**
22 - 24	199	48.89%
25 - 27	103	25.3%
28 - 30	41	10.1%
31 - 33	27	6.6%
34 - 36	8	2%
37 - 40	29	7.1%
Gender		
Female	319	78.4%
Male	88	21.6%
Occupation		
Student	105	25.8%
Employee	149	36.6%
Entrepreneur	97	23.8%
Others	56	13.8%

3.1. The assessment of measurement model

This study implemented a two-stage analysis variance-based method Partial Least Square, processed by smartPLS 3.0. This study will assess two models with this method: measurement and structural models. In the measurement model, reliability, convergent validity, and discriminant validity were performed to ensure the effectiveness and the accuracy of the items used to measure research variables in this study. Then, in the structural model, this study would test the research hypotheses by assessing the standardized path coefficients and their significance levels.

Table 3: Convergent validity and reliability				
Variables	**No of Items**	**AVE**	**Composite Reliability**	**Cronbach's Alpha**
Purchase Intention	3	0.634	0.838	0.710
Environmental Concern	4	0.664	0.887	0.829
Environmental Knowledge	3	0.725	0.888	0.810
Attitude	3	0.713	0.882	0.798
Subjective Norms	3	0.631	0.836	0.740
Perceived Behavior Control	3	0.625	0.833	0.701

Two parameters were analyzed to ensure convergent validity. These two parameters are outer loadings and average variance extracted (AVE). For the outer loadings, the minimum threshold is 0.7. As shown in Table 1, the outer loadings score for all measures exceeds 0.7, ranging from 0.703 to 0.892, indicating that the convergent validity condition has been met.. Then, to ensure that convergent validity has been achieved, the average variance extracted (AVE) value should also exceed 0.50. As portrayed in Table 3, AVE values for all constructs range from 0.625 to 0.725, which was higher than the minimum requirement of 0.5. This result indicates an acceptable convergent validity. Next, to assess the reliability of the construct, this study analyzed the score of Cronbach's alpha and composite reliability, in which the minimum threshold of both parameters is 0.7. As can be seen in Table 3, the score of both Cronbach's alpha and composite reliability for all constructs exceeds 0.7, which concludes that all constructs have met the reliability requirement.

Table 4: Fornell-Larcker criterion					
	Attitude	**EC**	**EK**	**PBC**	**PI**	**SN**
Fornell-Larcker Criterion						
Att	0.844					
EC	0.497	0.815				
EK	0.405	0.424	0.852			
PBC	0.283	0.296	0.313	0.791		
PI	0.406	0.247	0.326	0.295	0.796	
SN	0.31	0.056	0.241	0.054	0.23	0.794

As for discriminant validity, this study used two parameters, namely Fornell- Larcker Criterion and cross-loadings. Based on the Fornell–Larcker criterion, the AVE for each indicator should be greater than the highest squared correlation between the constructs. As presented in Table 4 above, all constructs have met this criterion.

Table 5: Cross loadings

	ATT	EC	EK	PBC	PI	SN
ATT1	0.857	0.487	0.321	0.246	0.296	0.195
ATT2	0.869	0.379	0.325	0.196	0.354	0.267
ATT3	0.806	0.391	0.378	0.271	0.376	0.322
EC1	0.35	0.703	0.342	0.21	0.182	0.077
EC2	0.373	0.807	0.332	0.289	0.142	-0.004
EC3	0.411	0.892	0.399	0.27	0.199	0.033
EC4	0.468	0.844	0.316	0.206	0.263	0.069
EK1	0.377	0.352	0.826	0.221	0.216	0.22
EK2	0.309	0.307	0.874	0.289	0.312	0.194
EK3	0.35	0.421	0.855	0.288	0.302	0.201
PBC1	0.19	0.214	0.257	0.79	0.206	-0.033
PBC2	0.256	0.35	0.3	0.831	0.236	-0.063
PBC3	0.221	0.14	0.19	0.749	0.252	0.203
PI1	0.379	0.282	0.281	0.3	0.874	0.199
PI2	0.289	0.131	0.248	0.201	0.778	0.248
PI3	0.292	0.158	0.25	0.189	0.73	0.094
SN1	0.339	0.117	0.245	0.137	0.234	0.825
SN2	0.177	-0.013	0.152	-0.048	0.172	0.836
SN3	0.16	-0.036	0.146	-0.027	0.087	0.717

Additionally, the cross-loading score for all constructs also exceeded the minimum requirement of 0.7, as shown in Table 5 above. The result of these two parameters indicated that the discriminant validity for all constructs had been achieved.

3.2. The assessment of structural model

Figure 2: Structural model
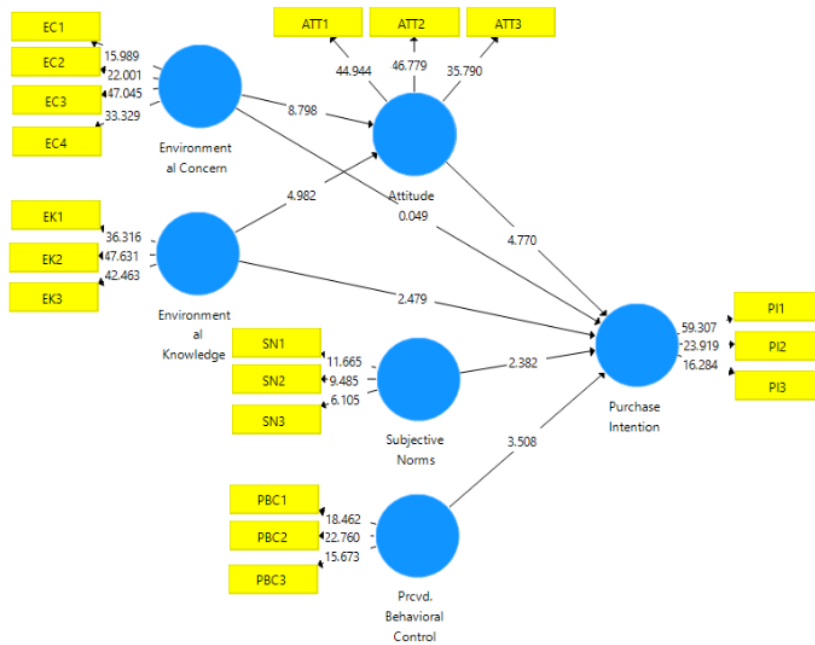
Next, this study examines the structural model to test the research hypothesis. A bootstrapping method with 5000 resamples was employed to test the significance of each path coefficient (Hair et al., 2016). Table 6 and Figure 2 show the test results for each hypothesis. Overall, six of the seven hypotheses in the structural equation model were supported. First, this study found that attitude was influenced by environmental concern (β = 0.397, p < 0.000) and environmental knowledge (β = 0.237, p < 0.000) which indicates that Hypothesis 1 and 2 are supported. Then attitude was also found to have a significant effect on purchase intention of environmentally friendly apparel (β = 1.453, p < 0.001), along with subjective norm (β = 0.104, p < 0.017) perceived behavioral control (β = 0.170, p < 0.000) and environmental knowledge (β = 0.140, p < 0.013), thus Hypothesis 4, 5, 6 and 7 are supported. Meanwhile, environmental concern was found to have no direct and significant effect on purchase intention of environmentally-friendly apparel (β = -0.003, p < 0.961). Hence, Hypothesis 3 is not supported.

Table 6: Test results

Path	Beta	p-value	t-value	Adj R2	F2
Env.Concern → Attitude	0.397	0.000	8.798	0.290	0.183
Env.Knowledge → Attitude	0.237	0.000	4.982		0.065
Env.Concern → Purchase Intention	-0.003	0.961	0.049	0.219	0.000
Env.Knowledge→ Purchase Intention	0.140	0.013	2.479		0.018
Attitude → Purchase Intention	0.270	0.000	4.770		0.060
Subjective Norms → Purchase Intention	0.104	0.017	2.382		0.012
Prcvd. Behavioral → Purchase Intention	0.170	0.000	3.508		0.032
Indirect Effect					
Env. Concern → Attitude → Purchase Intention	0.107	0.000	4.035		
Env. Knowledge → Attitude → Purchase Intention	0.064	0.000	3.523		

Next, this study also aims to assess the overall quality of the proposed model. This can be done by computing the Goodness of Fit, which indicates the fitness of the proposed model explained by the empirical data (Ruangkanjanases et al., 2020). In this study, we use the Goodness of Fit (GoF) proposed by Tenenhaus et al. (2005) with this formula:

$$\text{GoF} = \sqrt{Communality \; x \; \overline{r^2}} = \sqrt{0.66 \; x \; 0.25} = 0.44$$

As asserted by Wetzels et al. (2009), the cutoff value GoF effect size is 0.1 for GoF_{small}, 0.25 for GoF_{medium}, and 0.36 for GoF_{large}. Based on the calculation, the GoF for this study is 0.44. The result is above the minimum threshold of GoF_{large}; thus, we conclude that the proposed model in this study has performed well based on the comparison with the baseline of GoF explained above. This also indicated that the model has an appropriate overall fit.

4. Discussion

This study aims to investigate the application of the extended theory of planned behavior on environmentally-friendly apparel. [1] this study, the theory of planned of behavior proposed by Ajzen (1991) is extended by adding two additional variables, namely environmental concern and environmental knowledge, which these two variables serve as the direct predictor of purchase intention and indirect predictor through attitude. Several antecedents, both direct and indirect ones, are tested on the purchase intention of environmentally-friendly apparel. In this study, 6 out of 7 hypotheses were supported. Out of 5 direct predictors, attitude is found to have the most substantial impact on purchase intention. This result shows the same pattern as the study conducted by Paul et al. (2016), which also found attitude as the strongest predictor of purchase intention of green products.

This study is helpful to give insights and become a roadmap for the decision-makers, both from the business and policy-maker sides. For businesses, the result of this study can provide them with a clue about how to incorporate the theory of planned behavior and its extension in promoting their green product. As discovered in the study, the attitude has the biggest influence on environmentally-friendly apparel purchase intention. This indicates that the more positive attitude individuals have

towards the environmentally-friendly product, the more likelihood for them to form purchase intention for the aforementioned product. As postulated by Barber et al. (2010), attitudes are considered as the strongest foundation of an object, be it a product or specific behavior. Therefore, the producer of environmentally-friendly apparel has to create a strategy that can enhance consumers' attitude towards their products and the buying behavior for green products. One of the strategies is utilizing celebrity endorsement in their marketing campaign in order to form a favorable attitude towards the usage of environmentally-friendly apparel (Varah et al., 2020).

Additionally, utilizing a well-known and respectable celebrity or public figure can help the company enhance the image of environmentally-friendly apparel. This image enhancement is essential in the formation of a positive attitude of consumers. As mentioned by Yadav & Pathak (2016), an individual's attitude can be altered by creating a positive and favorable image of green products.

This study proposes that the attitude towards environmentally-friendly apparel is influenced by environmental concern and environmental knowledge. Based on the result, both environmental concern and environmental knowledge significantly affect attitude. This reflects that these two variables can be utilized to enhance the attitude of consumers towards green products, specifically environmentally-friendly apparel, in the context of this study. The company producing environmentally-friendly apparel can incorporate environmental concerns in their marketing campaign by highlighting the seriousness of environmental issues and how their product can preserve the environment. This campaign could increase the environmental concern of the consumers, and as asserted by Chen & Tung (2014), when consumers feel a high concern towards the environment, they will form a more positive evaluation of environmentally-friendly products and behave accordingly.

However, this study found that environmental concerns did not directly affect the purchase intention of environmentally friendly. For environmental concerns, the effect is indirect through attitude. This is similar to the findings from Nguyen et al. (2019), who also found that environmental concerns did not affect purchase intention. Thus, it can be concluded that if someone has concerns towards the environment and its issues, this will not necessarily be actualized into environmentally friendly products buying behavior. As stated by Mostafa (2009), in order to be able to turn environmental concern into a real purchase action, the person must first have a positive attitude towards environmentally friendly products.

In regards of environmental knowledge, this study found that it can influence both attitude and consumers' purchase intention for environmentally-friendly apparel. As mentioned by Conraud-Koellner & Rivas-Tovar (2009), individuals' perceptions and attitude towards environmentally-friendly products are highly determined by the degree of knowledge they possess about environmental issues and how environmentally-products can help in solving such issues. Likewise, it has been found that the lack of environmental knowledge is one of the biggest barriers for the individual in purchasing environmentally-friendly products (Rokicka, 2002).

This result can give cues to the business in promoting their environmentally friendly apparel. The business should not only highlight the functionality of the product but also highlight how using the product can actually help tackle environmental problems. In this sense, the business should tailor their marketing campaign into a more educational one, in which the main aim is not merely to persuade the consumers to buy the product, but more to give them new knowledge and perspective about environmental problems, environmentally-friendly products and the relation between these two.

In this study, subjective norms and perceived behavioral control were also found to be significantly affecting purchase intention of environmentally-friendly apparel. Therefore, the company producing environmentally-friendly apparel can utilize these two factors to encourage the consumers to try the product. For subjective norms, it is suggested to put the act of purchasing environmentally-friendly apparel in a positive light by working together with a public figure and influencer whom consumers look up to (Ham et al., 2015). It can also be done by highlighting that the act of purchasing environmentally-friendly apparel has become a new trend as it is found that consumers would be more likely to engage in a behavior that they believe has also been done by a lot of people (Al Mamun et al., 2018).

As for perceived behavior control, it has been widely acknowledged as one of the predictors for purchase intention of the environmentally-friendly product (Baker et al., 2007). It is believed that individuals would be more likely to form purchase intention over the environmentally-friendly product if they believe that they can afford it, both financially and technically (Chen & Peng, 2012). Therefore, the business must ensure that there is no perceived difficulty experienced by consumers in regard of the purchasing process. To eliminate the perceived difficulty, the business must ensure that the environmentally-friendly apparels are widely available and easily accessible. The

information regarding the price of the product, where to get the product, and how to use the product should be communicated as clearly as possible to potential consumers.

5. Limitations and future research recommendations

As this study was conducted with a cross-sectional perspective, it could neither capture the model's long-term impact nor compare the condition between the current and the future. Easterby-Smith et al. (2003) mentioned that one of the limitations of a cross-sectional study is the inability to decipher the observed pattern of variables. Therefore, it is suggested for future research to conduct a longitudinal study to study the impact of the application of the model on the current attitude and purchase intention of consumers regarding environmentally-friendly apparel. A longitudinal study would also be able to trace the purchase intention of environmentally-friendly apparel at different points of time to check whether the observed intention is successfully translated to actual purchase behavior (Mei et al., 2012). Next, it is also suggested that future studies assess the actual purchase behavior for environmentally-friendly apparel as the scope of this study is only limited to the intention, not the actual behavior.

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Conflicts of interest

The author declares no conflict of interest.

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