FRENCH GREEN PURCHASE INTENTION OF PALM OIL FREE NUT BUTTER

BAHAMAN TUAN RIFAAZ¹, SYRIAC NELLIKUNNEL DEVASIA², MARIA JOSEPHINE WILLIAM³
& PARAMESWARAN SUBRAMANIAN⁴

¹INTI International University, Malaysia

²MAHSA University, Malaysia

^{3,4}Linton University College, Malaysia

ABSTRACT

Green purchase intention can stimulate multinational firms and society in the long way towards sustainability while finding the equilibrium between demand and supply in the context of environmental issues. France, one of the main actors in COP21 Paris agreement, is a major consumer of palm oil nut butter while this natural resources' exploitation is highly criticized for damaging the planet. The purpose of this research is to analyze the factors affecting green purchase intention towards palm oil free nut butter within a sample size of 264 French consumers using an online questionnaire. With the random sampling method, the paper collected data that were statistically analyzed with SPSS's multiple linear regression test, in order to discuss about environmental concern, environmental knowledge, green advertisement and perceived consumer effectiveness relationship with green purchase intention. The findings of the research show a significant and positive influence from environmental concern and perceived consumer effectiveness on green purchase intention with a predictability of 43%. Green advertisement and Environmental knowledge were not significant for this research. The paper also provides several recommendations for future studies.

KEYWORDS: *Green Purchase Intention, French Consumers, Green Advertisement, Environmental Knowledge, Environmental Concern, Perceived Consumer Effectiveness&Palm Oil Free Nut Butter*

Received: May 02, 2020; **Accepted:** May 22, 2020; **Published:** Jul 22, 2020; **PaperId.:** IJMPERDJUN2020414

INTRODUCTION

Industrial, agricultural and Technological breakthrough, has led mankind to exploit natural resources to such an extent that they have considerably been developing their quality of life. Unfortunately, using our planet's resource carelessly leave behind drastic issues that affect biodiversity. A growing concern among the public in France has been observed throughout the years regarding environmental issues and these alarming issues are raising awareness that trigger different change of habits to support environmental cause (Delhomme & Gheorghiu, 2016). World leaders are even ringing the bell with the COP21 Paris Agreement by planning targets to reach by 2030 in order to reduce greenhouse emission (Christoff, 2016). Burning forest, haze in Indonesia affecting South-East Asia, heat wave in Europe and many other viral news against the planet are becoming more and more threatening for Human beings (Hanafi et. al., 2019). However, it quickly fades away in consumers' memory with CSR strategy that is supported by Fast moving consumer goods industry (Frynas, 2015) and the countless distraction that misguide consumer awareness on environmental issues (Boush, Friestad & Wright, 2015). Society is changing, as well as consumers' preferences and awareness due to environmental threat (Salladarré et. al., 2016). This study will focus on the factors affecting Green purchase intention of palm oil free nut butter in France.

1.1 Problem Statement

French consumers are often known as nut butter lovers especially with the Nutella jar as the French market represent 26% of Nutella's world consumption, even though France represent less than 1% of world's population (TheLocal.fr, 2018). There are nut butter alternatives considered as green and not using palm oil. With the recent alarming news about haze in South-East Asia caused by Palm Oil deforestation, it is interesting to study which factors could contribute to purchase intention of Palm oil free nut butter. Palm oil is a natural resource of a great conservation quality used by many industries, from cosmetic to food industry, also considered as FMCG companies but the over exploitation has led to wildlife destruction (Aguilar, Martinez & Coleman, 2018). Many species like the famous Bornean orangutans, which went from 230 000 to 104 700 in 100 years (Voigt et. al., 2019), are being forced to leave their natural habitation and the forced replantation of palm oil tree are damaging soil and affecting the well-being of local people living near these plantations (Rochmyaningsih, 2019). While Palm oil is the most important tropical vegetable oil globally traded, the demand keeps increasing substantially and recent studies has observed a considerable impact on greenhouse gases (GHG) emission (Vijay, 2016).

The key point of this research is to understand the factors influencing consumers to purchase a green product which is palm oil free nut butter. There is a real need of looking for sustainable and environmentally friendly alternative to Palm oil which is largely spread across the French consumer market and all its commodities. With the raising awareness regarding Palm oil deforestation, green companies could use these advantage to promote palm oil free products. There is currently a high demand of Nutella jar in France and there isn't any product which can compete it with it. It could be interesting to see what could trigger the purchase of a Palm oil free nut butter. There are many green nut butter products in the French market but their purchases intention was not studied in any research. This research could bring recommendations to green businesses to improve their strategy in targeting consumers.

As the brand leader, Nutella, owned by Ferrero Group which is one of the most famous company in Europe, is using palm oil for its product, especially Nutella Jar that has been criticized for its impact on palm oil production in Malaysia and Indonesia but the main issue covered was for its impact on health in France as the brand has been misleading consumers, especially children and their mothers, regarding its benefit for health (Cova & Antone, 2016). Despite not being blacklisted, a huge increase of 400% on palm oil Tax was supposed to be implemented because of NGOs but the government stepped back due to pressure from major palm oil producing nations. Today Nutella is still a successful brand which keep using palm oil but in a sustainable way with RSPO certification which include many other famous FMCG companies (Kadariusman & Herabadi, 2018). Studies highlighted some limits to this certification which still make Palm Oil remain a threat for the environment. Palm oil free nut butter brand may take advantage of a Palm oil deforestation awareness around the world.

1.2 Research Objectives

This research examines the relationship of Environmental concern, Green Advertisement, Perceived Environmental knowledge, Perceived Consumer Effectiveness with Green purchase intention.

As a core member of Conference of parties, created by United Nations for Climate Change, France has taken action against pollution in order to reduce GHG emission and find sustainable solution. French market represents 26% of Nutella's world consumption and the brand had already faced criticism on environmental issues before looking for sustainable situation (TheLocal.fr, 2018). Here the study will highlight which factors could be related to Palm oil free nut butter purchase intention.

2. LITERATURE REVIEW

2.1 Green Purchase Intention (GPI)

The purchase of environmentally friendly products is referred to Green purchasing (Chan, 2001). Intention and behavior are mostly measured when it comes to green purchasing. Green purchase intention (GPI) refers to consumers' willingness to purchase green products. In another research it was discussed as the determination to act in a certain way or to purchase a green product rather than a conventional product (Aman, Harun & Hussein, 2012). While intention motivate the factor that influence green purchase behavior, this ethical decision-making behaviour is considered as a type of socially responsible behavior (Joshi and Rahman, 2015).

Green nut butter is an eco-friendly product (EFP) which provide environmental, social and economic benefits while protecting public health and environment over their whole life cycle, from the extraction of raw materials until the final disposal. Consumers are assumed to purchase EFP because of a strong self-interest in perceiving themselves as green consumers and avoid feeling guilty about their moral obligations (Freestone & McGoldrick, 2008). However, a study on green consumers and non-green consumers, has emphasized altruistic motives from green consumer who buy eco-friendly products (Barbarossa & Pelsmecker, 2016). They purchase EFP simply for the sake of environment. A study in France led to conclude that a low awareness of green products is the main reason for not having any intention to purchase green products (Hayat, Nadim& Jan, 2018).

GPI has been studied in many research and involved several factors that was either significant or not significant depending on the products and country according to Joshi and Rahman's (2015) review. This research will study the major factors that was studied and related to GPI. The growing concern about environmental threat has raised environmental concern (EC) and environmental knowledge (EK) importance on green purchase intention (Nia et. al., 2018; Nhu et. al., 2019). Perceived consumer effectiveness (PCE) is one of the most studied factors positively related with GPI, in contrast with Green advertisement that was less studied but still related to GPI (Heo Luczynski, 2019; Chekima et. al., 2015).

2.2 Environmental Concern (EC)

Studies on the concept of "environmental awareness" or "environmental consciousness" grew up with the ecological movement in the 1960s (Weber and Wiesmeth, 2018). Environmentalism is an ideology that implies the necessity and responsibility of humans to respect, protect, and preserve the natural world from Human harmful activities on the ecosystem. Environmental awareness is a factor of the movement's success. By teaching our friends and family that the physical environment is fragile and necessary for next generation's survival we can begin fixing the problems that threaten it (Pawaskar, Raut & Gardas, 2018). Consumers start to be aware of environmental issues and behave in a way that shows disappointment, loss of trust, anger and other responsive emotion against brands such as raising awareness through anti-consumption act (Hoffman & Lee, 2016). Palm oil deforestation will soon affect Mankind's well-being, not only SEA population, because of the global impact on climate and biodiversity. The research examined four items related to environmental concern (Nhu & My, 2019). Green products are going through more expensive intensive, environmental friendly technologies and labor which often produce smaller quantity and doesn't benefit from large economy of scale (Banovic et. al., 2019). Two-thirds of EU citizens (66%) are confident that products indicated as environmentally-friendly will cause less damage to the environment than other products (Nugent & Rhinard, 2015).

Heat wave strokes European countries, including France, due global warming affecting people's daily life (Baldwin

et. al., 2019). The European Perceptions of Climate Change surveyed among French consumers regarding the most important issues their country is facing and only 6% mentioned Climate change as an issue as the majority was answering unemployment. But France is the most worried about Climate change with 41% compared to other nation (Steentjes et. al., 2017). This study on climate change also highlighted that the majority of respondents in Europe believe that climate change is due to Human activity. The EPCC study was clear that French consumer were aware of climate change but didn't link it with palm oil deforestation in SEA. The research of Knight (2015) confirmed that awareness of climate change is greater in countries that are wealthier and more highly educated without political influence, but people mostly relate it to their situation and own well-being.

A study in Vietnam highlighted a high positive and significant relationship between EC and GPI (Minh, Ngoc & Dung, 2019). Another research in Akdeniz University in Turkey, showed that EC was highly influencing students to purchase green products that previously identified young and educated people as potential green product purchaser (Albayrak, Moutinho & Herstein, 2011). A more recent study from Jaiswala & Kant (2018) on 351 young and educated Indian consumers in Uttar Pradesh observed that EC was significantly and positively affecting GPI and attitude towards green products. A French study on fair trade coffee purchasing motives on 54 consumers showed that there was a high concern regarding environmental protection (Ferran & Grunert, 2007). Overall, the literature reviews are supporting a positive and significant influence from environmental concern on green purchase intention no matter the country or products. Hence the following hypothesis is proposed:

H₁: There is a positive and significant relationship between Environmental concern (EC) and Green purchase intention (GPI)

2.3 Environmental Knowledge(EK)

Having knowledge about what trigger environmental issues as well as what could reduce the risks are a key factor to raise awareness. Liobikiene & Poskus (2019) emphasized the importance of educating people about local and global environmental problems, about the impact of behavior on the environment whether for public or private sphere in order to influence on ecological worldview. Nowadays Social media has become a key influencer thanks to the quick expansion of electronic word of mouth which enables users to share information worldwide with a single click (Bigneet.al.,2018). Social media has disrupted the way company deals with public relation but also the relationship between customer and corporation. Customer can directly interact with company and brand, while the exchange can be viewed by others such as the case of Volkswagen with cheating software that affected CO2 emission (Zhang, Veijalainen & Kotkov, 2017). Social media became more influential than traditional news channel or journal and can raise customer awareness (Lund, Cohen & Scarles, 2017).

Nia et. al., (2018) observed in their research, about green purchase intention of Environmental Friendly Detergent Product conducted on 144 respondents, a most significant and positive contribution from environmental knowledge on GPI. In order to study the impact of environment on consumer behavior within Malaysian consumers using the theory of reasoned action, Aman et. al., (2012), focused on environmental knowledge and observed a positive and significant relationship between EK and GPI but no prediction on attitude towards green product. An Indonesian research studied Starbucks consumers encouraged the brand to increase public awareness on EK as it could increase the purchase intention of new environmental products (Kusuma & Sulhaini, 2018). Environmental knowledge has not always been a predicator to GPI as observed by Ramayah & Rahbar (2013) and with the review of Joshi and Rahman (2015), overall we can expect environmental knowledge to have a positive and significant influence on GPI. Hence the following hypothesis is proposed:

H₂: There is a positive and significant relationship between Environmental Knowledge (EK) and Green purchase intention (GPI)

2.4 Green Advertisement (GA)

Green or environmental advertisement is a component of green promotion which is basically same from the traditional marketing mix. The major difference between these two concepts is that traditional marketing mix mainly focusing on profit while on the other hand green marketing mix focusing on planet which is necessary for all the human beings (Barbulescu, 2017). Green advertisement emphasizes on products or associated production process that contribute to environmental protection and other beneficial action for the environment. The European commission observed that 97% of consumers consider quality of the product as the most important factor followed by the product's price with 87% and environmental impact (84%) (Nugent & Rhinard, 2015). Green advertisement may take advantage of consumers' opinion about green products to advertise them and increase purchase intention. Advertising play a vital role the in the success of every organization (Hayat, Nadeem & Jan, 2018). Basha, et. al., (2015) observed that green advertisement is a tool for protecting the environment for the future generation who will lead the way to healthy business environment and most buyers are influenced by advertisement that reflects a company's commitment to environment.

A research from Ansar (2013) on 384 consumers above 19 years old in Karachi, showed that environmental advertisement had a positive influence on GPI with the highest correlation among the green marketing mix factors. A Malaysian survey held in Sabah with 159 respondents pointed out the insignificant contribution from green advertisement to consumer intention to purchase green products as p-value was higher than 0.05 in the multiple regression linear test (Kong et. al., 2014). However, another research held in Kuala Lumpur, Selangor and Sabah supermarkets with 405 respondents using structural equation modeling, showed that green advertisement had a positive and significant influence on GPI (Chekima et. al., 2015). It was confirmed by a more recent study from Indonesia by Kusuma & Sulhaini (2018) who found a positive and significant relationship between green advertisement and GPI. Hence the following hypothesis is proposed:

H₃: There is a positive and significant relationship between Green Advertisement (GA) and Green purchase intention (GPI)

2.5 Perceived Consumer Effectiveness(PCE)

Perceived consumer effectiveness (PCE) is linked to the belief that as an individual we can make a difference in the solution to a problem. PCE was measured as an element of personality variable to predict ecological concern (Kinnear, Taylor & Ahmed, 1974) and ecological consumption responsible patterns. According to Berger & Corbin (1992), PCE refers to a self-evaluation in the context of the environmental issue, such as damaging the environment with products. It means that people who have exhibited higher PCE are likely to be more environmentally concerned than those who have lower PCE. According to Floch's investigation held in French FMCG market (2019), 31% household are concerned about the origin of the product, 80% of French people are making their own product to avoid risk additives, through which 17% of household has expanded it into health care, beauty and food products. In addition to a concern for organic food, clean products and plant-based, it shows how French are becoming more eco-responsible due to environmental awareness (Barthe, 2017). PCE is a significant predictor to green purchase behavior to help minimize environment deterioration and studies have shown that consumers need to be empowered or to be convinced (Chen & Chai, 2010). It can take the form of boycott as confirmed by the study of Hoffman & Lee (2016) who showed that when Nutella consumers' well-being was affected, they fought back with anti-

consumption act through new technology like social media.

Recent studies have found PCE to be positively associated with consumer contributions to sustainable development (Hanss & Doran, 2019). This study on PCE emphasize a relation between PCE and consumers' intention to purchase green products with key items also discussed in Jaiswal & Kant (2018) research in India. This paper will focus on responsible consumption, green behavior, green consideration and green preservation as it was the major items discussed in previous studies where PCE had always a positive and significant relationship with GPI (Kabadayi et. al., 2015; Heo & Muralidharan, 2019; Achchuthan & Velnampy, 2016). This factor was tested using theory of reasoned action, theory of planned behavior or structural equation modeling and most of the time it was the most significant factor. Hence the following hypothesis is proposed:

H₄: There is a positive and significant relationship between Perceived Consumer Effectiveness (PCE) and Green purchase intention (GPI)

2.6 Conceptual Framework

Figure 1: Conceptual Framework of this Research.

3. RESEARCH METHODOLOGY

3.1 Research Design

This research design will be based on a linear regression model in order to examine the relationship between variables using statistical analysis (Adnan, 2017). The research design would be within the framework of environmental issue occurring so that it can observe the hypothesis and describe what is happening according to the research objectives. The paper will follow quantitative approach, using and collecting primary data from a wide range of respondents, then data will be analyzed and interpreted. Then the outcome will be interpreted for each hypothesis in terms of it being accepted or rejected (Brammah, 2015).

3.2 Study Population, Unit of Analysis, Sample Selection and Sampling Techniques

The research focus on the French population. as highlighted in the literature review, France is the number one consumer of Nutella in the world. According to the observation on French market consumption, 3 families out of 4 consume Nutella (Ledsom, 2019). The number of population is estimated around 75 million and the unit of analysis would be Nutella

consumers. The research follows a Quantitative methodology on the conceptual framework from figure 3. In order to determine the sampling size, the sample size from similar research were studied and the paper concluded that at least 250 respondents would be required for the study (Mokan, Lee & Bhoyar, 2018). The first part of the questionnaire aims at collecting quantitative and qualitative data through dichotomous question. It will be enable to observe the demographic profile of respondents. The Likert scale questions are divided in five section with 4 IV and 1 DV. Environment concern's section and green purchase intention is using items from Nhu & My (2019) research's that were selected for past studies. Green advertisement's section uses Kong & Harun & Sulong & Lily's (2014) items for this research. Whereas Environmental knowledge variable follows the item from Nia et.al., (2018) research. Finally, perceived consumer effectiveness variable items were taken from Jaiswal & Kant's (2018) study on green purchase intention.

3.3 Data Collection Approach

Data was collected using professional social media such as Linkedin and social media like Facebook. The Google survey link was also used to collect data. No email address or personal data that help identify the respondents were collected. The study used various statistical tools such as Factor analysis, Descriptive analysis, combined with inferential analysis (correlation/association/regression). Descriptive statistics pay attention to skewness, kurtosis and demographic profile to measure central tendency and variability with dispersion. SPSS was used to analyze the data collected. In order to test this paper's hypothesis, multiple regression and one-way ANOVA were used.

4. FINDINGS

The Online questionnaire link was posted on LinkedIn and Snapchat, and shared among professional network. The questionnaire collected 274 responses, from which 10 were destroyed due to missing answers. The target was 250 but at the end 264 responses were used for this research. If there are at least 250 respondents for this study on green purchase intention, we can run the statistical analysis (Mokan, Lee & Bhoyar, 2018). Multiple regression linear test will be run because similar research used this test (Jaiswal & Kant, 2018; Shrestha, 2017). The reliability test shows that Cronbach's Alpha is higher than 0.5 and above 0.9 which mean the internal consistency of the questionnaire on this pilot test is excellent. Furthermore, each variable had Cronbach's alpha above 0.5 and this allow the researcher to keep going with the same variables and questionnaire.

4.3 Descriptive Analysis and Frequency

The demographic profile pay attention on 264 French consumers' gender, age, professional situation and education level. The researcher is describing the demographic profile of respondents using charts and tables. The statistical analysis, as shown by the appendices show skewness and kurtosis between -3 and 3 as expected by previous studies (Hayat et. al., 2019; Hanss & Doran, 2019). The data were also normally distributed.

The respondents are mainly in the age group 18-30 with 115 cases. It is followed by respondents of 31-43 years old with 28.79 of population and 76 cases. 7.95% of respondents fall into 44-56 age group with 7.95% while 18.94% of the respondents are between 57 to 69 years old. The lowest representation is respondents above 70 years old with only 0.38%.

The cross tabulation showed that 50.4% of respondents of female and 49.6% or male. It is almost equally distributed and there was no discrimination. Most of the respondents are employed with 59.8% with 158 cases, followed by 15.5% of students with 41 respondents. Whereas 12.9% of respondents are unemployed and 11.7% are retired among the 264

respondents.

35.6% of respondents have a degree, while the second highest representation of education is Postgraduate with 32.6%. 23.1% of respondents have a diploma level whereas only 8.7% have PhD level among the 264 French consumers.

4.3.1 Factor Analysis

Table 5: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,863
Bartlett's Test of Sphericity	Approx. Chi-Square	1515,091
	df	190
	Sig.	0,000

According to table 5, both dependent and independent variables were tested using SPSS to check the validity of the questionnaire. Kaiser Mayer Olkin of 0.863 is acceptable and adequate because it is above 0,6 and the Barlett's Test of sphericity is considered significant as it is below 0,05 (Shrestha, 2018). The overall questionnaire is considered valid and each variable should be tested to conduct further studies.

However, the communalities show that one loading factor is below 0.5. Indeed, based on table 6, the item "relevancy of advertisement" is 0.338. Therefore, 1 item should be removed because the extraction was below 0,5. This observation should be taken into account for the next test. Overall, the other items have a loading factor above 0.5 with a range between 0.505 to 0.708. In other words, 19 items are valid for this research on 264 French consumers.

Table 6: Loading Factor Extraction

Communalities		
	Initial	Extraction
Environmentalknowledge		
Ingrédients in Green products	1,000	0,708
Pollution	1,000	0,616
Knowledge of label meaning	1,000	0,627
Knowledge of eco-friendly product	1,000	0,585
EnvironmentalConcern		
Quality of environment	1,000	0,632
Environmental protection	1,000	0,505
Environmentalawareness	1,000	0,558
Willingness to act	1,000	0,615
Green Advertisement		
Encourage	1,000	0,558
Relevancy	1,000	0,338
Attractiveness	1,000	0,578
Information	1,000	0,632
PerceivedConsumer Effectiveness		
Responsibleconsumer:	1,000	0,638
Green behavior:	1,000	0,560
Green consideration	1,000	0,694
Green preservation	1,000	0,669
Green Purchase Intention		
I will consider buying green product because they are less polluting	1,000	0,573
I plan to switch to other brands/versions green product	1,000	0,610
I intend to purchase this product in the future because of its environmental performance	1,000	0,600
I will buy green product in my next purchase	1,000	0,628

4.3.2 Reliability Analysis

Table 7: Reliability Test for 19 Items

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0,860	0,864	19

The reliability test must be conducted on related dependent variable and independent variables following the correction of the factor analysis. The test will be applied on 5 variables and 19 items as one item was rejected previously. First of all, Table 9 displays the internal consistency of the questionnaire with the Cronbach alpha coefficient value of 0.86 on 19 items. This result is above 0.5 and can be considered as above the average. This research can proceed with next parts.

Table 8: Cronbach Alpha Value

	Reliability Statistics	
	Cronbach's Alpha	N of Items
Environmental concern	0,672	4
Green Advertisement	0,619	3
Environmental knowledge	0,475	4
Perceived consumer effectiveness	0,697	4
Green purchase intention	0,694	4

Table 8 help us determine whether each variable is reliable for the statistical analysis by looking for Cronbach alpha value that must be above 0.5. Except Environmental Knowledge variable, all the variables show an acceptable internal consistency with alpha value ranging from 0.619 to 0.694. Environmental knowledge value is 0.475, which means this variable won't be reliable and should be removed to proceed to further tests.

4.3.2 Multiple Regression Linear Test

Before analyzing the results of the multiple regression linear test, the model must be valid. 6 assumptions should be considered: continuous level, linear relationship, no outliers (scatterplot), independence of observations, homoscedasticity and residuals of the regression line must be normally distributed. Appendices show that all the assumption are met. The most important step before checking the model is the anova test that must show p-value below 0.05 to be a significant model.

Table 9: Anova Test					
ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	103,543	3	34,514	67,488	,000 ^b
Residual	132,968	260	0,511		
Total	236,511	263			

The assumptions are valid according to appendices 4 and anova test show a p-value below 0.05 with F value of 67.488. The model is significant for the research and we can proceed to the next steps.

Table 10: Model Summary

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,662 ^a	0,438	0,431	0,71513	1,905

The model summary show that 43,8% of the variation in Green purchase intention is explained by variation in the model

composed of Environmental concern, Green advertisement and Perceived consumer effectiveness. R squared (R²) is substantial as 0,438 is higher than 0,25 (Henseler & Ringle & Sinkovics, 2009). The r square is important to determine the predictability level of the model. R-squared cannot determine whether the coefficient estimates and predictions are biased, especially if the model meet all the assumption (Kusuma & Sulhaini, 2018; Lasuin & Ching, 2014). Even though it is below 0.5, the test can still be conducted as many past studies faced low R square.

Table 11: Multiple Regression Linear Results

Coefficients ^a									
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	0,963	0,206		4,676	0,000	0,558	1,369		
1 Perceived consumer effectiveness	0,533	0,072	0,486	7,439	0,000	0,392	0,674	0,506	1,977
Environmental Concern	0,188	0,071	0,170	2,650	0,009	0,048	0,328	0,523	1,911
Green advertisement	0,087	0,059	0,082	1,476	0,141	-0,029	0,204	0,700	1,428

At 95% of confidence level, P-value must be lower than 0, 05 to show a statistically significant relationship (Jaiswal & Kant, 2018). The closer beta value is to 1, the higher the influence towards the dependent variable will be (Joshi & Rahman, 2015). Based on table 13 Environmental Concern (EC) and Perceive consumer effectiveness (PCE) are significant for this research as p-value is below 0.05. Besides EC has a positive relationship with the dependent variable Green purchase intention (GPI) with a T value of 2.65 which is higher than 1.96. PCE also have a positive relationship with GPI with a T value of 7.439. Both beta values are higher than 0.1 and PCE's beta value (0.486) show that it is more influence on the dependent variable than EC (0.17). Green advertisement is not significant for the study because p-value is higher than 0.05. As a result, the following equation represents the model of this research:

$$Y = 0.963 + 0.188 \text{ EC} + 0.533 \text{ PCE}$$

Y= Green purchase intention of pail oil free nut butter

EC= Environmental concern

PCE= Perceived Consumer effectiveness

4.4 Discussion on the findings

H1: There is a positive and significant relationship between Environmental concern (EC) and Green purchase intention (GPI)

According to all the tests conducted and the conclusion from multiple linear regression test, the first hypothesis is accepted. The model supports this hypothesis and the paper consider environmental concern to positively and significantly affect green purchase intention towards palm oil free nut butter. As reviewed by Joshi & Rahman (2015), environmental concern was mainly contributing to green purchase intention and their research support the first hypothesis. Jaiswal & Kant (2018) also found a positive and significant relationship between environmental concern and green purchase intention. While it was the most significant factor in Yasuin & Ching's (2014) paper, environmental concern is the second most significant factor (beta=0.17) for this research as similarly observed by Nia et al. (2018).

H2: There is a positive and significant relationship between Green Advertisement (GA) and Green purchase intention (GPI)

Following all the test conducted, the second hypothesis is rejected. The research doesn't support the hypothesis as Green advertisement was not significant for the model ($p\text{-value} = 0.141 > 0.05$). Our finding is not supported by Kusuma & Sulhaini (2018) whereas Kong et. al., (2014) support our finding that green advertisement is insignificant for the model. Rahbar & Wahid (2011) as well as Nittala (2014) also concluded that green advertisement had no significant and positive relationship with green purchase intention. Therefore, our result can be supported by other research and green advertisement is not affecting green purchase intention towards palm oil free nut butter.

H3: There is a positive and significant relationship between Environmental Knowledge (EK) and Green purchase intention (GPI)

The third hypothesis is rejected due to the poor internal consistency observed in the reliability test (Cronbach $\alpha = 0.475 < 0.5$). The environmental knowledge variable was not tested in other tests as its reliability wouldn't be relevant, thus, the paper had to reject this hypothesis. Ramayah & Rahbar (2013) are supporting this finding even though most of the research found a positive and significant relationship between environmental knowledge and green purchase intention (Kusuma & Sulhaini, 2018; Joshi & Rahman, 2015). Here, the research conclude that environmental knowledge is not affecting green purchase intention towards palm oil free nut butter.

H4: There is a positive and significant relationship between Perceived Consumer Effectiveness (PCE) and Green purchase intention (GPI)

Hypothesis 4 is accepted by the statistical tests conducted. Perceived consumer effectiveness is the most significant factor to affect green purchase intention as beta is the highest 0.486. The T-value of 7.43 showed a positive relationship and p-value of 0 indicates a significant relationship. Achchuthan & Velnampy (2016) also found PCE to be the most significant factor contributing to green purchase intention with a positive relationship. Most of the literature review was discussing about PCE to be positively and significantly contributing to green purchase intention (Wang, Ma & Bai, 2019; Jaiswal & Singh, 2018; Zhao et. al., 2018). To conclude, perceived consumer effectiveness has a positive and significant relationship with green purchase intention towards palm oil free nut butter.

Table 12: Conclusion of Findings

Hypothesis	Results
H1	Supported ($p\text{-value} < 0.05$ and $T\text{-value} = 2.65$)
H2	Not supported ($p\text{-value}: 0.141 > 0.05$)
H3	Not supported (cronbach α $0.475 < 0.5$)
H4	Supported ($p\text{-value} < 0.05$ and $T\text{-value} = 7.439$)

5. CONCLUSIONS & RECOMMENDATIONS

The statistical analysis found that only two independent variables have a positive and significant relationship with the dependent variable. The multiple linear regression test showed that Environmental concern and Perceived consumer effectiveness contribute to green purchase intention towards palm oil free nut butter with R Square of 0.438 which means 43% of green purchase intention was predicted by Perceived consumer effectiveness and Environmental concern. The four

items of environmental concern contributed to a positive and significant relationship with green purchase intention. The same observation can be concluded for Perceived consumer effectiveness. Overall, French consumers showed a positive intention in purchasing palm oil free nut butter. Green advertisement was composed of four items and if one of them was not removed due to a low loading factor, it would have been significant for the study. For next research we should consider the selection of the items and avoid issues like the variable environmental knowledge that was not reliable for further test.

Further study on French green purchase intention of palm oil free nut butter with other factors identified by Joshi & Rahman (2015) should be conducted as the model of this research only predicted 43% of the variation on green purchase intention. Other factors would be interested to study especially in terms of quality, pricing and other marketing factors in order to find an appropriate offer for French consumers. Environmental knowledge didn't appear as reliable in this research as the items may not have been appropriate. Finally, studying the factors that contribute to purchase of standard nut butter could help green nut butter brand to identify factors that could be associated to green purchase intention for further study. Analyzing the success of brand like Nutella and understanding the key reasons that make their nut butter above its competitors, could help green brand to take some of its strategy and apply it in a sustainable way.

Identifying consumers with high Perceived consumer effectiveness level could boost green nut butter sales. Indeed, responsible consumer realize that each individual has the power to change the world and benefit the environment through the choice we make every day. It is a form of consumption that is compatible with the safeguard of the environment for the present and for the next generations. According to Steentjes et. al., (2017), survey results show that most of the respondents in France (71%*) and Norway (64%) agreed that, as a nation their country can make a difference when it comes to climate change. In order to bring significant improvement in a national and worldwide air quality perspective an intrinsic knowledge of people's perceptions and wider value judgements is essential (Yang, Sun & Zhai, 2018). The behavior varies from buying products from socially responsible companies to reducing carbon footprint impact or making a huge difference in daily life. When the outcomes seem achievable it reinforces the willingness of a responsible consumption. A growing French anti-consumerism movement has been observed in the 21st century which is confronting materialism and wastage to reduce the carbon foot print impact and environmental issues around the world (Sanches, 2005). Besides, it is not hazardous that many climate issues are reported in media. This media coverage enables to get a stronger support for green activism with the help of government which are able to put restriction, ban and touch the citizen with national campaign that would educate and inform them about environmental issues. Palm oil free nut butter brands have potential consumers as those who consume traditional nut butter with a willingness to change and make a difference for the planet could switch to green nut butter. It is a way of fighting against palm oil deforestation all around the world. Further research could be advised as this factor was the most significant for this research and identifying the reason why they would switch to green nut butter could enable marketer to come up with better offer.

Increasing people's concern about environmental issues could contribute to higher purchase of green nut butter. Government may have a role as green advertisement and other marketing tools were not significant for consumers. Wildlife destruction can raise environmental awareness of French consumers as Palm Oil Deforestation of the rain forest affects the natural balance of the surrounding environment that directly lead to the extinction of both vegetable and animal species (GreenPalm.org, 2019). The literature review highlights a palm oil exploitation crisis leading to many threats to ecosystems (Vijay, 2016). The risk for livelihood of endangered species in palm oil country, such as Malaysia and Indonesia, are real because of the impact from GHG boosted by unfriendly practices of slash and burn of the natural forest and from planting

oil palm on peat lands. Voigt et. al., (2018) show that 50% of bornean orangutan were affected because of palm oil extraction with 100,000 Bornean orangutan killed between 1999 to 2015. The famous Oscar awarded actor, Leonardo DiCaprio, rung the bell during Awards ceremony and UN conference to reach Western consumers awareness regarding the situation in SEA especially the wildlife destruction he has witnessed during a visit in Indonesia (Lamba, Dzever & Gupta, 2019). When an icon for western people stand for something it quickly has an effect and go viral. It is more impactful and consumers can be affected, change their behavior and promote green practices. In France, a study has highlighted the efforts and challenges to save the endangered cricetus Hamster in Alsace (O'Brien, 2015). It shows that French can be concerned about wildlife protection. However, a French study pointed out the importance of raising awareness towards endangered species to get more donation for their protection as French people were more concerned about the animal's charisma rather than his endangered status (Colleony et. al., 2017). Through environmental concern, there is a possibility to touch more consumers and attract them towards green nut butter. An effective and factual campaign would increase their concern and benefit green products.

Green advertisement didn't appear to be significant for this research. Studying consumers' perception of green advertisements could help marketer improve them. It is possible that they are less impactful than traditional advertisement. Comparing both could bring more explanation to our findings and help brand to find the most adequate strategy to promote green nut butter.

Consumers belonging to the age range of 44-56 showed the highest mean for green purchase intention and it could be interesting to see how social factor, as well as family situation could influence their choice. The youngest range (18-30) highlighted the lowest mean for green purchase intention. In other words, they are less interested in purchasing green nut butter. These young consumers represent the future of the planet and as a marketer we should understand the reason behind their lower score in order to find the appropriate strategy to promote green nut butter.

5.1 Significance of the Study

This study is significant for the academy and households as it is raising ethical questions on environmental issues and how marketing can approach it. The paper will help student to understand how Western green purchase intention can be affected for green nut butter. Indeed, green purchase intention is becoming trendy and affect a business strategy. Ethical issues often change the way corporation approach business and consumers. Companies responsibilities towards society shape today's business and strategy. We may observe the influence of environmental issues on green purchase intention and come up with recommendation.

Government are also invited to pay attention to this paper as Government is establishing law that directly impact business. Ecosystems threat are often covered by lack of regulations, as well as weak regulation that present easy ways to escape penalties. One day, this might result to losing public opinion's trust as consumer should see a benefit for their well-being whether in private or public sector. Many policies and alliance are created to control the planet's resources to reduce greenhouse emissions which is threatening Mankind. Therefore, Government has a role of promoting green practices through the decision they make and the support they bring to companies.

Finally, food industry presents more and more unethical case that may discredit a business due to a lack of interest on customer behavior. Environmental problems should be taken into account in their strategy to avoid ruining the brand image and losing customer. By studying this paper, corporation may understand the threat from green purchase intention and how they could possibly take advantage from it and be more eco-responsible. Many FMCG companies have faced ethical

issues that affected their image and sales. This study in France will emphasize the possible factors that contribute to green purchase intention of palm oil free nut butter.

5.2 Limitation of the Study

This study cover only few factors studied in the past while the area of study discussing about green purchase intention is extremely wide. There are countless factors that could have been studied, especially after finding out that only 2 variables were significant and one was not reliable it makes the researcher consider some factors that were put aside during the literature review.

Secondly the researcher couldn't find any French studies on this area of study to compare and review as it could have supported some findings and help the research have a similar area of study. This research mainly reviewed Asian paper and had little review from western countries.

5.3 Contribution

This research brings a contribution to academia by confirming the importance of environmental knowledge and perceived consumer effectiveness and its influence on green purchase intention. This is the only paper studying the intention towards green nut butter which are palm oil free in the context of Palm oil deforestation across the world and its impact on the planet. Researchers could deepen this study to bring more learning outcome on green products especially in developed countries such as France which make complicated research about them.

The green industry may find this research interesting if it wants to target the nut butter segment in France which is dominated by Nutella. Through this research, companies can identify the factors contributing to green purchase intention and conduct further research to succeed in this segment. Existing green nut butter brand can review this research to come up with a better strategy to tackle the French market and reach more consumers.

The government has a key role in promoting green products by making tougher regulation on non-environmentally friendly products and supporting green businesses. It has a larger impact on consumers if it uses restriction and national campaign. There isn't any restriction on Palm oil ban in France for FMCG compared to bio fuel that was banned in 2019 following EU's vote and pressure on banning the production of biofuels by 2021 (Forbes.com, 2019). However, France is still willing to import Palm Oil from South East Asian countries by looking for a sustainable production that will be supported by scientific findings. FMCG almost faced a huge tax, called "Nutella tax", increase of 400% in France but the protest from major exporters made the French government remove this huge tax that was aiming at reducing greenhouse gases emission impact from palm oil deforestation and the risk exposed in food due to palm oil. Several policies were implemented in France to reduce air pollution such as "respirable cities" program, which is targeting trees plantation in cities, transportation, energy use (Selmiet.al., 2016). The French government is trying to improve air quality in France and could also affect consumer's behavior towards green products.

REFERENCES

1. Achchuthan, S. and Velnampy, T., 2016. *Asian Journal of Empirical Research*. *Asian Journal of Empirical Research*, 6(3), pp.59-76.
2. Adnan Butt, 2017. "Determinants of the Consumers Green Purchase Intention in Developing Countries," *Journal of Management Sciences, Geist Science, Iqra University, Faculty of Business Administration*, vol. 4(2), pages 217-236, October.

3. Aguiar, L.K., Martinez, D.C. and Coleman, S.M., 2018. Consumer awareness of palm oil as an ingredient in food and non-food products. *Journal of food products marketing*, 24(3), pp.297-310.
4. Albayrak, T., Caber, M., Moutinho, L. and Herstein, R., 2011. The influence of skepticism on green purchase behavior. *International Journal of Business and Social Science*, 2(13).
5. Aman, A.L., Harun, A. and Hussein, Z., 2012. The influence of environmental knowledge and concern on green purchase intention the role of attitude as a mediating variable. *British Journal of Arts and Social Sciences*, 7(2), pp.145-167.
6. Ansar, N., 2013. Impact of green marketing on consumer purchase intention. *Mediterranean Journal of Social Sciences*, 4(11), p.650.
7. Ayoola, A. A., et al. "Comparison of the Properties of Palm Oil and Palm Kerneloil Biodiesel In Relation To The Degree of Unsaturation of Their Oil Feedstocks." *International Journal of Applied And Natural Sciences* 5.3 (2016): 1-8.
8. Baldwin, J.W., Dessy, J.B., Vecchi, G.A. and Oppenheimer, M., 2019. Temporally Compound Heat Wave Events and Global Warming: An Emerging Hazard. *Earth's Future*, 7(4), pp.411-427.
9. Bandalos, D.L. and Finney, S.J., 2018. Factor analysis: Exploratory and confirmatory. In *The reviewer's guide to quantitative methods in the social sciences* (pp. 98-122). Routledge.
10. Banovic, M., Reinders, M.J., Claret, A., Guerrero, L. and Krystallis, A., 2019. A cross-cultural perspective on impact of health and nutrition claims, country-of-origin and eco-label on consumer choice of new aquaculture products. *Food Research International*, 123, pp.36-47.
11. Barbarossa, C. and De Pelsmacker, P., 2016. Positive and negative antecedents of purchasing eco-friendly products: A comparison between green and non-green consumers. *Journal of Business Ethics*, 134(2), pp.229-247.
12. Barbulescu, A., 2017. Modeling the impact of the human activity, behavior and decisions on the environment. *Marketing and green consumer (Special Issue)*. *Journal of Environmental Management*, 204(<https://doi.org/10.1016/j.jenvman.2017.10.028>), p. 813.
13. Barthe, P., 2017. How the sharing economy is received by the young French people compared to the rest of the country's population.
14. Basha, M.B., Mason, C., Shamsudin, M.F., Hussain, H.I. and Salem, M.A., 2015. Consumers attitude towards organic food. *Procedia Economics and Finance*, 31, pp.444-452.
15. Berger, I.E. and Corbin, R.M., 1992. Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing*, 11(2), pp.79-89.
16. Bigne, E., Andreu, L., Hernandez, B. and Ruiz, C., 2018. The impact of social media and offline influences on consumer behaviour. An analysis of the low-cost airline industry. *Current Issues in Tourism*, 21(9), pp.1014-1032.
17. Boush, D.M., Friestad, M. and Wright, P., 2015. *Deception in the marketplace: The psychology of deceptive persuasion and consumer self-protection*. Routledge.
18. Braimah, M., 2015. Green brand awareness and customer purchase intention. *Management Science Letters*, 5([doi: 10.5267/j.msl.2015.8.007](https://doi.org/10.5267/j.msl.2015.8.007)), p. 895–902.
19. Bhaskar, K., et al. "Effect of Dimethoxy-Methane (C₃H₈O₂) additive on Emission characteristics of a diesel engine fueled with biodiesel." *International Journal of Mechanical and Production Engineering Research and Development* 8.1 (2018): 399-406.
20. Castillo, C.P., Jacobs-Crisioni, C., Kavalov, B. and Lavalle, C., 2019. Socio-economic and Demographic Trends in EU Rural

Areas: An Indicator-based Assessment with LUISA Territorial Modelling Platform.

21. Chekima, B., Chekima, S., Syed Khalid Wafa, S.A.W., Igau, O.A. and Sondoh Jr, S.L., 2016. Sustainable consumption: the effects of knowledge, cultural values, environmental advertising, and demographics. *International Journal of Sustainable Development & World Ecology*, 23(2), pp.210-220.
22. Chen, T.B. and Chai, L.T., 2010. Attitude towards the environment and green products: consumers' perspective. *Management science and engineering*, 4(2), p.27.
23. Christoff, P., 2016. The promissory note: COP 21 and the Paris Climate Agreement. *Environmental Politics*, 25(5), pp.765-787.
24. Colléony, A., Clayton, S., Couvet, D., Saint Jalme, M. and Prévot, A.C., 2017. Human preferences for species conservation: Animal charisma trumps endangered status. *Biological conservation*, 206, pp.263-269.
25. Cova, B. & D'Antone, S., 2016. Brand Iconicity vs. Anti-Consumption Well-Being Concerns: The Nutella Palm Oil Conflict. *The Journal of Consumer Affairs*, Issue DOI: 10.1111/joca.12082, pp. 166-192.
26. Delhomme, P. and Gheorghiu, A., 2016. Comparing French carpoolers and non-carpoolers: which factors contribute the most to carpooling? *Transportation Research Part D: Transport and Environment*, 42, pp.1-15.
27. De Ferran, F. and Grunert, K.G., 2007. French fair trade coffee buyers' purchasing motives: An exploratory study using means-end chains analysis. *Food Quality and Preference*, 18(2), pp.218-229.
28. Floch, G. (2019). Growth opportunities for French FMCG brands - Global site - Kantar Worldpanel. [online] Kantarworldpanel.com. Available at: <https://www.kantarworldpanel.com/global/News/Growth-opportunities-for-French-FMCG-brands> [Accessed 15 Aug. 2019].
29. Forbes.com. (2019). EU Labels Biofuel from Palm Oil as Unsustainable, Bans Subsidies. [online] Available at: <https://www.forbes.com/sites/davekeating/2019/03/14/eu-labels-biofuel-from-palm-oil-as-unsustainable-bans-subsidies/#1b2607509c9d> [Accessed 15 Jul. 2019].
30. Freestone, O.M. and McGoldrick, P.J., 2008. Motivations of the ethical consumer. *Journal of business ethics*, 79(4), pp.445-467.
31. Frynas, J.G., 2015. Strategic CSR, value creation and competitive advantage. *The Routledge companion to non-market strategy*, pp.245-262.
32. Greenpalm.org. (2019). Green Palm: What do we mean by sustainable palm oil? [online] Available at: <https://greenpalm.org/about-palm-oil/sustainable-palm-oil> [Accessed 14 Aug. 2019].
33. Hanss, D. and Doran, R., 2019. Perceived Consumer Effectiveness. *Responsible Consumption and Production*, pp.1-10.
34. Hanafi, N.H., Hassim, M.H., Noor, Z.Z., Ten, J.Y., Aris, N.M. and Jalil, A.A., 2019. Economic losses due to health hazards caused by haze event in Johor Bahru, Malaysia. In *E3S Web of Conferences* (Vol. 90, p. 01009). EDP Sciences.
35. Hayat, K., Nadeem, A. and Jan, S., 2018. The Impact of Environmental Consciousness, Green Price Sensitivity and Green Product, on Green Purchase Intention (A Case of Peshawar Market). *City University Research Journal*, 8(1), pp.103-116.
36. Henseler, J., Ringle, C.M. and Sinkovics, R.R., 2009. The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (pp. 277-319). Emerald Group Publishing Limited.
37. Heo, J. and Muralidharan, S., 2019. What triggers young Millennials to purchase eco-friendly products? the interrelationships among knowledge, perceived consumer effectiveness, and environmental concern. *Journal of Marketing Communications*, 25(4), pp.421-437.
38. Hoffmann, S. & S. W. Lee, M., 2016. Consume Less and Be Happy? Consume Less to Be Happy! An Introduction to the Special

- Issue on Anti-Consumption and Consumer Well-Being. The Journal of Consumer Affairs*, 50(1 DOI: 10.1111/joca.12104), pp. 3-17.
39. Hymavathi, D., G. Prabhakar, and B. B. Sarath. "Biodiesel production from vegetable oils: an optimization process." *Int J Chem Petrochem Technol*, 4 (2), 21-30 (2014).
 40. Jaiswal, D. and Kant, R., 2018. Green purchasing behaviour: A conceptual framework and empirical investigation of Indian consumers. *Journal of Retailing and Consumer Services*, 41, pp.60-69.
 41. Jaiswal, D. and Singh, B., 2018. Toward sustainable consumption: Investigating the determinants of green buying behaviour of Indian consumers. *Business Strategy & Development*, 1(1), pp.64-73.
 42. Joshi, Y. and Rahman, Z., 2015. Factors affecting green purchase behaviour and future research directions. *International Strategic management review*, 3(1-2), pp.128-143.
 43. Kabadayı, E.T., Dursun, İ., Alan, A.K. and Tuğer, A.T., 2015. Green Purchase Intention of Young Turkish Consumers: Effects of Consumer's Guilt, Self-monitoring and Perceived Consumer Effectiveness. *Procedia-Social and Behavioral Sciences*, 207, pp.165-174.
 44. Kadarusman, Y.B. and Herabadi, A.G., 2018. Improving sustainable development within Indonesian palm oil: the importance of the reward system. *Sustainable Development*, 26(4), pp.422-434.
 45. Kinnear, T.C., Taylor, J.R. and Ahmed, S.A., 1974. Ecologically Concerned Consumers: Who are They? Ecologically Concerned Consumers can be Identified. *Journal of marketing*, 38(2), pp.20-24.
 46. Kistin, C. and Silverstein, M., 2015. Pilot studies: a critical but potentially misused component of interventional research. *Jama*, 314(15), pp.1561-1562.
 47. Knight, G., 2015. Conserving biodiversity: practical guidance about climate change adaptation approaches in support of land-use planning. *Natural Areas Journal*, 35(1), pp.190-204.
 48. Kong, W., Harun, A., Sulong, R.S. and Lily, J., 2014. The influence of consumers' perception of green products on green purchase intention. *International Journal of Asian Social Science*, 4(8), pp.924-939.
 49. Kusuma, P.N.P.D. And Sulhaini, R.B.H., The Effect of Environmental Knowledge, Green Advertising and Environmental Attitude Toward Green Purchase Intention.
 50. Lamba, J., Gupta, B. and Dzever, S., 2019, May. Industrialization and global warming (a brief case analysis of palm oil production: Indonesia).
 51. Lasuin, C.A. and Ng, Y.C., 2014. Factors influencing green purchase intention among university students. *Malaysian Journal of Business and Economics (MJB)*, 1(2).
 52. Ledsom, A. (2019). A French Love Affair with Nutella. [online] Culture Trip. Available at: <https://theculturetrip.com/europe/france/articles/french-love-affair-nutella/>.
 53. Lim, Y.J., Perumal, S. and Ahmad, N., 2019. The Antecedents of Green Car Purchase Intention among Malaysian Consumers. *European Journal of Business and Management Research*, 4(2).
 54. Liobikienė, G. and Poškus, M.S., 2019. The Importance of Environmental Knowledge for Private and Public Sphere Pro-Environmental Behavior: Modifying the Value-Belief-Norm Theory. *Sustainability*, 11(12), p.3324.
 55. Lund, N.F., Cohen, S. & Scarles, C. 2017, the power of social media storytelling in destination branding, Elsevier.
 56. Markowitz, E.M. and Shariff, A.F., 2012. Climate change and moral judgement. *Nature Climate Change*, 2(4), p.243.

57. Minh, N.B., Ngoc, N.B. and Dung, N.V., 2019. Antecedents of Green Purchase Intention: A Case in Vietnam. *Socio-Economic and Environmental Issues In Development*, p.1026.
58. Mogan, K.V., Lee, T.C. and Bhoyar, M.R., 2018. The Intention of Green Products Purchasing among Malaysian Consumers: A Case Study of BatuPahat, Johor. *Indian Journal of Public Health Research & Development*, 9(10).
59. Nhu, N.T., Van My, D. and Thu, N.T.K., 2019. Determinants Affecting Green Purchase Intention: A Case of Vietnamese Consumers. *Journal of Management Information and Decision Sciences*, 22(2), pp.136-147.
60. Nia, B.P., Dyah, I.R., Hery, S. and Bayu, D.S., 2018. The Effect of Green Purchase Intention Factors on The Environmental Friendly Detergent Product (Lerak). In *E3S Web of Conférences* (Vol. 73, p. 06007). EDP Sciences.
61. Nittala, R., 2014. Green consumer behavior of the educated segment in India. *Journal of International Consumer Marketing*, 26(2), pp.138-152.
62. Nugent, N. and Rhinard, M., 2015. *The European commission*. Macmillan International Higher Education.
63. Olagunju, F. I., et al. "Palm oil mill technology: panacea for alleviating rural poverty in Southwestern Nigeria." *International Journal of Agricultural Science and Research (IJASR)* 3.1 (2013): 25-34.
64. O'BRIEN, J., 2015. Saving the common hamster (*Cricetus cricetus*) from extinction in Alsace (France): potential flagship conservation or an exercise in futility? *Hystrix*, 26(2).
65. Pawaskar, U. S., Raut, R. D. & Gardas, B. B., 2018. Assessment of Consumer Behavior towards Environmental Responsibility: A Structural Equations Modeling Approach. *Business Strategy and the Environment*, 27(DOI: 10.1002/bse.2020), pp. 560-571.
66. Pradeepraj, R., and K. Rajan. "An Experimental Investigation on Diesel Engine Performance using Moringa Olifera Biodiesel with the Effect of Different Injection Pressures." *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)* 9. 4, Aug 2019, 549-560
67. Rahman, Shaik Abdur, GS Guru Dattatreya, and N. Krishnarajuna Rao. "Experimental Investigation on Diesel Engine Fuelled with Blends of Coconut and Neem Oil." *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)* 9. 5, Oct 2019, 391-402
68. Rahbar, E. and Abdul Wahid, N., 2011. Investigation of green marketing tools' effect on consumers' purchase behavior. *Business strategy series*, 12(2), pp.73-83.
69. Ramayah, T. and Rahbar, E., 2013. Greening the environment through recycling: an empirical study. *Management of Environmental Quality: An International Journal*, 24(6), pp.782-801.
70. Raosoft.com. (2019). Web survey software, online surveys, email surveys from Raosoft, Inc. Available at: <http://www.raosoft.com/> [Accessed 15 Jun. 2019].
71. Rochmyaningsih, D., 2019. Making peace with oil palm.
72. Rubin, A. and Babbie, E.R., 2016. *Empowerment series: Research methods for social work*. Cengage Learning.
73. Sanches, S., 2005. Sustainable consumption à la française? Conventional, innovative, and alternative approaches to sustainability and consumption in France. *Sustainability: Science, Practice and Policy*, 1(1), pp.43-57.
74. Salladarré, F., Brécard, D., Lucas, S. and Ollivier, P., 2016. Are French consumers ready to pay a premium for eco-labeled seafood products? A contingent valuation estimation with heterogeneous anchoring. *Agricultural Economics*, 47(2), pp.247-258.

75. Selmi, W., Weber, C., Rivière, E., Blond, N., Mehdi, L. and Nowak, D., 2016. Air pollution removal by trees in public green spaces in Strasbourg city, France. *Urban forestry & urban greening*, 17, pp.192-201.
76. Shrestha, S., 2016. Analysis of Green Marketing Tools towards Consumer Purchase Intention in Kathmandu. *Journal of Business and Social Sciences Research*, 1(1), pp.37-57.
77. Slottje, D., 2019. *Measuring the quality of life across countries: A multidimensional analysis*. Routledge.
78. Spence, A., Poortinga, W. and Pidgeon, N., 2012. The psychological distance of climate change. *Risk Analysis: An International Journal*, 32(6), pp.957-972.
79. Steentjes, K., Pidgeon, N.F., Poortinga, W., Corner, A.J., Arnold, A., Böhm, G., Mays, C., Poumadère, M., Ruddat, M., Scheer, D. and Sonnberger, M., 2017. *European Perceptions of Climate Change (EPCC): Topline findings of a survey conducted in four European countries in 2016*.
80. Streiner, D.L., Norman, G.R. and Cairney, J., 2014. *Health measurement scales: a practical guide to their development and use*: Oxford University Press.
81. Trivedi, Prachi, and Meghna Sharma. "Impact of Green Production and Green Technology on Sustainability: Cases on Companies In India." *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)* (2017).
82. TheLocal.fr. (2018). What the 'great Nutella riots' of 2018 tell us about the French. [online] Available at: <https://www.thelocal.fr/20180126/what-the-great-nutella-riots-of-2018-tell-us-about-the-french> [Accessed 14 Aug. 2019].
83. Vijay V, P. S. J. C. S. S., 2016. The Impacts of Oil Palm on Recent Deforestation and Biodiversity Loss. *Plos One*, 11(doi:10.1371/journal. Pone.0159668), p. 7.
84. Voigt, M., Wich, S.A., Ancrenaz, M., Meijaard, E., Abram, N., Banes, G.L., Campbell-Smith, G., d'Arcy, L.J., Delgado, R.A., Erman, A. and Gaveau, D., 2018. Global demand for natural resources eliminated more than 100,000 Bornean orangutans. *Current Biology*, 28(5), pp.761-769.
85. Wang, H., Ma, B. and Bai, R., 2019. How Does Green Product Knowledge Effectively Promote Green Purchase Intention? *Sustainability*, 11(4), p.1193.
86. Weber, S. and Wiesmeth, H., 2018. Environmental awareness: The case of climate change. *Russian Journal of Economics*, 4(4), pp.328-345.
87. Yang, Y., Sun, L. and Zhai, J., 2018. Stakeholder relations, environmental sustainability and sales performance. *Human Systems Management*, 37(3), pp.333-343.
88. Zhang, B., Veijalainen, J. and Kotkov, D., 2017. Samsung and Volkswagen Crisis Communication in Facebook and Twitter.
89. Zhao, R., Geng, Y., Liu, Y., Tao, X. and Xue, B., 2018. Consumers' perception, purchase intention, and willingness to pay for carbon-labeled products: A case study of Chengdu in China. *Journal of Cleaner Production*, 171, pp.1664-1671.
90. Zuraidah, Y., M. H. Haniff, and H. Zulkifli. "Oil Palm Roots Adaptation Under Soil Compacted by Mechanisation." *Int J AgricSciRes* 5 (2015): 331-341.