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# **ASSESSING CONSUMER'S ATTITUDE TOWARDS SUSTAINABLY PRODUCED AND ORGANIC SHEA BUTTER IN NIGERIA**

**By**

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# ASSESSING CONSUMER'S ATTITUDE TOWARDS SUSTAINABLY PRODUCED AND ORGANIC SHEA BUTTER IN NIGERIA

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## **DEDICATION**

I dedicate this research thesis to my husband, Dauda Joshua Opeyemi, for his unwavering support, encouragement, and guidance all through my study at Van Hall Larenstein University of Sciences.

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## **LIST OF ABBREVIATIONS**

AC- Appearance Concern

ANOVA- Analysis of Variance

ATT- Attitude

FRIN- Forestry Research Institute of Nigeria

HC- Health Concern

PA- Product Appearance

PBC- Perceived Behavioral Control

PI- Purchase Intention

SC- Sustainability Concern

SK- Sustainability Knowledge

SN- Subjective Norm

TPB- Theory of Planned Behavior

WPP- Willingness to Pay Premium

## ABSTRACT

This research assessed consumers' attitudes towards sustainable and organic shea butter in Nigeria to provide recommendations that contribute to the financial sustainability of the Oke-Ogun Shea Butter of Oyo state, Nigeria.

The Theory of Planned Behavior (TPB) was used to conceptualize the intention to purchase sustainable and organic shea butter that originates from consumers' attitudes and behavior towards the product. In addition to the main constructs of the TPB model (Attitude, PBC, SN, and Intention to act) several other factors were also put into consideration to fully capture consumers' intention to purchase, and these include; the values consumers place on the product, their concern, and knowledge of sustainability, demographic variables, and their willingness to pay a premium. Altogether, there were 10 constructs in the conceptual framework.

The method of data collection applied in this study was a survey; the link to the fully structured questionnaire, with a five-point Likert scale option ranging from strongly disagree to strongly agree, was sent out to social-media platforms (Whatsapp groups and Facebook) of residents of Ibadan and Oyo state. The study areas were purposively selected and samples were selected haphazardly based on the convenience of respondents. The expected number of responses was 300; however, 291 responses were received giving a 97% response rate. Multiple linear regression analysis was performed using SPSS to predict the relationship between the independent variables and the dependent variables (purchase intention) and to determine the impact each construct has on the intention. To further confirm the significance of some constructs, Wald's test was performed.

The result of the analysis showed that Demographic variables (Age, Gender, Income, and Education) are of no significance to consumers' decision to purchase sustainable and organic shea butter. That is, the purchase of sustainable and organic shea butter for personal care is not dependent on the social characteristics of the consumers. Irrespective of the societal characteristics, consumers expressed that they have the time and resources to purchase the product (PBC) as over 80% of them agreed to the statement on Perceived Behavioral Control; which is statistically significant in influencing purchase intention (PI). Subjective Norm with a p-value of 0.808 showed that external influences from social media and celebrity adverts have no impact on consumers' decision to purchase the product. Furthermore, Consumers' concern for their health and appearance (P-value= 0.002 and 0.002 respectively), concern for sustainability, and their knowledge of sustainability (P-value= 0.058 and 0.002 respectively) were proven to be of significant influence on their intention to purchase the product; Except for Product appearance, which has a P-value of 0.916. However, product appearance contributes significantly to consumers' positive attitude towards the product. Their willingness to pay a premium also contributes significantly to their purchase intention ( $P < 0.005$ ) as 66.7% of them agreed to pay a premium and 50.5% agreed to pay between 3-10% as a premium.

Based on this outcome, it is concluded that there is a potential market opportunity for sales of sustainable and organic shea butter as consumers expressed positive intention to purchase sustainable and organic shea butter and shea-based cosmetic products. It is recommended that attention is paid to

the values consumers place on the products, in this case, their concern to have a nice appearance of its importance, and the sustainability impact of the product. Although a good percentage of the respondents expressed their interest in paying a premium, however, psychological and social research such as this can be subjective. This is because not everyone reacts the same way and several factors influence human decisions that are not captured in this study that may prevent them from carrying out their intention to purchase the product when expected or pay the premium as expressed in their responses. The effect of this is that the financial expectations for the sustainability of the chain may not be met. Therefore it is recommended that FRIN should also consider other options of ensuring the continuous availability of finance to the rural producers such as value chain financing and contract financing.

## 1.0 INTRODUCTION

The Shea tree, *Vitellaria paradoxa* C.F. Geartn, belongs to the *Sapotaceae* family and is native to Sub-Saharan Africa's Semi-arid zone. This tree can be found in over Nineteen African countries, with the highest concentrations in Burkina Faso, Cote d'Ivoire, Ghana, Mali, and Nigeria (Igene et al., 2018). It takes 15 years to reach fruit-bearing maturity, 25 years to attain full bearing capability, and 150 to 200 years to attain full maturity (Adesope et al, 2019). The Shea tree grows abundantly in Nigeria's savanna region. The Shea tree is a wild tree that is frequently exploited as a Non-timber Forest Product (NTFP) by rural people, providing an important source of income for rural households. It has numerous economic, medical, environmental, and cultural advantages (Bolaji-Olatunji et al, 2018). According to Kent et al. (2014), the Shea sector has the potential to contribute to women's economic empowerment in the Sahel region of Sub-Saharan Africa. As a result, the commercialization of Shea butter and other non-food crops is considered as a way to politically empower, economically progress, and socially bring justice and welfare to underprivileged groups including landless rural women and indigenous people (Kombiok and Agbenyega, 2017). Shea butter is expected to be a source of revenue for thousands of rural women and a source of subsistence for tens of thousands of households. Traditionally, Shea nut collection and butter production have been categorized as women's work, making women the primary stakeholders in the value chain (Kodua et al., 2018; Rosseau et al., 2017; Elias, M., and Arora-jonsson, 2016). Suleimon (2008) observed that marketing butter to rural women provides them with better opportunities for increased income.

Shea butter is used for a variety of things. It is used to make African black soap, skin moisturizers, newborn moisturizing, hair treatment, manufacturing of other beauty products, and manufacturing beeswax because of its high nutritive value and low cholesterol level; medicinally, it is used to cure leprosy, muscle treatment, and other skin-related treatments; it is also used in food production. (Lovett, 2015 ; Iddirisu, et al., 2019). Shea butter's chemical composition makes it a valuable product in the culinary, pharmaceutical, and cosmetic industries on the world market. It is used as a replacement for cocoa butter because it has a high quantity of stearin and a small percentage of stearo-palmitine, which allows it to mix and flow smoothly with cocoa butter with a similar melting point. Shea butter's penetrative characteristics are due to a high proportion of Tripertene alcohol and Olein, which is particularly desirable in the cosmetic industry for the manufacture of body and hair formulations. (Olife et al., 2013; Iddirisu, et al., 2019 ; Pouliot, 2012).

In recent times, Shea butter cosmetic usage has been on the rise. It's one of the exotic butter, and it's used to substitute petrolatum in a lot of cosmetic formulas (Rameriz and Moroni, 2008). Because of the need for environmentally friendly goods, the global market for organic cosmetics has grown significantly in recent years, reaching a value of over \$100 billion in 2019 (Kumar, 2019). According to the African Business Page (2018), the beauty and cosmetics industry are predicted to double in the next decade due to expanding population, a growing middle class, and rapid urbanization in sub-Saharan Africa, and Nigeria is one of the countries with exponential growth—especially the young, urban, and female population. Even though the majority of the population in Nigeria lives in poverty and has economic issues, the youth bulge and increasing pace of urbanization provide potential growth potential (Dauriz et al., 2014), with increased demand for organic goods. Consumers are becoming increasingly aware of the benefits of using organically produced cosmetics, particularly among ladies desiring a youthful appearance (Obanla et al., 2019).

Also according to Yeon Kim and Chung's study on the purchase intention of organic personal care consumers in the USA, it was found that health consciousness was important in predicting consumers'

attitudes towards organic personal care products (Yeon Kim and Chung, 2011). Shea butter is a widely sought-after natural ingredient in personal care products. The evaluation of organic skincare products is attributed to its usefulness in managing the health and appearances of consumers, as well as maintaining healthy lifestyle behavior; it also assists in greening the environment and combating environmental damage caused by unsafe substances and ingredients (Pudaruth, Juwaheer & Seewoo, 2018). This is somewhat identical with the notion of sustainability, albeit, in the case of organic products, customers are largely aware of the environmental element of sustainability.

Therefore, this research focuses on the social, environmental, and economic aspects of sustainability, as well as consumer knowledge and attitudes toward organic Shea butter, to contribute to the socioeconomic development of the Shea butter industry in Oke-Ogun, Oyo State, Nigeria.

### **1.1 BACKGROUND TO THE STUDY/ JUSTIFICATION FOR COMMISSIONING**

Generally, according to Shitu and Popoola (2017), Shea butter value chain of rural areas in Africa is unorganized and majorly informal; often characterized by multiple markets and weak. This is the case of Oke-Ogun Shea butter sector as the sector is considered unsustainable financially, socially, and environmentally. Although the collection of Shea fruits has no impact on the environment, the traditional processing of Shea butter impacts the environment negatively. The processing of fruits from Shea nuts and nuts to butter consumes a huge amount of water, energy (fuelwood), and labor. This is due to the traditional method of production which has been proven to be inefficient in terms of yield and quality of butter produced, leading to low income for the women, (Garba et al., 2015). Also, given the lack of infrastructure and organizational structure, local women in the region are subjected to great stress when processing Shea nuts into Shea butter, as well as an inability to manage moisture, which contributes to the low production of Shea butter (Tulashie, et al. 2020) and low income.

Therefore, as an organization working on Forest product development (both timber and Non-timber forest products), forest conservation and environmental protection, and socio-economic development of rural livelihoods in forest communities, the Forestry Research Institute of Nigeria (FRIN) is currently working on developing the Shea butter sector of the Oke-Ogun region. This development involves coordinating the value chain by connecting all stakeholders in the chain and identifying their roles and functions; investing in a sustainable production system by providing a processing machine, solar energy, clean water system, etc.; improving product quality by providing necessary training; and creating a niche market for the Shea butter produced. Presently, there is a team of researchers working together on this project according to their respective fields, skill, and availability. It includes a group working with stakeholders, women producers, and farmers; an accounting team working on the budget and costing, a crew working on market survey, etc. FRIN through its Forest Product Development and Utilization Department has for some time been working on producing quality Shea butter on a small scale at the institute using a more sustainable and modern processing method. This product is packaged in fancy containers and sold to retailers and consumers directly as a personal care product (such as hair cream and hair treatment, body cream, body soap, etc.)

Also, according to IFAD (2014), women's rights and obligations within their households often reduce their ability to take up opportunities, invest, and go to markets and take risks. Therefore, FRIN is taking up the role of an aggregator—collecting Shea butter in large quantities from the producer organization—and a wholesaler, partly processing the Shea butter into other products; this position gives room to the institute to help the women avoid the risks of the volatile market by purchasing a large portion of the butter produced at a little higher price than wholesale market price of €4.4/kg. Through its connection with a few retailers of cosmetic and personal care products, the institute can

help to bring a continuous flow of value-added Shea butter to consumers and also a continuous flow of income to the women producers. However, selling a sustainable and organically Shea butter is a new dimension for the organization. Therefore it is essential to carry out a market survey to guide decision making and price-setting using a target costing method. This is because the financial support, a grant, from the government is temporary support to fill the financial gap for a sustainable production system for environmental conservation. As such, the organization wants to ensure that there is a possibility to recoup the money invested for the continuity of the chain. The outcome of this research will determine if the value proposed (sustainability and organic) will result in an increased profit or revenue that will financially sustain the value chain.

## **1.2 PROBLEM STATEMENT**

As earlier stated, FRIN is working on developing the Oke-Ogun Shea butter sector as part of its mandate given by the federal ministry of environment, Nigeria. In addition to developing the chain, with the prospects of acting as an aggregator and a wholesaler, FRIN is assuming a governance position in the Oke-Ogun Shea butter value chain. Taking this leadership role will result in precise resource allocations and gain distributions along the chain (Bolwig et al., 2010). FRIN is working on product upgrading to increase the unit value of Shea butter produced by making it more sustainable. The output of this chain is expected to be branded as sustainable and organic Shea butter. However, there is no information on how consumers would react to paying a premium price for a sustainably produced and organic Shea butter. This information is important to the organization and the Director-General would like to know the consumer's attitude towards this. "The feasibility of generating any development effect with Value Chain (VC) promotion depends on the growth potential and market expansion prospects," according to Springer-Heinze (2007). When it comes to choosing a VC, market demand and buyer interest are crucial factors to consider. There will be no more revenue for impoverished people until the end product can be sold and the value-added grows (Springer-Heinze, 2007).

## **1.3 PROBLEM JUSTIFICATION**

Women are more underprivileged than males in agriculture and are more afflicted by poverty in rural and urban regions due to inequalities in land access and household duties (e.g. cooking, cleaning, and child care). In many parts of the world, women in agriculture face greater hurdles than men, such as difficulty in accessing financial services, which is hampered by illiteracy, a lack of collateral, and insufficient training, among other things. (Butt et al., 2010; Shafiwu et al., 2013). Shea butter manufacturing is mostly a female-dominated industry, and women suffer similar financial challenges. Investing in machines, purchasing supplies, and paying labor are all part of the process of producing and selling Shea butter, which includes actions such as investing in equipment, purchasing materials, and paying labor. These activities are impossible to carry out without the sharing of information, and they are frequently reliant on the availability of adequate funding (Garba et al., 2015). Furthermore, studies have shown that as a woman's family income rises, she spends a greater amount of her money on her children (UN Women, 2015). With an increase in income through price premium, the Oke-Ogun Shea butter value chain can become more financially sustainable.

In recent times as well, the demand for Shea butter for cosmetic consumption has increased, more importantly for personal care such as hair cream, body cream, hair treatment, and skin treatment. This beauty consciousness has also prompted the demand for natural and organic products both in developed and developing countries. The worldwide market for organic personal care products was estimated at over \$100 billion in 2019 and is projected to grow to over \$250 billion by 2025, leading to

speculation that organic products would outnumber non-organic ones (Ling, 2019; Kumar, 2019). When it comes to organic products, health-related concerns trump environmental issues, according to Mondelaers et al. (2015), and pricing becomes less significant as a result. In some ways, this suggests that sustainably produced and organic items may generate greater revenue. However, several complaints have been documented in Nigeria regarding the use of environmentally friendly cosmetics and beauty care products (organic skin cares), including the failure of some organic skincare to function correctly and meet consumers' values for health, appearance, and the environment (Obanla et al, 2019). This could be due to the misuse of organic branding for conventional products. Also, only a few studies have been conducted to understand consumers' attitudes towards eco-friendly cosmetic products in Nigeria, however, none has been conducted in the context of sustainable and organic Shea butter or their willingness to pay a premium.

#### **1.4 OBJECTIVE**

To assess the extent to which sustainability branding of organic Shea butter influences consumers' purchase intentions and to determine consumers' willingness to pay a premium price for these products, in order to give recommendations on the financial sustainability of the chain, market opportunities for the product, and the market segment.

#### **1.5 RESEARCH QUESTION**

To what extent does sustainability branding of organic Shea butter products influence consumers' purchase intentions?

##### **1.5.1 Sub-questions**

- What are consumer's perceptions of sustainability and will the informed knowledge of sustainability influence their purchasing of sustainable and organic shea butter?
- What are consumers' behaviors towards sustainable and organic Shea butter?
- Will demographic variables influence the purchasing of sustainable and organic shea butter?
- What are the intrinsic factors that influence consumer's purchase intentions and willingness to pay a premium?
- What information triggers their decision to purchase sustainable and organic shea butter (Product Characteristics, brand name, labeling, certifications, product value, etc.)?

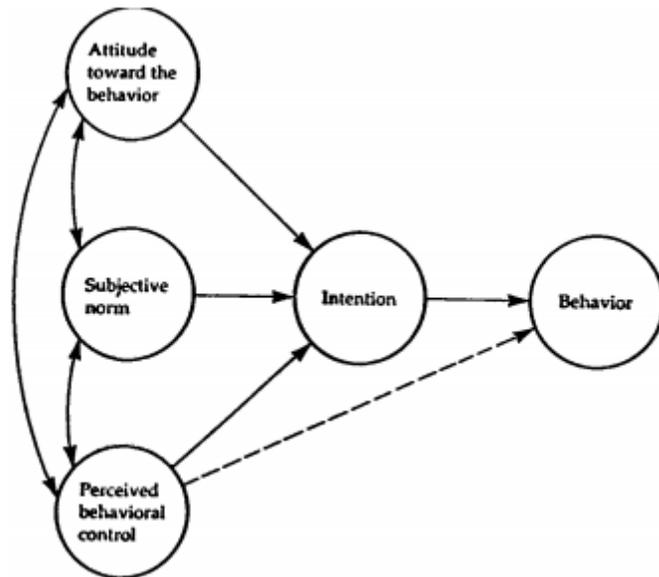
## 2.0 LITERATURE REVIEW

### 2.1 THEORETICAL FRAMEWORK

The Theory of Planned Behavior (TPB) will be employed in this research. The TPB starts with a clear description of the behavior of interest in terms of its aim, action, and context; all subsequent formulations in the theory must then correlate to the behavior in all of its elements. The compatibility idea is the term for this (Ajzen, 2020). TPB is a widely used model for predicting and analyzing human behavior. Human behavior is regulated by three kinds of beliefs, according to the TPB model: behavioral beliefs, normative beliefs, and control beliefs, all of which lead to particular consequences like attitude toward conduct, subjective norm, and perceived behavioral control (Yadav & Pathak, 2017). Many research have utilized this model to better explain environmental behaviors such as sustainable energy (Zhang et al., 2014), low emission commuting (Cai et al., 2019), and environmental innovation (Long et al., 2017a), and its accuracy in predicting consumer behavior of sustainable, green, and or eco-friendly products has been demonstrated (Yadav and Pathak, 2017; Yeon Kim and Chung 2011). The TBP is concerned with situations that stimulate one's cognitive traits, culminating in the later development of the initial intention and conduct (Ajzen, 2002). The drivers of intention to undertake a behavior in the TPB model include attitude toward activity, subjective norms, and perceived behavioral control (PBC) (Wu and Chen, 2014). Meta-analyses of correlational testing of TPB components indicated that attitude, subjective norm, and PBC frequently explain 30% to 50% of the variation in intentions, whereas intents and PBC explain 20% to 30% of the variation in behavior, according to Fife-Schaw et al. (2007). Moreover, when it comes to forecasting intention, that attitude has the largest beta weight, followed by PBC, and then the subjective norm; yet, the intention is a far better predictor of conduct than PBC.

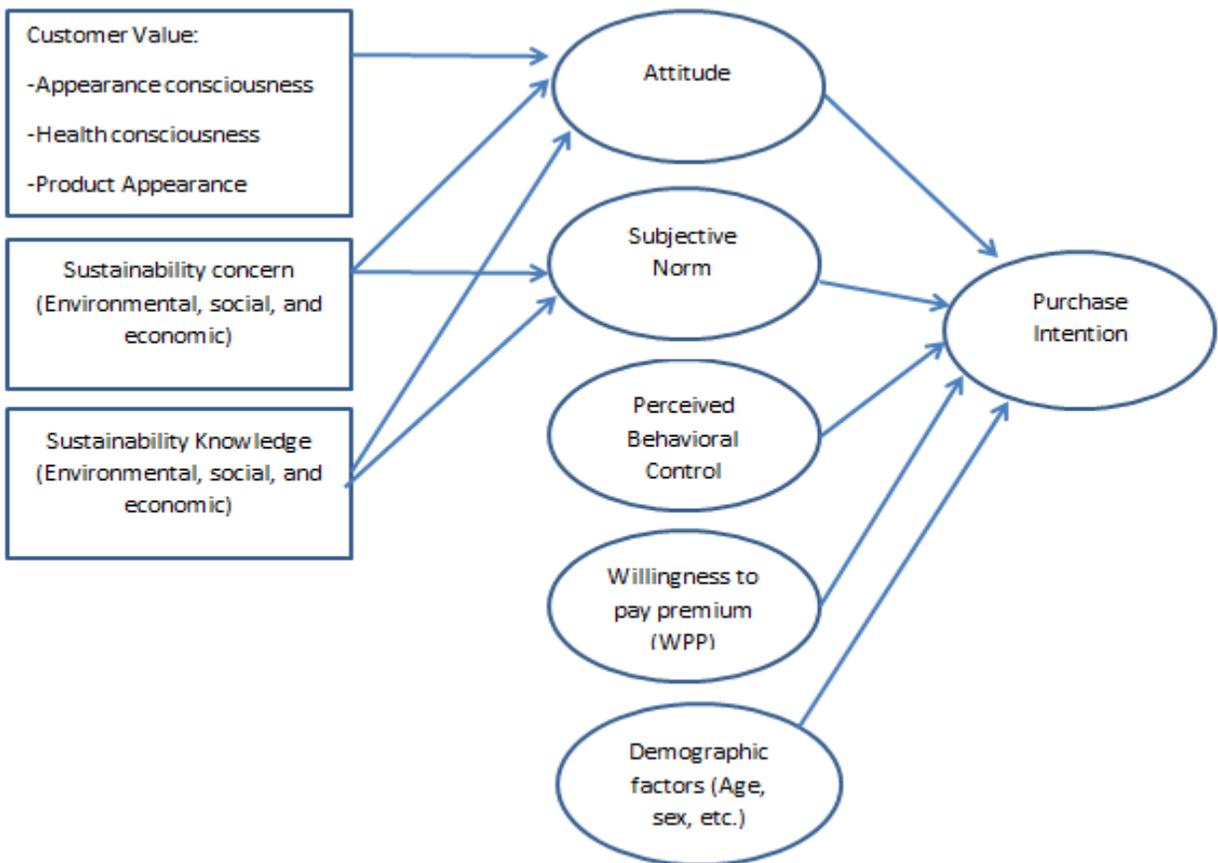
Even though TPB is based on the idea that attitude, subjective norm, and perceived behavioral control (PBC) all influence intention to perform an action, past research has pushed for domain-specific factors that are not included in this model (Donald et al., 2014). In recent psychology studies, there has been a growing body of evidence that the TPB may include extra components relating to many domains (Read et al., 2013; Yadav and Pathak, 2016). Yeon Kim and Chung (2011) used this hypothesis to explain the predictors of intention to purchase organic skin/hair care products. Consumer values were examined as a predictor of purchase intent, prior experiences as a predictor of attitude, and perceived behavioral control as a regulator of the attitude-buy intention relationship. Customers would not forgo the product's practical use for the sake of the environment, according to Yadav and Pathak (2017), who found perceived value to be extremely important in green purchasing decisions. As a consequence, it's vital to comprehend how green items are valued by buyers. Furthermore, consumers' willingness to pay a premium was considered, since the high cost of an ecologically friendly product remains a worry for price-conscious shoppers. In addition to consumer values and readiness to pay a premium, Zhang et al. (2020) discovered that environmental awareness/knowledge is a factor that motivates purchase intention.

Therefore, in addition to the three major constructs of the TPB model (Figure 1).; attitude towards the behavior (which in this case is the intention to purchase sustainably branded and organic Shea butter), subjective norms, and perceived behavioral control (PBC), this study shall consider consumers' values, willingness to pay a premium, Demographic characteristics, and their awareness of sustainability (Figure 2).



Source: Ajzen, 1991.

Figure 1. Theory of Planned Behaviour



Adapted from: Yeon Kim and Chung (2011); Maichum (2016); Yadav and Pathak (2017)

Figure 2. Conceptual Framework: Extended TPB Model

### 2.1.1 Consumers' Perceived Values

Perceived value is determined by an individual's evaluation of a product's usefulness based on their perceptions of what is received (benefit) and what is supplied (cost) (Zeithaml, 1988). The value may also be defined as the desired end state that is seen as the most important component of a person's belief system. As a result, values may shape an individual's attitude by directing him or her to seek out goods that fulfill his or her values (Yeon Kim and Chung, 2011). Green products are generally more expensive than their alternatives, and buyers will not be willing to forego the traditional product's good functioning (Chen and Chang, 2012). Consumers are more inclined to buy a product based on its features than its environmental or sustainability credentials. Organic goods are also thought to promote a healthy lifestyle, as the abbreviation LOHAS (lifestyles of health and sustainability) suggests (Essoussi and Zahaf, 2008). Consumers' choices to buy sustainable and organic products are influenced by health and environmental values; similarly, cosmetic items affect consumers' looks and are used to regulate looks (Yeon Kim and Chung, 2011). Companies may increase customer purchase intent by increasing the embodied values of the product since the perceived value is a determinant of customer buy intent (Zhuang et al., 2010). When a consumer's perceived benefit exceeds his or her perceived cost, the product is considered positive. The product has a high perceived value among consumers. As a result, the willingness of a customer to buy or use a product is positive (Zhang et al. 2020). This research will look at three different values: health, attractiveness, and product appearance.

Health-conscious consumers are concerned about their desired state of well-being and make an effort to preserve it (Newsom et al., 2005). They think about whether a product is safe for their skin or body, and they will look into the substances used in its manufacture. Consumers that are concerned about their appearance are interested in acquiring cosmetics or clothing that complement or convey their image. "Consumption of personal care goods is a shopping activity that meets one's demand for attractiveness and upkeep of one's overall appearance," according to Todd (2004). As a result, people seeking to preserve a young appearance and improve their looks have turned to chemical-free personal care products. Because organic cosmetics are created with fewer or no chemicals and may deliver less harsh results than conventional versions, it is thought that a consumer's attitude toward buying organic cosmetics is positively connected to their beauty consciousness (Yeon Kim and Chung, 2011). Furthermore, product appearance is considered in this study, as consumers' perception of what is important on the outward appearance of a product can influence their attitude towards the product.

### 2.1.2 Sustainability concern

Many writers and consumers think about sustainability in a one-dimensional way, concentrating solely on the effects of consumption on the environment. There are three basic components of sustainability, however: environmental, social, and economic (Phipps et al. 2013). As a result, one-dimensional knowledge may fall short and fail to convey customer views concerning measuring sustainability. Environmental concern, as defined by Alibeli and Johnson (2009), is the degree to which individuals are aware of environmental challenges and their readiness to address them. However, issues about social fairness and economic growth are also included in the definition of sustainability. Many researchers have looked at how environmental concerns affect consumer inclinations to buy green items. Customers with a greater level of environmental concern are more likely to buy green products, according to Aman et al. (2012), who found that as the number of consumers with environmental worries grows, so does their desire to buy green products. Accordingly, Chin et al. (2018) identified that environmental concern has a positive impact on the intention to purchase a green cosmetic product. Hanson (2013) found that environmental concern has a positive impact on Canadians' attitudes toward green products, which

influences their green purchase intention. Families and friends who are concerned about the environment may also affect behavior by putting pressure on them to buy sustainable items. “The very environmentally concerned students experienced increased support from significant reference individuals (such as friends, parents/family, and environmental movement groups, personally known professors, and energy providers),” according to Maichum (2016).

### 2.1.3 Sustainability Knowledge

Hill and Lynchehaun (2002) determined that an individual's environmental knowledge has a significant impact on environmental concerns. Consumers become more informed as their environmental knowledge grows, which increases the likelihood of high purchase intent (Lee et al. 2012; Mashesh & Ganapathi, 2012). Environmental education is one of the essential elements that have a strong positive effect on consumers' propensity to purchase green products, according to previous studies. Jaiswal and Kant (2018), for example, found that environmental awareness is associated with a desire to acquire green items. As a result, consumers' understanding of the social and economic components of sustainability might impact their desire to acquire a sustainable product. When customers are aware of environmental challenges, they are more likely to have a positive attitude toward green products (Aman et al. 2012). Mostafa (2007), for example, found that environmental education is connected to a favorable attitude toward green items, which impacts their purchasing intention. Furthermore, when people believe that others expect them to be knowledgeable about environmental concerns; they may show themselves as having extensive knowledge of the subject. Thus, people who follow social standards may have paid more attention to environmental information and accumulated a larger knowledge base as a result (Yang and Kahlor, 2013).

### 2.1.4 Attitude

An interaction in memory between a given object and a summary appraisal of this thing is known as attitude (Maichum et al. 2016). Individual beliefs about the repercussions of engaging in certain conduct, as well as positive or negative judgments about the act's potential repercussions, make up attitude (Yadav and Pathak, 2017). This is how people express what they appreciate and don't like about the intention to buy items or services. The consumer's psychological judgment of a product is likely to be revealed via attitude (Bonne et al. 2007). Previous research has concentrated on the link between attitudes and planned actions. Irland (1993), for example, observed that customer purchase intentions are influenced by their environmental sentiments. According to Tsen et al. (2006), attitude is one component that has a significant influence in determining customer intentions to pay for green products. Similarly, one's attitude regarding organic personal care goods has a substantial impact on one's desire to buy organic personal care goods. According to Mostafa (2007), several cultures have established a positive association between attitude and behavioral intention. The decision to accept a particular action is heavily influenced by one's attitude.

### 2.1.5 Subjective norm

The perceived social pressure to do or not perform a behavior is referred to as a subjective norm (Han et al. 2010). An individual's viewpoint has an impact on their decision-making. One's decision-making is influenced by social approbation from family, friends, and close contacts (Mancha and Yoder, 2015). Subjective norm is the result of normative belief and compliance desire. Normative belief compliance refers to an individual's impression of how others (those who are important to him or her) would like him or her to behave in a given scenario, whereas motivation to comply refers to an individual's desire to follow the advice of significant people (Yadav and Pathak, 2017). According to Maichum et al. (2016),

societal norms have a significant impact on green consumption and are the foundation of many consumption theories and models. The subjective norm is a major factor of intention to buy green items (Paul et al. 2016), organic food (Dean et al., 2012), and green hotel revisit intention in several research studies (Chen and Tung, 2014; Teng et al. 2013). As a result, the subjective norm plays a significant role in increasing green goods purchasing intentions.

#### **2.1.6 Perceived Behavioral Control (PBC)**

Accessible control beliefs are thought to underpin perceived behavioral control. These beliefs are concerned with the presence of elements that might help or hinder the behavior's performance. Required skills and talents; availability or lack of time, money, and other resources; other people's cooperation, and so on are all control elements (Ajzen, 2020). The apparent ease or difficulty of doing a given act is referred to as perceived behavioral control. When an individual has both the capacity and the motivation to do a certain activity, rather than having only one or neither aspect, the activity is more likely to occur (Zhou et al. 2013). Many studies have found that an individual's belief in their capacity to regulate their conduct has a favorable association with purchasing intent (Baker et al. 2007).

#### **2.1.7 Willingness to Pay Premium**

Price has a significant impact on consumer decision-making. Because pricing is the most major barrier to green consumption, firms must understand customers' willingness to pay a premium for socially responsible items (Gleim et al., 2013), and willingness to pay a premium for green products could be considered pro-environmental behavior. Manaktola and Jauhari (2007) discovered that most customers are concerned about green practices but are unwilling to pay a premium for green items. Choi and Parsa (2007) similarly discovered that most customers are hesitant to pay a premium for green items. Consumers that value environmental protection and put the environment over everyday convenience, on the other hand, are ready to pay a premium for green products and services (Shen, 2012). In a few studies, eco-labeled appliances and furniture, environmentally friendly food products, and green hotels were found to have a positive relationship between environmental concern and willingness to pay for green products, which further influences the consumer's intention to buy green products (Yadav and Pathak, 2017).

#### **2.1.8 Demographics**

Previous researches have shown that demographics may have either a detrimental or beneficial impact on customers' views and willingness to purchase a product, according to Chekima et al. (2016). Age, gender, education level, income size, and other demographic characteristics have been expected to have a substantial link with environmental behavior (Sang and Becketh, 2015). Several studies have demonstrated that higher education promotes awareness of environmental concerns. This is supported by studies conducted in Hungary and China by Zhoska et al. (2013) and Zhao et al. (2014), which found that individuals with a higher level of education are more aware, worried about environmental concerns, and have a stronger desire to buy green products. Furthermore, Zelenzy et al. (2000) performed research in 14 nations to learn about gender disparities in pro-environmental behavior, and they discovered that women are more proactive in their attitude toward the environment than males. This may not be the case in all countries, as some studies have revealed no significant difference in male and female views toward green products, while others have observed that males are more aware of environmental concerns and are motivated to take action (Chekima et al. 2016). Therefore this study considered the influence of age, sex, education level, and income on consumer's intention to purchase sustainable and organic Shea butter.

## CHAPTER 3

### 3.0 METHODOLOGY

The research methodology adopted for this thesis is based on the common methodologies used in similar research about consumer attitudes and intentions) using the theory of planned behavior. The following topics discuss the strategy applied for research which includes data collection method, sampling, data analysis method, and the research hypothesis. It also highlights the covid'19 context of the research.

#### 3.1 Data collection method

Quantitative data was collected using a structured questionnaire to assess consumers' attitudes and intentions toward sustainable and organic shea butter. The questionnaire was administered online (Google forms). The information collected includes the demographic information of the respondents such as age, sex, and income and the measures of the TPB construct to extract information on consumer's intention to purchase. Also, a desk study was carried out to corroborate the findings of this research with other related researches. A description of the research method is attached in **annex 1**.

#### 3.2 Sampling Method

The context of sustainability, organic, and the TPB model under investigation, according to Chan (2001), is particularly difficult for minors to understand owing to the depth of thinking it requires to make a decision. As a result, the appropriate sample for this research was selected from a population of males and females between the ages of 18 to 50 years living in Ibadan and Lagos, Nigeria. Ibadan is the capital city of Oyo state where the Shea butter is produced and also where the head-quarter of FRIN is located, while Lagos is the commercial city of Nigeria. According to the National Bureau of Statistics, the population of Lagos state (being the most populated city in the country) and Oyo state in 2016 was over 20million. The people within the age range to be considered in this research are purposively selected. They are believed to have the capability to decide on what personal care product to purchase and are likely to be aware of the term 'sustainability, and are likely to have the technical understanding on how to respond to an online survey. The sampling frame for this study includes about 6,000 residents of Lagos and Ibadan available on recognized social-media platforms. A haphazard sampling method was used based on the convenience of respondents. The link to the online survey was sent out to recognized social media Platforms of residents of Oyo and Lagos states on Facebook, Telegram, and Whatsapp.

#### 3.3 Research Construct

The conceptual framework for this research was operationalized using recognized measurements mostly used in related researches. Measurements extracted for each construct in the framework were reformulated to suit this study and were measured using the Likert scale, with a five-point measuring scale ranging from strongly disagree through to strongly agree). The questionnaire comprises 24 questions, two for each construct and 4 questions on demographics. The questionnaire is attached in **annex 2**.

#### 3.4 Research Hypothesis

The hypotheses for this research include;

- Consumers' perception of sustainability will have a positive influence on sustainable and organic shea butter purchasing
- Consumers' behaviors will positively influence their intention to purchase sustainable and organic shea butter
- The demographic characteristics of consumers will have a significant influence on their intention to purchase sustainable and organic shea butter
- The intrinsic attributes of consumers will positively influence their intention to purchase sustainable and organic shea butter and willingness to pay a premium
- The physical attributes (characteristics) of the product will have a positive influence on consumers' intentions to purchase sustainable and organic shea butter.

### 3.5 Piloting the Questionnaire

Before distributing the questionnaire formally, a pilot test was carried out. The participants include 25 Nigerians from age 18 and above irrespective of their current locations or level of education. The piloting was carried out to prove the reliability and simplicity of the set of questions in the questionnaire before distributing it to the desired respondents. The feedbacks received from the pilot test aided the improvement of the questions to avoid running into error after formal data collection. Also, each question was marked as important to avoid having some questions unanswered to prevent the occurrence of missing data.

### 3.5 Data Analysis

The data collected was converted into an excel spreadsheet directly from google forms and for the analysis, IBM SPSS 26 was used. Descriptive statistics were conducted first to give an overview of the socio-demographic variables and other elements in the questionnaire. Then a Multiple Linear Regression analysis was carried out to predict the relationship between the independent variables and the dependent variables (purchase intention) and to determine the impact each construct has on the intention. Before the regression analysis, factor analysis using principal component analysis was conducted to prove the validity of the constructs in the survey by measuring the interrelationship/ inter-correlation between the observed variables. Also, the Cronbach Alpha reliability test was performed to measure the internal consistency of the test. Internal consistency is the extent to which all items used in measuring or testing a concept or construct are interrelated and coherent. It is a step to measure the reliability of an instrument (Tavakol and Dennick, 2011). The Cronbach alpha is expressed as a number that ranges from 0 to 1, numbers ranging from 0-0.5 are considered unacceptable, 0.5-0.7 is poor, and 0.7 and above are acceptable and good. All results and outputs were presented in tables, graphs, and charts.

### 3.6 COVID-19 Context of this Research

The corona Virus pandemic shall be taken into consideration for this research. Taking into account the number of respondents needed for the questionnaire, this research shall be conducted online to prevent the researcher or any assistant from into close contact with numerous individuals. This development is in line with the Federal Government of Nigeria's covid'19 protocol which does permit federal workers to work directly in the office or on the field, but to work remotely from home.

### 3.7 Limitations of the study

One major limitation to this study is the inability to interview respondents, without a biased selection, to collect in-depth information of the predictors of their intention to purchase. This is because of the method of data collection. The respondents for this study are unknown and the link to the survey was sent to the general public, which makes it difficult to know who said what unlike sending the survey via mail. Sending the survey via e-mail would have provided an opportunity to randomly select respondents for the interview. However, this is impossible because there is no specialty outlet for the sales of shea butter in Nigeria, unlike other cosmetic brands where it is certain that consumers' go specifically to the outlet to obtain the product.

## CHAPTER 4

### RESULT AND DISCUSSION

This chapter is divided into two parts. The first part 4.1 focuses on the descriptive statistics and the outcome of other statistical analyses performed, while the second part discusses the relevance of the research findings to the objective of the research.

#### 4.1 Results

After 3 weeks of sending out the questionnaire, 291 responses were collected which amounts to 97% of the expected (300) responses. Therefore, the results below are based on 291 responses retrieved. This section displays the output of the analysis conducted, first, the demographic profile of respondents, then the descriptive statistics of the constructs, the reliability and validity test, and lastly the multiple regression analysis.

##### 4.1.1. Demographic information

Below is a summary of the demographic information of respondents. The descriptive statistics describing the demographic data were extracted directly from Google forms to show their demographic profile.

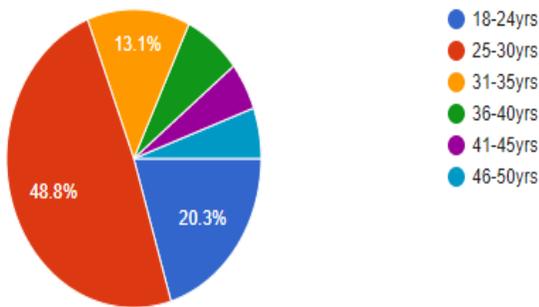


Figure 3: Age Distribution of the Respondents

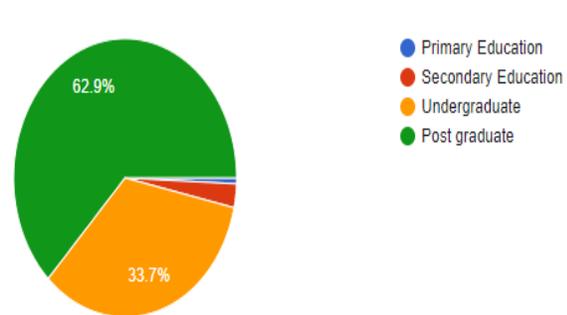


Figure 4: Education Level of Respondents

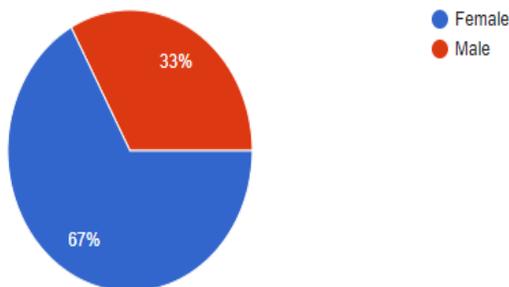


Figure 5: Gender of Respondents

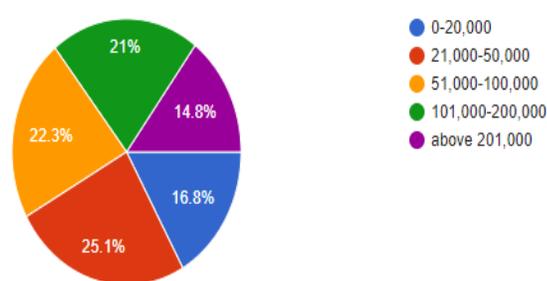


Figure 6: Income Distribution of Respondents

According to the charts above (figure 3), 48.8% of the respondents are between the ages of 25-30yrs which represents the highest number of respondents while, 7.2%, 5.2%, and 5.5% of the respondents are between the ages of 36-40yrs, 41-45yrs, and 46-50yrs respectively. This could be due to the method of data collection as youths are more available online and can comprehend the sustainability concept. Young people favor web and self-administered method (email) of responding to surveys, whereas elderly persons prefer interviewer-administered forms, according to Smyth et al. (2014). Mulder and Marika de Bruine (2019) also found that around the age of 45, people's desire to participate in web/app-based research tends to diminish. In their study on data collecting technique preferences, they found that women and men respond differently depending on the topic of conversation, with women preferring mail research versus males preferring face-to-face surveys. Men, on the other hand, were more receptive to passive data gathering via Smartwatch than women.

In this study, as shown in figure 4, 67% of the respondents are females; which could either be that women are more interested in the topic (sustainability and organic shea butter for cosmetic use) or they are more willing to respond online than men. In figure 5, 62.9% of the respondents either have a postgraduate certificate or are currently studying at a postgraduate level which shows that the respondents are highly educated which could also depict their interest in sustainability issues. Zhoska et al. (2013) and Zhao et al. (2014) both found that those with a greater degree of education are more conscious of sustainability. Mulder and Marika de Bruine also discovered that participants' desire to engage in research is influenced by their educational level; the greater their education, the more eager they are. Finally, figure 6 reveals that the majority of respondents earn between 21,000 and 100,000 Naira (38-181 euros), which is considered middle-income.

#### 4.1.2. Descriptive statistics of the constructs

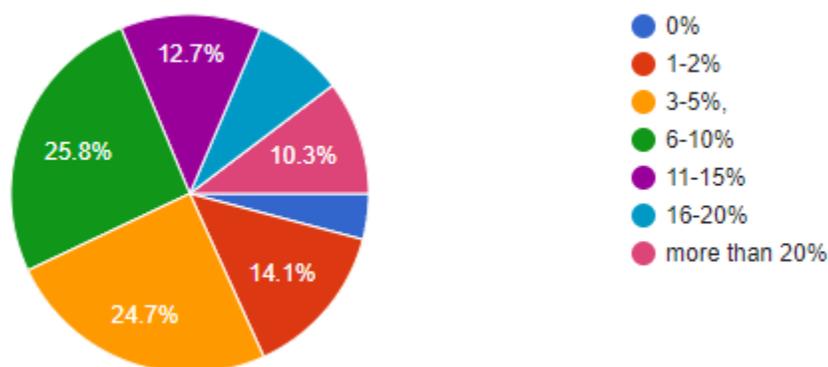
The table below describes the data collected on the items in the conceptual framework. Initially, a five-point Likert scale was used to collect the information ranging from strongly disagree, neutral, through to strongly agree. The table displays a merged percentage of positive responses (Strongly agree and agree), that of negative responses (strongly disagree and disagree) and neutral. The complete descriptive output is attached in the annex. Two statements each were set for all constructs and one statement on willingness to pay a premium, making a total of 19 statements.

Table 1: Descriptive Statistics of the Constructs

Constructs	Statements	Mean (Std. Dev.)	Agree (%)	Neutral (%)	Disagree (%)
Health concern	HC1: I look out for natural ingredients when purchasing organic personal care/ cosmetic products	4.20 (1.059)	74.5	25.5	8.6
	HC2: My motivation for purchasing organic personal care/cosmetic products is to have healthy skin/ hair	4.59 (0.806)	90.4	5.8	3.8
Appearance concern	AC1: My worry about my appearance and look prompts me to use organic personal care products	3.76 (1.344)	60.8	18.6	20.6

	<b>AC2:</b> I am usually aware and conscious of my appearance and look because it is part of who I am	4.27 (1.036)	78.7	13.7	7.6
<b>Product Appearance</b>	<b>PA1:</b> Certification labels (e.g organic, eco-label, fair trade) and brand name are of importance to me and can make me purchase sustainable/ organic shea butter	3.83 (1.231)	62.5	20.6	16.8
	<b>PA2:</b> To confirm that a product is sustainable, I am interested in seeing information about the production processes, and the social and environmental impact of the product	3.97 (1.203)	69.8	15.1	15.1
<b>Sustainability concern</b>	<b>SC1:</b> I can purchase sustainable and Organic shea butter if it will improve the lives of the rural women producing shea butter	4.46 (0.887)	84.9	10.3	4.8
	<b>SC2:</b> I am very concerned about the state of the world's environment and rural poverty	4.31 (0.979)	81.1	13.4	5.5
<b>Sustainability Knowledge</b>	<b>Sk1:</b> I know that sustainable products have a positive impact on the environment	4.36 (1.022)	82.4	10.7	6.9
	<b>SK2:</b> I am aware that purchasing products from a brand that comes from or support a local community will help me to be socially responsible	4.08 (1.107)	72.2	18.2	9.6
<b>Attitude</b>	<b>ATT1:</b> I would prefer to purchase organic shea butter and shea-based products because it is not made with any chemical and it is favorable for my health	4.50 (0.880)	86.6	8.6	4.8
	<b>ATT2:</b> I would prefer to use sustainable and organic shea butter / shea-based products more than conventional products even if they are expensive	3.98 (1.123)	67.7	19.6	12.7
<b>Subjective Norm</b>	<b>SN1:</b> My decision to use sustainable/organic personal care products can be influenced by recommendations from family members, friends, colleagues, and other people important to me	4.07 (1.091)	72.9	17.9	9.3
	<b>SN2:</b> My decision to use sustainable/organic personal care products can be influenced by social media and celebrities that I like	2.98 (1.414)	38.2	21.3	40.5
<b>Perceived Behavioral</b>	<b>PBC1:</b> I have resources and time to purchase organic shea butter and shea-based products	4.02 (1.029)	73.2	18.6	8.2

<b>Control</b>	<b>PBC2:</b> I can make decisions independently to purchase organic shea butter	4.44 (0.924)	85.2	8.6	6.2
<b>Purchase Intention</b>	<b>PI1:</b> I am willing to purchase sustainable and organic shea butter/ shea-based products for my personal use	4.35 (0.863)	84.2	11.3	4.5
	<b>PI2:</b> I intend to purchase sustainable and organic shea butter/ shea-based products next time because of their positive environmental and social contribution	4.03 (1.022)	73.5	17.5	8.9
<b>Willingness to pay Premium</b>	<b>WPP1:</b> I am willing to pay more for an organic shea butter / shea-based product that is making efforts to be sustainable	3.91 (1.101)	66.7	23.0	10.3



**Figure 7: Percentage of Premium**

In terms of purchasing the organic product out of concern for their health (HC1 and HC2), a high percentage of the respondents responded positively, 74.5% and 90.4%, to both statements respectively and in this case, it is true that organic products are thought to contribute to healthy living. Also in terms of the value consumers place on organic cosmetic products (AC1 and AC2), their appearance comes into play. In this study, a high percentage was also recorded for the statements on consumers' concern for their appearance and this means that consumers expect to a certain extent that using organic products should have a positive impact on their health and looks. It is also expected that the product should have information relevant to its sustainability branding and the value of the product.

In terms of their concern for the environment and world poverty (SC1 and SC2), the respondents showed a high interest in sustainability issues; that is, the environmental and social issues and this could have a positive impact on sustainable development. Although a few percentages of the respondents gave no opinion on the matter and this could be because they have little or no opinion of the subject matter. Considering their knowledge of sustainability (SK1 and SK2), a high percentage of them responded positively, 82.4% and 72.2%, thereby affirming that a large number of the respondents are aware of the term sustainability.

On their attitude towards purchasing sustainable and organic shea butter, a large percentage of the respondents have a positive attitude towards it. However, it can be pointed out in ATT1 (86.6%) that the respondents would consider using organic shea butter to maintain healthy skin but show less consideration for the same product when the price goes higher in ATT2 (67.7%). Speaking on social influences (subjective norm), 72.9% of the respondents agreed that recommendations from friends, families, and colleagues can influence their use and purchase of sustainable and organic products (SN1). However, 40.5% of them disagreed that celebrities and social media can influence their use of organic products (SN2). This, therefore, means that if an organic cosmetic product holds to the value promised, then pioneer customers can recommend it to their friends and families based on a personal experience; rather than using a celebrity, who is employed to speak well of the product, to communicate to potential customers. Also, concerning their personal ability to make decisions, in PBC1 and PBC2, 73.2% and 85.2% of the respondents agreed respectively to both statements on having within their control the time, resources, and ability to decide to purchase sustainable and organic shea butter and shea based cosmetic products.

A high percentage, 84.2% and 73.5% in PI1 and PI2 respectively, of positive responses, were recorded on their intention to purchase sustainable and organic shea butter and shea-based cosmetic products. Also, 66.7% (WPP1) of the respondents showed a willingness to pay a premium for sustainable shea butter products and 23% of them gave a neutral opinion. Interestingly, a large percentage of the respondents were willing to pay between 3-10% (WPP2) extra for sustainable and organic shea butter. This could be due to the potential social impact sustainable products can have on the livelihood of the rural shea butter producers.

#### 4.1.3. Validity and Reliability Test

Cronbach's Alpha was conducted to test the reliability of the items in the questionnaire to measure the intention to purchase. As shown in the table, the Cronbach's Alpha for the data collected is 0.894 which showed that the instrument (questionnaire) used in collecting the responses is excellent according to Zach, (2021). It also tells that the items in the questionnaire are interrelated and coherent and therefore, the data can be trusted.

Table 2: Result of the Cronbach's Alpha

Reliability Statistics		
	Cronbach's Alpha Based on Standardized Items	N of Items
Cronbach's Alpha	.894	19

**Table 3: Factor Analysis Correlation Matrix**

	Health. C	Appearance.C	Product.A	Sustainability.C	Sustainability.K	Attitude1	Subjective.N	Perceived.B.C	Purchase.I	WPP1	
Correlation	Health.C	1.000	.519	.411	.385	.348	.422	.268	.378	.445	.255
	Appearance.C	.519	1.000	.486	.363	.366	.334	.331	.232	.449	.281
	Product.A	.411	.486	1.000	.485	.423	.435	.334	.302	.443	.434
	Sustainability.C	.385	.363	.485	1.000	.608	.466	.229	.427	.500	.406
	Sustainability.K	.348	.366	.423	.608	1.000	.492	.346	.418	.521	.323
	Attitude1	.422	.334	.435	.466	.492	1.000	.275	.561	.557	.442
	Subjective.N	.268	.331	.334	.229	.346	.275	1.000	.217	.280	.241
	Perceived.B.C	.378	.232	.302	.427	.418	.561	.217	1.000	.520	.375
	Purchase.I	.445	.449	.443	.500	.521	.557	.280	.520	1.000	.529
	WPP1	.255	.281	.434	.406	.323	.442	.241	.375	.529	1.000
Sig. (1-tailed)	Health.C		.000	.000	.000	.000	.000	.000	.000	.000	.000
	Appearance.C	.000		.000	.000	.000	.000	.000	.000	.000	.000
	Product.A	.000	.000		.000	.000	.000	.000	.000	.000	.000
	Sustainability.C	.000	.000	.000		.000	.000	.000	.000	.000	.000
	Sustainability.K	.000	.000	.000	.000		.000	.000	.000	.000	.000
	Attitude1	.000	.000	.000	.000	.000		.000	.000	.000	.000
	Subjective.N	.000	.000	.000	.000	.000	.000		.000	.000	.000
	Perceived.B.C	.000	.000	.000	.000	.000	.000	.000		.000	.000
	Purchase.I	.000	.000	.000	.000	.000	.000	.000	.000		.000
	WPP1	.000	.000	.000	.000	.000	.000	.000	.000	.000	

a. Determinant = .024

P.S. Health.c = Health concern; Appearance.C = Appearance concern; Product.A = Product appearance; Sustainability.C = Sustainability concern; Sustainability.K = Sustainability knowledge; Attitude1 = Attitude; Subjective.N = Subjective Norm; Perceived.B.C = Perceived Behavioral Control; Purchase.I = Purchase Intention; WPP= Willingness to pay premium

The figure above shows the correlation matrix, where the top half of the table represents the Pearson's correlation between all the constructs to show the inter-relationship between the constructs in the model. The significant values of all the constructs are greater than 0.05 and are all moderately correlated as none of the correlation values exceed the threshold of 0.8 meaning that there is no multicollinearity among the items. Also, the determinant value for this data is 0.024 which is greater than the threshold of 0.00001. Therefore, all questions correlate fairly, as none of the correlation coefficients is extremely large. This means that the questions constructed for this survey are fit together.

#### 4.1.4. Multiple Linear Regression on Purchase Intention

Prior to conducting the multiple linear regression analysis, one of the assumptions that must be fulfilled is to test for normality; that is to test for the normal distribution of the dependent variable (purchase Intention). From the table below, both Kolmogorov-Smirnov and Shapiro-Wilk tests showed that the variable is statistically significant ( $p < 0.05$ ), meaning that it is normally distributed.

Table 4: Normality Test

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pur.Intention	.208	291	.000	.856	291	.000

a. Lilliefors Significance Correction

Table 5: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.732 <sup>a</sup>	.536	.522	.57953	.536	36.136	9	281	.000
2	.738 <sup>b</sup>	.544	.523	.57892	.544	25.423	13	277	.000

a. Predictors: (Constant), WPP1, Sub.Norm, Health.Con, Susta.Know, P.Behavior, Appearance.Con, Prod.Appearance, Attitude, Susta.Con

b. a. Predictors: (Constant), NewEduc, NewSex, P.Behavior, NewAge, Sub.Norm, Appearance.Con, WPP1, NewIncom, Susta.Con, Prod.Appearance, Health.Con, Attitude, Susta.Know

c. Dependent Variable: Pur.Intention

Table 5 above is the summary of the two regression models tested. Model one tested all constructs, excluding demographics, in the conceptual framework as the independent variables (predictors) against purchase intention (the dependent variable). Model 2 tested all constructs including demographic variables (age, sex, education, and income) as predictors. The demographic variables were recoded into numeric variables. For example, sex: male was recoded as 1 and female as 2). The R-value (multiple correlation coefficients) of both models 0.732 and 0.738 measures a good quality of prediction of purchase intention by the independent variables. The R square ( $R^2 = 0.536$ ), known as the coefficient of determination, is the proportion of variance in the dependent variable that can be accounted for by the independent variables. This means that 53.6% of the variance in purchase intention is explained by the model used, while the second model  $R^2 = 0.544$  accounts for 54.4% of the variance. This means that socio-

demographic variables account for only 0.8% (subtracting 53.6% from 54.4%) of the variances in purchase intention which is still statistically significant.

Looking at the coefficient table below for model 1 (table 6), the Standardized Coefficient ( $\beta$ ) shows the strength of the effect or influence each independent variable has on the dependent variable; in this case the strength of influence other constructs used in this study have on purchase intention. Therefore from the coefficient table below, WPP is seen to have a stronger influence on purchase intention with a value of 0.252, followed by Perceived behavior 0.178, sustainability knowledge 0.172, appearance concern 0.158, and attitude 0.144. Product appearance is seen to contribute the least, while subjective norm has a negative influence on purchase intention which means that the more subjective norm is considered, the lower the interest to purchase. Also looking at the significance; WPP, Perceived behavior, sustainability knowledge, appearance concern, and attitude have a significant impact on purchase intention with P-values greater than 0.05. Looking at the coefficient table for model 2 (table 7), none of the demographic variables have a significant influence on purchase intention as they all have P-values >0.005.

Table 6: Regression coefficient table for Model 1

Model 1		Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error				Lower Bound	Upper Bound
1	(Constant)	.311	.239		1.304	.193	-.159	.781
	Health.Consciousness	.090	.052	.089	1.728	.085	-.012	.192
	Appearance consciousness	.125	.041	.158	3.056	.002	.044	.205
	Product Appearance	.005	.044	.006	.108	.914	-.082	.091
	Sustainability.Consciousness	.059	.057	.058	1.034	.302	-.054	.172
	Sustainability Knowledge	.154	.050	.172	3.093	.002	.056	.253
	Attitude	.136	.052	.144	2.592	.010	.033	.239
	Subjective Norm	-.009	.036	-.011	-.244	.808	-.080	.062
	Perceived Behavioral control	.179	.052	.178	3.436	.001	.076	.281
	Willingness to pay premium	.192	.037	.252	5.181	.000	.119	.265

a. Dependent Variable: Purchase Intention

Table 7: Regression coefficient table for Model 2

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Partial	Tolerance	VIF
1	(Constant)	.184	.365		.503	.615					
	Health.Consciousness	.070	.055	.069	1.281	.201	.447	.077	.052	.562	1.781
	Appearance consciousness	.120	.041	.152	2.928	.004	.448	.173	.119	.609	1.643
	Product Appearance	.007	.045	.008	.151	.880	.441	.009	.006	.565	1.770
	Sustainability.Consciousness	.063	.058	.062	1.084	.279	.501	.065	.044	.508	1.967
	Sustainability Knowledge	.172	.051	.191	3.352	.001	.523	.197	.136	.506	1.975
	Attitude	.144	.053	.153	2.732	.007	.558	.162	.111	.523	1.913
	Subjective Norm	-.015	.036	-.019	-.407	.684	.276	-.024	-.017	.790	1.266
	Perceived Behavioral control	.180	.053	.179	3.378	.001	.521	.199	.137	.588	1.700
	Willingness to pay premium	.188	.037	.247	5.036	.000	.530	.290	.204	.682	1.466
	Age	.098	.100	.045	.978	.329	-.052	.059	.040	.777	1.286
	Sex	.106	.079	.060	1.343	.180	.159	.080	.054	.834	1.200
	Incom	-.033	.031	-.051	-1.045	.297	.005	-.063	-.042	.683	1.464
	Education	-.017	.068	-.012	-.257	.798	.104	-.015	-.010	.744	1.343

a. Dependent Variable: Purchase Intention

#### 4.1.5 Performing Wald's test

Looking at Tables 6 and 7, Health concerns, Product concern, sustainability consciousness, subjective norm, age, sex (gender), income, and Education were insignificant, that is they do not influence purchase intention. However, there is a need to perform further analysis to confirm truly that these variables have no significant influence on purchase intention; therefore Wald's test is performed using Binary logistic regression. This test was performed by running the supposed insignificant variables against purchase intention. Table 8 below shows the outcome of this test. Here, the higher the Wald value, the more significant the variable. This test showed that Demographic variables; Age, Gender, Income, and education remain insignificant with  $p > 0.05$ . So also is product appearance and subjective norm, while Health concern appears to be highly significant (0.002) as opposed to the outcome of the linear regression (0.085 and 0.201 in table 6 and 7 respectively). Also, sustainability consciousness is

more or less significant with a P-value of 0.058 as opposed to the initial value of 0.302 and 0.279 in Tables 6 & 7 respectively. This means that the Health concern and sustainability consciousness of the respondents positively influence their intention to purchase sustainable and organic shea butter.

**Table 8: Logistic Regression Output**

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1 <sup>a</sup>	NewAge	.473	.787	.361	1	.548	1.604	.343	7.497
	NewSex(1)	-.280	.613	.209	1	.648	.756	.227	2.513
	NewIncome	.087	.255	.116	1	.734	1.091	.662	1.797
	NewEducation	.163	.493	.109	1	.741	1.177	.448	3.095
	Health.Con	.990	.319	9.631	1	.002	2.690	1.440	5.026
	Prod.Appearance	-.035	.327	.011	1	.916	.966	.509	1.834
	Susta.Con	.555	.293	3.587	1	.058	1.742	.981	3.094
	Sub.Norm	.425	.294	2.084	1	.149	1.529	.859	2.722
	Constant	-5.899	2.511	5.516	1	.019	.003		

a. Variable(s) entered on step 1: NewAge, NewSex, NewIncome, NewEducation, Health.Concern, Product.Appearance, Sustainability.Concern, Subjective.Norm.

#### 4.1.6. Multiple Regression Analysis on Attitude

Table 9 below shows the summary of the multiple regression analysis conducted to understand the influence of consumer's values (health concern, Appearance concern, and product appearance) and the awareness of sustainability on their attitude towards sustainable and organic shea butter. The R-value 0.597 measure and a moderate level of prediction and the R square value 0.357 mean that 35.7% of the variances in attitude are accounted for by the predictors, which is quite low. This means that there are more unidentified items that contribute to variances in attitude but are not measured in this study. The coefficient table shows that health concern and sustainability knowledge have a stronger influence on attitude with a standardized coefficient value of 0.208 and 0.259 respectively. Unlike appearance consciousness which has a negative influence on attitude; that is, the more appearance concern is put into consideration, the lower their attitude towards sustainable and organic shea butter.

**Table 9: Multiple regression Model summary for Attitude**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.597 <sup>a</sup>	.357	.345	1.44221	.357	31.498	5	284	.000

a. Predictors: (Constant), Sustainability. K, Health. C, Product. A, Appearance. C, Sustainability. C

b. Dependent Variable: Attitude

**Table 10: Regression coefficient table for Attitude**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Zero-order	Correlations	
		B	Std. Error	Beta				Partial	Part
1	(Constant)	1.893	.556		3.405	.001			
	Health.C	.223	.062	.208	3.588	.000	.422	.208	.171
	Appearance.C	-.005	.050	-.006	-.102	.919	.334	-.006	-.005
	Product.A	.150	.052	.170	2.852	.005	.435	.167	.136
	Sustainability.C	.160	.069	.148	2.317	.021	.466	.136	.110
	Sustainability.K	.248	.059	.259	4.204	.000	.492	.242	.200

a. Dependent Variable: Attitude1; independent variables: Health concerns, Appearance concern, product appearance, sustainability concern, and sustainability knowledge.

**Table 11: Follow up logistic regression performed to further test the significance of appearance on attitude**

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Step 1 <sup>a</sup> Appearance.Con	.632	.174	13.130	1	.000	1.881	1.337	2.648
Constant	-.015	.626	.001	1	.981	.986		

a. Variable(s) entered on step 1: Appearance.Concern.

Further analysis performed (Wald's test) shows that appearance concern has a significant influence on respondents' attitudes towards sustainable and organic shea butter.

## 4.2. Discussion

In this section, it is explained how the outcome of the analysis answers the research questions that define the objective of this study. The discussion is handled according to research questions.

### 4.2.1. Consumers' perceptions of sustainability and its influence on intention to purchase sustainable and organic shea butter

Consumer awareness of sustainability is generally increasing all over the world, including Nigeria, causing organizations to incorporate sustainable initiatives into their supply chain. When the three pillars of sustainability, environmental, social, and economic, are included into management systems, they have been shown to increase business performance (Nkemdilim Iheanachor, 2021). Furthermore, as consumer awareness of sustainability grows across the world, it encourages the creation of sustainable supply chain activities. This has resulted in more value being created for customers and other actors in the value chain. Organizations in industrialized nations have shown to be more interested in implementing sustainability programs and reporting on their progress (KPMG, 2015). This is partly due to the increased awareness of sustainability issues among consumers in developed countries. Consumers in underdeveloped nations, on the other hand, are thought to be less conscious of environmental concerns, therefore demand for sustainable products is low (Butt, 2017; Mohiuddin et al. 2018). However, studies on sustainability in Nigeria are emerging.

The respondents for this study showed their understanding of the concepts of sustainability in their agreement with the structured statements depicting sustainability in the survey. Based on this study, 82-85% (Table 1) of the respondents agreed to be aware of the concepts of sustainability. They also showed that they are concerned about environmental degradation and socio-economic development of the rural poor. Although, the linear regression analysis explained that their concern for sustainability does not significantly influence their intention to purchase sustainable and organic shea butter with a P-value of 0.302, as seen in table 6; however, their awareness of sustainability issues is more likely to prompt them to purchase sustainable and organic shea butter and shea-based cosmetic products as it has a strong significant influence on their intention to purchase sustainable and organic shea butter. This could be because they consider purchasing products from a brand that comes from or support a local brand a socially responsible act. Therefore consumers must be aware of the social contributions a brand is adding to society. One way through which transparency can be achieved is through advertisement and proper product branding and labeling. The implication of this to sustainable development is that as consumers become more aware of sustainability, the more they will demand initiatives that contribute to environmental, social, and financial growth of the shea butter chain and other agricultural value chains

Further analysis was conducted to truly verify that consumers' concern for sustainability does not influence their intention to purchase the product showed that sustainability concern ( $p=0.058$ ; table 8) more or less has a significant influence on purchase intention. This cannot be compared to the influence sustainability knowledge have on their intention to purchase. This could be that overall concern for sustainability is not motivating enough to carry out an action, however knowing truly that carrying out an action that leads to making a positive impact could be a motivation for the consumers. This agrees with Jaiswal and Kant (2018), who found that environmental awareness, is associated with a desire to acquire sustainable items.

In response to the statement on the possibility of social media influencing them to purchase sustainable and organic shea butter, a negative response was recorded with 40.5% disagreeing with the statement and 21.3% (table 1) giving a neutral opinion. This could be because they do not want to admit that social

media could influence them. Despite this, it is believed that social media is now the fastest way information can reach consumers. The internet and social media have changed the way people connect with one another all around the world, and they have vastly increased customer access to product information and manufacturing circumstances (Men and Tsai, 2013; Saeed, et al. 2019). According to Statista (2020), 85 million Nigerians (less than half of the population) have access to the internet, with about 28 million using social media platforms, the majority of which are accessed via mobile phones. Therefore, the use of social media as a means to transmit information to customers cannot be entirely ruled out because, as the awareness of sustainability issues increase among consumers, there is a high probability that they will take actions to purchase and consume sustainable products vis-a-vis sustainable and organic shea butter and shea-based cosmetic products.

#### **4.2.2. Consumers' behaviors towards sustainable and organic Shea butter?**

In this study, consumer behavior is measured using the TPB main construct; Attitude, Subjective Norm, and Perceived behavioral control (PBC). According to the result above, attitude and PBC are seen to have a significant positive influence on consumers' intention to purchase sustainable and organic shea butter with P-values 0.010 and 0.001 respectively (Table 6). Although 72.9% (table 1) of the respondents agreed that recommendations from families and friends can influence them to purchase sustainable and organic products, however, the regression coefficients show that subjective norm in total has a negative influence on consumer's intention to purchase with a  $P=0.808$  (table 6). Testing further the significance of subjective norm in measuring intention to purchase, table 8 confirms that subjective norm has no significant influence on consumer's intention to purchase in this study.

While measuring attitude as a dependent variable, consumer's values (Health and appearance concerns and product appearance) were put into consideration and they all positively influence consumers' attitude towards the product except for appearance concerns. The linear regression analysis in table 10 showed that product appearance has a significant influence on consumers' attitudes towards sustainable and organic shea butter ( $p=0.005$ ). Even though appearance concerns have no significant influence on consumer's attitude towards sustainable shea butter, it had a direct positive and significant influence on intention to purchase the product. However, performing a confirmatory test of significance of appearance concern on consumers' attitude towards sustainable and organic shea butter, table 11 shows that appearance has a strong and significant influence on consumer's attitude towards the product ( $P<0.05$ ). Meanwhile, health concerns have no significant influence on intention to purchase the product; it contributes significantly to a positive attitude towards the product. On the other hand, the logistic regression analysis performed to confirm the significance of health concerns (Table 8) showed that health concerns truly have a significant influence on purchase intention.

This could mean that some consumers aim to achieve a nice look and appearance when purchasing organic cosmetic products. Even though health concerns do affect the attitude positively and have been proven to be statistically significant in measuring their intention to purchase, it may not be the main point of consideration and reason for purchase. This is quite the case of the studies of Kim and Chung (2011) and Takaya (2019) that environmental consciousness and appearance consciousness rather than health consciousness were crucial in determining consumers' attitudes toward organic personal care products. This can be attributed to the misconception about organic cosmetic products among Nigerians, where it is believed that organic cosmetics should lighten the skin. Therefore, it becomes a disappointment to consumers when this aim is not achieved. This can also be due to the bright-skinned and nice-looking models used in advertising organic cosmetic products in Nigeria (an advertising style often exploited by cosmetic companies), although further studies need to be carried out on this (writer's observation and experience). The implication of this misconception is that consumers can have a

selective use of shea butter, maybe for their hair but not for their skin. This could affect the purchasing of the product and by extension, the financial and environmental sustainability of the chain.

According to Esiti Blankson (2020), the demand for organic skincare products is dependent on the value consumers place on them. Despite the abuse of the term organic in the cosmetic industry in Nigeria, there are still consumers who are health conscious and would engage in behaviors that give them the state of wellness desired (Nguyen et al., 2019). Obanla et al. (2019) recorded that the desire for clear and healthy-looking skin makes consumers (especially women) invest time and resources in search of the best product. Therefore having a clear value proposition advertised to consumers is important, for example, consumers who are conscious of their health will likely spend more time reading the ingredients of the products and the effect they may have on their skin or hair before purchasing.

Consumers' awareness of sustainability also contributed positively to their attitude towards sustainable and organic shea butter. The positive attitude of consumers towards environmental conservation, protection, and other sustainability issues encourages the purchase of sustainable products. This is also reflected in their willingness to pay a premium for organic shea butter from organizations making efforts to be sustainable. This is based on the ANOVA table 12 and 13 (Annex 3), which showed that there is a significant difference between their willingness to pay a premium and their knowledge of sustainability; that is, their knowledge of sustainability influences their interest in paying a premium. Therefore it is important that the branding of the product should convey information on the sustainability impact of the product and the value proposition may encourage a positive attitude towards the product.

This study reveals that external influences such as recommendations from friends, families, celebrities, etc. contribute little to consumers' intention to purchase. This also corroborates with the recordings of Maichum (2016) and Mamum et al., (2018) that subjective norm or societal factors play a little role in the decision to buy organic items. Perceived Behavioral control, on the other hand, is seen as a reliable indicator of purchasing intent (Table 6) (Baker et al., 2007; Paul et al., 2016); Just as revealed in this study where 85% of respondents attest to having time, resources, and ability to make a decision independently to purchase table 1. This means that when consumers place a value on the product, be it for their concerns or the environment, they are more likely to spend time looking for the product and money in purchasing it to enjoy the pleasure they receive from it.

#### **4.2.3. Influence of demographic variables on the purchasing of sustainable and organic shea butter**

According to the outcome of the survey of this study, demographic variables have no significant influence on consumer's intention to purchase sustainable and organic shea butter; which means that the age, sex, income, and education of respondents have no direct impact on their intention to purchase sustainable and organic Shea butter. Further Analysis of Variance (ANOVA) in Annex 4, Tables 13 and 14, further indicates that there is no significant difference in purchase intention and the range of income of respondents. However, the age of respondents could have an indirect implication on purchase intentions in relation to sustainability knowledge which has a significant influence on the intention to purchase (table 6 and 7). Also, education level may have an indirect influence on purchasing intention, as it has been proven that persons with higher education studies understand the notion of sustainability better and are more likely to buy sustainable items (Chan 2001; Zhoska et al., 2013; Zhao et al. 2014). Organic product customers, according to Padel and Forster (2005), are educated, rich, and from a higher social level. About 62.9% of the respondents (Figure 6) have a postgraduate degree; therefore there is a high chance that they have acquired knowledge on sustainability issues during their studies. In Annex 6 Tables 27 and 29, respondents with postgraduate education have more knowledge of sustainability and more concerned about their appearance; and are therefore going to be more interested in purchasing sustainable products. Also, the idea of perceived behavioral control indicates that consumers' interest in

organic cosmetic products, for whatever value they place on it, has little to do with their income in this study. This is based on the outcome of the Analysis of variance (ANOVA) conducted between purchase intention and income (Table 14, Annex 4) which shows that there is no significant difference between their intention to purchase and their income ( $P = 0.973 > 0.05$ ). Also, there is no difference between the income levels in table 15.

#### **4.2.4. Intrinsic factors that influence consumer's purchase intentions and willingness to pay a premium**

The intrinsic factors referred to in this case include factors personal to the consumers such as the values placed on the product and their ability to make decisions that are void of external influence (subjective norm). It is revealed in this study that consumers place value on organic products that improve their appearance. Therefore the desire to appear good with nice and radiant skin is a factor that will significantly influence consumers' decision to purchase sustainable and organic shea butter. About 51.2% of the respondents are willing to pay between 3-10% (Figure 7) premium on sustainable shea butter and this can be attributed to the values they placed on the product. Also, the value placed on the product could be an influence on their decision to spend time and resources to find the product that fulfills their desire.

#### **4.2.5. Information that triggers consumers' decisions to purchase sustainable and organic shea butter (Product Characteristics, brand name, labeling, certifications, product value, etc.)**

The outcome of the analysis has revealed that the product value is a good marketing point for the organization. The values of this sustainable shea butter include its environmental and social contributions, as 70% of the consumers are interested in seeing information about the production process and environmental contributions of the product and 62.5% are interested in the brand information, organic certification, etc. (Table 1). Just as stated by Batte et al (2007), that providing information and awareness on organic certifications is a way of increasing the chances that consumer would be willing to purchase organic products and pay a premium. Therefore it is expedient that information valuable to the consumers is made available and transparent to them.

### **4.3. Reflecting on my Role as a Researcher**

The ability to reflect is one of the major qualities Van Hall Larenstein (VHL) instilled in her students. It is about taking a step back from a process to understand what went well and what could be better. Therefore reflecting on my role as a researcher in the light of my thesis, I would say this experience brought my consciousness to what conducting applied research truly means.

Firstly, coming up with an idea for action research was a bit tasking as this is different from other scientific research that helps to fill gaps in knowledge. Getting an assignment from the commissioner was one thing, developing the idea into a feasible project is another thing. My role as a researcher is to try to understand what the commissioner aims to achieve and carry it out within a stated time frame. There was a bit of back and forth discussion with my supervisor (Petros Maliotis) during the research development phase, however, as a researcher, I was open to constructive criticism and feedback as this is important in getting the ideas right. As a researcher, I knew the importance of planning and timing. I planned a feasible timeline for my research during the proposal and it went well, however, during data collection I spent an extra week in addition to what I planned. This is because the response rate reduced after a week of sending out the link, about 60% of the data was collected within one week; however, there was the need to be patient as data collection was based on respondents' convenience. I was able to adjust my timeline to cover up for the extra week spent and this was possible because I had feasible planning which created room for any shortcoming.

Secondly, reflecting on my method of data collection, I would agree that I used the right method for my data collection. Using a survey (questionnaire) was the only way I could capture a wide range of responses for this study. Although there was an initial plan to conduct an interview based on the outcome of the survey, however, this was impossible without creating a biased sampling. The respondents for this study are unknown, as earlier stated in the limitations of this study because the link to the survey was sent to a group of people on a designated social media platform. Therefore it was difficult to attribute a particular response to anyone. Despite this, I believe the method of data collection and statistical analysis was sufficient in providing adequate information on the topic covered. Although if anything could be better, it would be to conduct an interview physically to gain a deeper understanding of why people chose a certain option and what they truly think or feel about the statements. This can be measured by observing their reactions to the statements which would have given rise to a follow-up question.

Lastly, reflecting on the quality of the research findings, I would say that the findings are reliable and valid. To begin with, the questions/ statements were fully structured and set as important such that there was no room for missing values. Also, the topic (sustainability and personal care products) and statements were structured interestingly to get people to think and consider the statements before selecting an option. This helped to prevent having outliers that could distort the originality of the data; no outlier was identified in the 291 cases. Furthermore, tests were conducted to statistically test the validity and reliability of the data set before carrying out the main analysis. Also, discussion and conclusion were not based on one analysis, further analysis was conducted to ascertain the significance of every item leading to an intention to purchase.

As a researcher, I had an idea of what the outcome could be even before data collection; however, I knew better to keep my ideas aside and let the data speak for itself. This prevented me from letting my ideas overshadow the outcome. However, based on the outcome, I was able to give my own opinion from my experience and observations as a Nigerian as regards organic personal care products.

## CHAPTER 5

### 5.0 CONCLUSION AND RECOMMENDATION

#### 5.1 CONCLUSION

The purpose of this study is to assess consumers' intention to purchase a sustainable and organic shea butter and shea-based personal care product. This is to ascertain a market for the rebranded shea butter from the Oke-Ogun region and the goal is to secure a more sustainable income for the rural women at the bottom of the chain. Although the R-squared values of the regression analysis are quite low, this is expected and typical of studies that try to predict human behaviors such as this. R-squared values lower than 50% are sometimes recorded and this is because human behaviors are more difficult to predict than physical processes. Furthermore, if the predictors are statistically significant, then a reasonable conclusion can still be drawn from the study.

From the outcome of this study, it is established that the intentions of consumers to purchase sustainable and organic shea butter are positive. Based on consumers' perception of sustainability and its influence on their decision to purchase sustainable and organic shea butter, it is concluded that consumers' awareness of sustainability issues is of positive influence to the purchasing of the product and their willingness to pay a premium, seeing that they have a positive attitude towards sustainable and organic shea butter and shea-based cosmetic products. Their knowledge of sustainability also significantly influences their decision to pay a premium (Annex 3). Also, in response to the research question on consumers' behavior towards sustainable and organic shea butter, it is concluded, based on the outcome of this research, that consumers' have a positive attitude towards the product. This is highly influenced by their concerns for the environment and the world's poverty and the values they attach to the product. It is also established that recommendations from family, friends, and colleagues hold more value to the consumers than celebrities.

Based on the influence of demographic variables on consumers' purchase intention, statistically, demographic variables do not have any significant influence on purchase intention. It can be concluded that there is a high prospect of selling the product to a diverse set of people; male and female, low, middle, and high-income earners. However, establishing a market segment based on the Demographic profile of the consumers and the most significant item that contributes to purchase intention—Sustainability Knowledge and Appearance Concern—, it is seen in annex 6 Table 19 and 21 that ages 25-30 and 31-40 have more knowledge of sustainability and age 25-30 is more conscious of its appearance. Table 25 tells that the female gender are more concerned about their appearance and Tables 27 and 29 tells that those who have postgraduate education have more knowledge of sustainability and are concerned about their appearance. Therefore it can be concluded that the market segment for this sustainable and organic shea butter is young people between age 25-40yrs, mostly females, who have a postgraduate education.

Concluding on the intrinsic factors that influence consumers to purchase and also pay a premium, their concern for a nice appearance plays a big role, which is one of the values consumers place on organic personal care products. Therefore, if the product meets their expectations, consumers are willing to spend time and resources to purchase the product irrespective of their income and are willing to pay extra. More importantly, their concern towards their appearance is one big value consumers place on the product that significantly influences their decision to pay extra for it (Annex 5; table 16 and 17).

Considering the information that may trigger consumers' decision to purchase the product, it is concluded in this case that information about the sustainability of the production system is vital, so also information about the values consumers places on the product. Moreover, if the sustainability values and consumer values are amplified and transparent to consumers, consumers may act on their intention to purchase sustainable and organic shea butter and pay a premium price for it.

Therefore, according on this study, it can be concluded generally that there is a market for the sales of sustainable and organic shea butter based on the sustainability branding of the product; at the same time, it is important to have a product that improves the appearance of the users.

## 5.2 RECOMMENDATION

Considering the outcome of this study, the following are recommended to the commissioner of this research;

1. The values of consumers should be put into consideration when manufacturing shea-based personal care products. Especially considering the appearance concern of consumers as sustainability impact is not enough reason for purchasing. FRIN should, through research, identify natural ingredients that can be combined with shea butter for skin and hair care; then collaborate with cosmetologists and dermatologists to help formulate organic shea-based skin and hair care products that meet the appearance requirement of the consumers. However, more research needs to be conducted to simplify the ambiguity of the term appearance, that is, to identify what most organic personal care users seek which could be; well-moisturized skin and hair, brighter skin, radiant skin, etc. This will help to know what consumers aim to achieve with their appearance.
2. It is recommended that the products should be tested on all skin and hair types before launching to identify possible negative reactions. The outcome of this should be advertised to consumers so as to build their trust in the brand and also boost their interest in purchasing the products. This is because recommendations from those who tested the products will have a more weighty influence on consumers than social media or celebrity adverts. This will ensure the financial sustainability of the shea butter sector as more people purchase the products and also encourage the women producers to continue in the environmental-friendly production method shown to them.
3. It is also recommended that FRIN should make known in its branding, the value the products are offering to consumers. The appearance of the product should convey information about the sustainability impact of the product, the value proposed in terms of appearance, and health benefits; as there are consumers who are more interested in the health benefits of organic products than the appearance value it offers.
4. Although it is concluded that consumers have shown positive intentions to purchase sustainable and organic shea butter, however, Psychological and social research such as this can be subjective. This is because not everyone reacts the same way and several factors influence human decisions that are not captured in this study that may prevent them from carrying out their intention to purchase the product when expected or pay the premium as expressed in their responses. The effect of this is that the financial expectations for the sustainability of the chain may not be met. Therefore it is recommended that FRIN should also consider other options of ensuring the continuous availability of finance to the rural producers such as value chain financing, where FRIN acts as an intermediary between the women producers and financial institutions since the major goal of the shea butter project is to improve the livelihoods of the rural producers and to ensure that there is a continuous flow of finance to the chain.

Another alternative could be that FRIN considers contract financing as the premium prices cannot be relied upon as continuous finance for production.

5. It is recommended that FRIN, when marketing the product, should put into consideration that young (25-40yrs) and highly educated Females may be more interested in purchasing sustainable and organic shea butter, even though gender has no impact on consumers' intention to purchase the product. Therefore, the best communication method that suits the market segment should be employed when marketing the product; social media is also a medium to reach this segment.
6. Lastly, FRIN needs to increase its online presence among youths and create more awareness on the use of sustainable products through subtle and eye-catching social-media adverts and teachings, because the more aware and informed people are of sustainability issues, the more willing they are to take actions that encourage sustainability by purchasing a sustainable product.

These recommendations will ensure that value is created for consumers and well as other actors involved in the Oke-Ogun Shea butter chain. The more consumers purchase the product, and probably pay a premium, based on the value perceived, the more financial value is added to FRIN and the Women producers. The financial value added will also boost the socio-economic development of the people; encourage environmental conservation and protection of shea trees.

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## ANNEXES

### Annex 1: Questionnaire

#### **SURVEY ON CONSUMER'S ATTITUDE TOWARDS SUSTAINABLE AND ORGANIC SHEA BUTTER AND SHEA-BASED PRODUCTS**

This survey is about using shea butter and shea-based products for personal care (body cream, skin treatment, hair care, etc.) and cosmetic purposes. This is part of a research project being conducted by Jumoke Oguntimehin, an MSc student of Agricultural Production Chain management at Van Hall Larenstein University of Applied Sciences. Kindly select an option as it applies on a scale of 1- 5 ranging from Strongly disagree, Disagree, Neutral, Agree, and Strongly agree.

P.S. Every information provided is highly confidential and will be treated as such, only to be used for this research and not shared with a third party.

Thank you.

#### **Demographic Questions**

1. What is your age? A.) 18-24yrs B.) 25-30yrs C.) 31-35yrs D.) 36-40yrs E.) 41-45yrs F.) 46-50yrs
2. Sex? A.) Female B.) Male
3. What is your level of education? A.) Primary Education B.) Secondary Education C.) Undergraduate D.) Postgraduate
4. What is your average income per month (in Naira)? A.) 0-20,000 (€40) B.) 21,000-50,000 (€42-€100) C.) 51,000-100,000 (€102-€200) D.) 101,000-200,000 (€202-€400) E.) above 201,000 (>€402)

#### **5. How strongly do you agree to these Statements**

1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly Agree

- A. HC1: I look out for natural ingredients when purchasing organic personal care/ cosmetic products
- B. HC2: My motivation for purchasing organic personal care/cosmetic products is to have healthy skin/ hair
- C. AC1: My worry about my appearance and look prompts me to use organic personal care products
- D. AC2: I am usually aware and conscious of my appearance and look because it is part of who I am
- E. PA1: Certification labels (e.g organic, eco-label, fair trade) and brand name are of importance to me and can make me purchase sustainable/ organic shea butter
- F. PA2: To confirm that a product is sustainable, I am interested in seeing information about the production processes, and the social and environmental impact of the product
- G. SC1: I can purchase sustainable and Organic shea butter if it will improve the lives of the rural women producing shea butter
- H. SC2: I am very concerned about the state of the world's environment and rural poverty

- I. Sk1: I know that sustainable products have a positive impact on the environment
- J. SK2: I am aware that purchasing products from a brand that comes from or support a local community will help me to be socially responsible
- K. ATT1: I would prefer to purchase organic shea butter and shea-based products because it is not made with any chemical and it is favorable for my health
- L. ATT2: I would prefer to use sustainable and organic shea butter / shea-based products more than conventional products even if they are expensive
- M. SN1: My decision to use sustainable/organic personal care products can be influenced by recommendations from family members, friends, colleagues, and other people important to me.
- N. SN2: My decision to use sustainable/organic personal care products can be influenced by social media and celebrities that I like
- O. PBC1: I have resources and time to purchase organic shea butter and shea-based products
- P. PBC2: I can make decisions independently to purchase organic shea butter
- Q. PI1: I am willing to purchase sustainable and organic shea butter/ shea-based products for my personal use.
- R. PI2: I intend to purchase sustainable and organic shea butter/ shea-based products next time because of their positive environmental and social contribution
- S. WPP1: I am willing to pay more for an organic shea butter / shea-based product that is making efforts to be sustainable
- 6. WPP2: Choose below the extra percentage you will be willing to pay to support the sustainable production of shea butter. a.) 0% b.) 1-2% c.)3-5% d.) 6-10% e.)11-15% f.) 16-20% g.) above 20%

## Annex 2: Raw Survey Output

1	Timestamp	AGE	2.Sex?	Education	Income	HC1	HC2	AC1	AC2	PA1	PA2	SC1	SC2	Sk1	SK2	ATT1	ATT2	SN1	SN2	PBC1	PBC2	PI1	PI2	WPP1	WPP2	
2	7/3/2021 11:36:42	25-30yrs	Female	Post graduate	above 201,000	4	5	1	1	1	2	5	3	4	4	3	2	1	1	4	5	4	3	3	6-10%	
3	7/3/2021 11:45:03	25-30yrs	Female	Post graduate	101,000-200,000	5	5	1	4	5	5	5	5	5	5	5	5	5	1	4	5	5	5	5	6-10%	
4	7/3/2021 11:45:09	25-30yrs	Female	Post graduate	51,000-100,000	5	4	4	3	4	3	5	5	5	5	5	5	4	4	5	5	4	4	5	1-2%	
5	7/3/2021 11:54:37	36-40yrs	Male	Post graduate	51,000-100,000	3	4	1	2	5	3	5	3	3	4	5	5	1	1	4	5	5	4	2	3-5%,	
6	7/3/2021 15:29:48	36-40yrs	Male	Post graduate	above 201,000	3	3	4	3	2	3	5	5	4	4	3	3	3	5	3	3	4	4	4	3-5%,	
7	7/5/2021 2:24:54	25-30yrs	Male	Post graduate	101,000-200,000	4	4	2	3	5	2	5	5	5	5	5	3	3	5	4	5	4	3	4	16-20%	
8	7/5/2021 2:36:29	25-30yrs	Male	Undergraduat	0-20,000	5	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	11-15%	
9	7/5/2021 2:37:32	25-30yrs	Female	Post graduate	101,000-200,000	5	5	4	5	5	5	3	3	3	5	5	5	5	5	4	5	4	4	5	6-10%	
10	7/5/2021 2:55:34	25-30yrs	Female	Post graduate	101,000-200,000	5	5	2	5	5	3	3	4	5	5	5	5	3	3	5	5	5	5	4	6-10%	
11	7/5/2021 3:12:48	25-30yrs	Male	Post graduate	51,000-100,000	5	5	3	4	4	5	5	4	5	5	4	4	5	5	4	3	4	4	4	3-5%,	
12	7/5/2021 3:49:16	25-30yrs	Female	Post graduate	above 201,000	4	5	5	5	4	3	5	4	5	5	5	3	5	3	3	4	5	5	5	6-10%	
13	7/5/2021 6:17:25	25-30yrs	Male	Post graduate	51,000-100,000	4	4	4	5	2	3	5	5	5	5	5	5	4	1	5	5	5	4	5	6-10%	
14	7/5/2021 6:19:24	18-24yrs	Female	Undergraduat	51,000-100,000	5	5	4	5	5	4	4	4	5	4	5	5	5	5	5	5	5	5	5	5	more than 20%
15	7/5/2021 7:08:03	18-24yrs	Female	Undergraduat	21,000-50,000	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	0%
16	7/5/2021 7:20:35	31-35yrs	Female	Post graduate	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	more than 20%
17	7/5/2021 7:28:25	18-24yrs	Male	Post graduate	21,000-50,000	2	2	2	4	2	4	4	4	4	5	5	2	4	3	4	5	4	4	4	4	6-10%
18	7/5/2021 7:36:25	25-30yrs	Female	Undergraduat	21,000-50,000	5	4	4	5	4	4	4	4	4	4	5	4	4	4	4	4	5	4	4	3	3-5%,
19	7/5/2021 7:38:15	25-30yrs	Female	Post graduate	21,000-50,000	5	4	5	5	3	4	4	5	4	3	4	4	5	5	5	4	4	3	2	1-2%	
20	7/5/2021 7:51:29	18-24yrs	Female	Undergraduat	0-20,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	more than 20%
21	7/5/2021 7:52:44	25-30yrs	Female	Post graduate	101,000-200,000	5	5	3	5	2	1	5	5	4	3	3	2	5	2	4	5	4	3	2	16-20%	
22	7/5/2021 7:56:04	25-30yrs	Female	Post graduate	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	3-5%,
23	7/5/2021 7:57:08	25-30yrs	Female	Undergraduat	101,000-200,000	5	5	3	5	3	3	5	5	5	5	5	3	4	2	5	5	5	5	5	3	6-10%
24	7/5/2021 8:09:32	36-40yrs	Male	Post graduate	21,000-50,000	3	5	5	5	4	3	3	5	5	5	3	3	4	4	3	3	3	4	4	4	more than 20%
25	7/5/2021 8:10:06	25-30yrs	Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	4	5	5	5	5	5	3	3	5	5	5	5	5	11-15%
26	7/5/2021 8:20:25	25-30yrs	Female	Post graduate	above 201,000	5	5	5	4	4	3	4	5	5	5	5	5	4	1	4	4	5	4	4	3-5%,	
27	7/5/2021 8:22:59	41-45yrs	Male	Post graduate	above 201,000	3	3	3	3	3	3	5	5	5	5	5	5	5	3	5	5	5	5	5	5	more than 20%
28	7/5/2021 8:28:00	31-35yrs	Male	Undergraduat	51,000-100,000	4	4	3	3	3	2	5	5	5	5	5	5	5	5	4	5	5	5	3	1-2%	
29	7/5/2021 8:33:06	31-35yrs	Male	Post graduate	101,000-200,000	3	3	1	3	4	5	5	4	5	5	5	5	4	2	3	5	2	2	5	6-10%	
30	7/5/2021 8:42:34	18-24yrs	Female	Undergraduat	0-20,000	4	5	3	3	2	5	5	3	5	5	3	3	4	2	4	5	3	3	5	16-20%	

1	Timestamp	AGE	2.Sex?	Education	Income	HC1	HC2	AC1	AC2	PA1	PA2	SC1	SC2	Sk1	SK2	ATT1	ATT2	SN1	SN2	PBC1	PBC2	PI1	PI2	WPP1	WPP2	
31	7/5/2021 8:49:24	25-30yrs	Male	Post graduate	21,000-50,000	5	3	2	5	4	3	5	5	5	4	5	3	3	2	2	4	4	3	3	6-10%	
32	7/5/2021 8:56:41	18-24yrs	Male	Undergraduat	0-20,000	5	5	4	3	3	5	5	4	4	4	4	3	4	4	4	4	3	4	4	6-10%	
33	7/5/2021 8:59:46	25-30yrs	Female	Post graduate	21,000-50,000	5	5	2	4	5	4	5	5	4	3	5	3	5	4	4	5	4	3	4	3-5%,	
34	7/5/2021 9:08:23	25-30yrs	Male	Post graduate	101,000-200,000	3	4	3	5	5	5	4	5	5	5	5	5	5	3	4	5	5	3	5	6-10%	
35	7/5/2021 9:15:10	25-30yrs	Male	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	more than 20%
36	7/5/2021 9:15:45	25-30yrs	Female	Post graduate	21,000-50,000	5	5	3	3	1	5	5	3	3	5	5	1	1	4	5	5	2	1	0%		
37	7/5/2021 9:28:15	25-30yrs	Female	Post graduate	21,000-50,000	5	5	3	4	5	5	5	5	1	5	3	2	1	5	5	5	5	5	4	3-5%,	
38	7/5/2021 9:41:43	18-24yrs	Female	Undergraduat	101,000-200,000	3	4	4	5	3	3	5	4	4	4	4	4	2	4	5	4	3	4	11-15%		
39	7/5/2021 9:49:22	25-30yrs	Male	Post graduate	101,000-200,000	5	5	5	5	5	5	5	5	5	5	5	5	3	3	5	5	5	5	5	6-10%	
40	7/5/2021 10:00:33	25-30yrs	Male	Post graduate	51,000-100,000	3	4	4	4	3	4	3	4	3	4	3	4	3	2	4	4	3	3	4	11-15%	
41	7/5/2021 10:04:17	25-30yrs	Female	Post graduate	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	6-10%	
42	7/5/2021 10:06:05	25-30yrs	Female	Post graduate	21,000-50,000	5	5	5	5	5	3	5	5	3	4	4	3	4	4	3	3	4	3	4	3	6-10%
43	7/5/2021 10:10:06	31-35yrs	Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3-5%,
44	7/5/2021 10:10:57	18-24yrs	Female	Undergraduat	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	3	2	2	6-10%	
45	7/5/2021 10:33:20	31-35yrs	Male	Post graduate	above 201,000	5	5	5	5	5	5	3	3	4	4	5	2	3	2	3	3	4	4	4	6-10%	
46	7/5/2021 10:37:33	25-30yrs	Female	Post graduate	21,000-50,000	5	5	5	5	4	4	5	5	5	5	5	5	4	3	5	5	5	5	5	5	16-20%
47	7/5/2021 10:43:34	25-30yrs	Female	Post graduate	101,000-200,000	3	4	2	3	4	5	4	5	5	5	3	4	3	3	5	5	4	4	4	1-2%	
48	7/5/2021 10:50:46	25-30yrs	Female	Post graduate	101,000-200,000	5	5	3	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	6-10%
49	7/5/2021 11:20:47	25-30yrs	Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	5	5	more than 20%
50	7/5/2021 11:24:41	31-35yrs	Male	Post graduate	0-20,000	4	5	4	5	3	2	4	4	4	4	4	3	4	2	3	4	4	4	3	16-20%	
51	7/5/2021 11:30:19	25-30yrs	Female	Undergraduat	0-20,000	5	5	4	3	2	4	4	4	4	4	4	4	4	5	5	3	3	3	1-2%		
52	7/5/2021 11:36:03	18-24yrs	Male	Post graduate	above 201,000	3	3	3	5	1	5	5	5	5	5	4	5	5	5	2	4	4	3	3-5%,		
53	7/5/2021 11:40:03	25-30yrs	Female	Post graduate	51,000-100,000	2	5	1	1	3	2	1	2	4	4	5	3	4	4	5	5	5	3	4	3-5%,	
54	7/5/2021 11:50:44	18-24yrs	Female	Undergraduat	above 201,000	3	4	3	5	3	4	5	5	5	5	5	3	4	2	2	5	4	4	4	6-10%	
55	7/5/2021 11:51:04	25-30yrs	Male	Post graduate	0-20,000	2	1	1	3	2	1	1	1	2	1	3	2	3	2	2	2	2	2	2	16-20%	
56	7/5/2021 11:57:39	25-30yrs	Male	Undergraduat	51,000-100,000	3	1	3	3	2	1	4	4	4	3	3	4	1	4	4	3	4	3	4	3	6-10%
57	7/5/2021 12:03:32	25-30yrs	Female	Post graduate	21,000-50,000	4	5	5	5	3	3	2	3	2	3	5	3	3	3	3	5	5	3	5	1-2%	
58	7/5/2021 12:24:47	25-30yrs	Female	Post graduate	21,000-50,000	5	5	2	2	2	5	5	5	3	4	4	4	5	4	5	3	3	4	2	1-2%	
59	7/5/2021 13:04:05	25-30yrs	Male	Undergraduat	51,000-100,000	1	5	2	4	4	2	3	3	3	3	2	2	2	2	5	4	2	2	1	0%	



118	7/5/2021 23:19:38	41-45yrs Female	Post graduate 51,000-100,000	5	5	5	5	4	4	4	4	4	4	5	5	5	1	4	5	5	5	4	11-15%	
119	7/5/2021 23:20:19	36-40yrs Male	Post graduate 101,000-200,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3-5%,
120	7/5/2021 23:20:56	25-30yrs Female	Post graduate 0-20,000	5	5	5	5	5	4	5	3	5	5	5	4	5	4	5	4	4	4	3	6-10%	
121	7/5/2021 23:24:26	25-30yrs Female	Post graduate above 201,000	5	5	2	5	4	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5 more than 20%	
122	7/5/2021 23:27:25	18-24yrs Female	Undergraduat 51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	4	3	5	5	5	5	5	16-20%	
123	7/5/2021 23:30:29	31-35yrs Male	Post graduate 101,000-200,000	5	5	5	5	5	5	5	5	4	5	4	5	3	4	5	5	5	5	5	4	11-15%
124	7/5/2021 23:34:42	25-30yrs Female	Post graduate 51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	1-2%
125	7/5/2021 23:35:27	36-40yrs Female	Post graduate 51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5 more than 20%
126	7/5/2021 23:38:11	25-30yrs Male	Post graduate 0-20,000	2	2	1	1	2	3	4	5	5	5	5	3	5	2	4	4	4	4	3	11-15%	
127	7/5/2021 23:42:20	31-35yrs Male	Post graduate 101,000-200,000	4	5	5	5	3	5	5	5	5	5	5	3	1	2	5	5	3	1	11-15%		
128	7/5/2021 23:47:10	25-30yrs Female	Post graduate 101,000-200,000	5	5	4	4	2	3	2	3	4	4	5	5	3	5	4	5	5	3	4	11-15%	
129	7/5/2021 23:48:56	31-35yrs Male	Post graduate 51,000-100,000	5	5	3	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4 more than 20%	
130	7/5/2021 23:53:32	18-24yrs Female	Undergraduat 0-20,000	5	5	3	4	5	3	4	5	4	4	4	5	4	2	3	4	2	3	4	2	6-10%
131	7/6/2021 0:03:57	25-30yrs Female	Post graduate 51,000-100,000	5	5	3	3	4	5	4	5	4	3	5	3	2	4	5	4	4	4	4	11-15%	
132	7/6/2021 0:05:29	18-24yrs Female	Post graduate 21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0%	
133	7/6/2021 0:11:35	18-24yrs Female	Post graduate 101,000-200,000	3	2	2	4	5	3	2	1	1	2	3	1	4	4	3	1	3	3	3	1-2%	
134	7/6/2021 0:19:40	25-30yrs Female	Post graduate 51,000-100,000	5	5	3	3	4	5	4	4	5	3	5	3	2	4	5	5	4	4	4	11-15%	
135	7/6/2021 0:24:02	25-30yrs Female	Undergraduat 51,000-100,000	3	4	2	4	3	4	5	5	5	4	4	3	5	4	5	4	5	4	5	3-5%,	
136	7/6/2021 0:30:48	18-24yrs Female	Undergraduat 0-20,000	5	5	5	4	5	5	4	4	4	4	5	3	5	5	4	5	4	4	3	3-5%,	
137	7/6/2021 0:46:47	25-30yrs Female	Post graduate 21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4 more than 20%	
138	7/6/2021 1:23:38	25-30yrs Male	Post graduate 101,000-200,000	4	4	4	4	3	3	3	5	5	5	5	5	5	4	5	4	4	5	3	11-15%	
139	7/6/2021 1:36:36	25-30yrs Female	Post graduate 101,000-200,000	5	5	1	3	5	5	5	5	5	5	3	5	3	5	5	5	5	3	6-10%		
140	7/6/2021 2:16:06	25-30yrs Male	Post graduate above 201,000	3	5	4	5	4	5	5	5	5	4	5	5	4	3	4	5	4	4	4	16-20%	
141	7/6/2021 3:38:27	18-24yrs Male	Undergraduat above 201,000	4	5	5	5	4	5	5	5	5	5	5	4	3	4	5	5	4	3	4	3-5%,	
142	7/6/2021 4:04:53	25-30yrs Male	Undergraduat 21,000-50,000	5	5	5	5	3	5	5	5	5	4	5	4	4	1	3	4	4	5	4	5 more than 20%	
143	7/6/2021 4:19:50	25-30yrs Male	Post graduate 51,000-100,000	5	5	5	5	3	4	5	5	5	4	5	4	4	1	4	5	5	4	5	5 more than 20%	
144	7/6/2021 5:43:26	25-30yrs Female	Post graduate 0-20,000	5	5	2	5	3	5	4	4	5	4	5	3	5	2	3	5	5	5	5	5	1-2%
145	7/6/2021 6:06:55	25-30yrs Female	Post graduate above 201,000	3	5	5	5	4	2	5	5	5	4	3	3	4	5	3	5	4	3	3	3-5%,	
146	7/6/2021 6:20:48	25-30yrs Male	Post graduate 51,000-100,000	1	4	3	5	4	4	4	4	4	2	3	2	3	3	3	3	3	2	3	3-5%,	
147	7/6/2021 7:00:15	31-35yrs Male	Post graduate 21,000-50,000	4	4	4	4	3	5	5	5	5	5	5	5	4	5	5	5	5	4	4	4 more than 20%	
148	7/6/2021 7:20:58	25-30yrs Female	Post graduate 0-20,000	3	3	4	4	2	4	5	4	5	5	4	1	3	3	4	4	4	4	1	6-10%	
149	7/6/2021 7:26:50	25-30yrs Female	Post graduate 51,000-100,000	5	5	4	5	3	5	5	4	5	5	5	5	4	3	4	5	4	4	3	6-10%	
150	7/6/2021 7:38:03	25-30yrs Female	Undergraduat 0-20,000	2	5	5	5	4	3	5	5	4	1	4	4	5	3	2	5	2	4	3	3-5%,	
151	7/6/2021 7:54:31	18-24yrs Female	Undergraduat 0-20,000	4	5	3	5	3	4	5	4	5	3	4	3	5	3	4	5	4	4	4	11-15%	
152	7/6/2021 7:58:24	31-35yrs Male	Post graduate 0-20,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	6-10%
153	7/6/2021 8:06:02	41-45yrs Male	Post graduate 101,000-200,000	4	5	3	4	4	4	5	5	5	5	5	5	4	2	5	5	4	4	3	6-10%	
154	7/6/2021 8:23:43	31-35yrs Female	Post graduate 51,000-100,000	4	4	4	4	4	5	4	4	4	4	5	5	1	5	5	5	5	5	5	5	6-10%
155	7/6/2021 8:30:37	25-30yrs Female	Post graduate 0-20,000	4	5	5	5	4	5	5	5	5	5	5	4	5	5	4	4	4	5	5	5	1-2%
156	7/6/2021 8:41:25	25-30yrs Female	Undergraduat 21,000-50,000	4	5	5	3	2	2	4	4	5	3	4	2	4	1	4	5	5	3	3	3-5%,	
157	7/6/2021 8:42:06	18-24yrs Male	Post graduate 21,000-50,000	3	3	1	2	3	5	5	5	3	5	5	3	1	3	5	3	1	5	1	5	1-2%
158	7/6/2021 8:54:29	25-30yrs Female	Undergraduat 21,000-50,000	4	5	2	2	3	2	5	4	5	3	5	5	5	3	4	5	5	5	5	5	3-5%,
159	7/6/2021 9:04:47	31-35yrs Female	Post graduate 21,000-50,000	4	5	3	5	5	5	5	5	5	5	5	5	4	2	5	5	5	5	5	5 more than 20%	
160	7/6/2021 9:22:47	25-30yrs Female	Post graduate 51,000-100,000	3	5	5	5	5	5	5	5	5	5	5	4	5	1	5	5	5	4	5	1-2%	
161	7/6/2021 9:34:02	18-24yrs Female	Undergraduat 0-20,000	5	5	4	5	3	4	5	4	5	4	5	4	2	3	4	4	4	4	4	6-10%	
162	7/6/2021 9:44:32	25-30yrs Female	Undergraduat 0-20,000	5	5	5	5	5	5	5	5	2	5	5	5	4	3	5	5	2	5	5	6-10%	
163	7/6/2021 10:00:51	25-30yrs Female	Post graduate 51,000-100,000	5	5	5	5	3	5	5	5	5	1	5	5	1	1	5	5	5	5	5	5	6-10%
164	7/6/2021 10:23:57	25-30yrs Female	Undergraduat 101,000-200,000	5	5	5	5	5	5	3	4	1	5	5	3	1	5	5	5	1	5	1	11-15%	
165	7/6/2021 10:24:54	36-40yrs Female	Post graduate 101,000-200,000	3	3	2	4	3	4	3	3	2	3	3	3	1	3	5	2	3	4	3	4	3-5%,
166	7/6/2021 11:19:38	46-50yrs Male	Secondary Ed 21,000-50,000	5	5	5	4	5	5	4	2	3	3	3	2	3	3	3	3	4	3	3	3	6-10%
167	7/6/2021 11:28:41	46-50yrs Male	Undergraduat above 201,000	5	5	4	5	5	3	5	5	2	3	4	4	4	3	4	5	3	3	4	1-2%	
168	7/6/2021 12:05:10	25-30yrs Male	Undergraduat 21,000-50,000	5	5	5	5	5	4	4	4	5	4	4	2	5	2	4	5	5	2	1	0%	
169	7/6/2021 12:07:33	18-24yrs Female	Undergraduat 21,000-50,000	4	5	5	5	3	4	3	5	4	3	4	3	5	4	4	5	4	4	3	6-10%	
170	7/6/2021 12:08:21	18-24yrs Female	Post graduate 21,000-50,000	5	5	4	5	5	5	5	4	5	3	5	5	5	4	4	4	4	4	3	0%	
171	7/6/2021 12:10:24	25-30yrs Female	Post graduate 101,000-200,000	3	2	2	1	3	4	2	1	1	2	2	3	1	5	1	1	2	3	3	3-5%,	
172	7/6/2021 12:23:17	18-24yrs Male	Undergraduat 0-20,000	3	3	3	3	3	3	5	1	3	1	2	2	5	4	4	3	2	2	2	1-2%	
173	7/6/2021 12:36:34	25-30yrs Female	Post graduate above 201,000	5	5	3	5	5	3	5	5	5	3	5	3	5	2	5	5	4	5	4	5	6-10%
174	7/6/2021 12:45:02	25-30yrs Female	Post graduate 101,000-200,000	5	3	5	3	4	5	5	5	5	5	5	3	2	5	5	5	5	5	5	11-15%	
175	7/6/2021 12:58:47	25-30yrs Male	Post graduate 21,000-50,000	1	5	5	5	4	4	2	5	5	5	5	4	3	1	1	5	5	5	3	3-5%,	

176	7/6/2021	13:03:12	18-24yrs Female	Undergraduate	0-20,000	5	5	5	4	3	2	5	5	5	5	5	5	3	1	3	5	4	4	4	more than 20%	
177	7/6/2021	13:06:03	25-30yrs Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	1	5	4	5	5	5	more than 20%	
178	7/6/2021	13:38:41	25-30yrs Female	Post graduate	21,000-50,000	5	5	5	4	4	3	5	4	5	5	5	3	3	3	2	4	5	5	4	3-5%	
179	7/6/2021	16:43:28	25-30yrs Female	Post graduate	above 201,000	5	5	5	5	5	5	5	5	5	5	4	3	5	4	4	3	3	5	5	3-5%	
180	7/6/2021	18:41:53	36-40yrs Female	Undergraduate	0-20,000	3	4	5	5	3	2	3	2	4	4	5	5	4	5	3	2	5	3	3	3-5%	
181	7/6/2021	18:44:41	36-40yrs Female	Post graduate	above 201,000	5	5	5	5	3	3	5	5	5	5	5	3	1	1	5	5	5	5	3	1-2%	
182	7/6/2021	18:46:16	25-30yrs Female	Undergraduate	0-20,000	5	5	4	5	5	5	5	5	5	3	5	4	1	1	2	5	5	5	5	11-15%	
183	7/6/2021	18:58:02	18-24yrs Female	Undergraduate	0-20,000	5	5	3	4	5	3	4	5	4	4	4	4	5	4	4	2	3	4	2	6-10%	
184	7/6/2021	19:03:01	31-35yrs Female	Post graduate	101,000-200,000	4	5	5	3	2	1	5	4	5	4	4	4	5	3	4	2	4	2	4	more than 20%	
185	7/6/2021	19:09:18	25-30yrs Female	Undergraduate	21,000-50,000	3	4	5	5	5	3	5	5	5	4	5	3	3	4	4	4	4	3	2	6-10%	
186	7/6/2021	19:25:20	25-30yrs Female	Post graduate	0-20,000	5	5	5	5	5	5	5	4	5	5	5	5	3	1	4	5	5	5	5	6-10%	
187	7/6/2021	20:17:21	25-30yrs Male	Undergraduate	101,000-200,000	3	4	4	3	4	4	3	5	4	4	3	5	2	4	2	3	4	2	3	11-15%	
188	7/6/2021	20:26:04	31-35yrs Female	Post graduate	51,000-100,000	5	5	5	5	4	4	4	5	5	5	5	5	2	5	5	5	5	5	5	more than 20%	
189	7/6/2021	20:45:16	31-35yrs Male	Post graduate	51,000-100,000	2	1	1	1	1	4	4	5	4	2	4	1	1	1	1	4	1	1	1	11-15%	
190	7/6/2021	21:18:40	18-24yrs Female	Undergraduate	0-20,000	5	5	2	3	4	2	5	5	4	5	5	4	4	2	4	5	5	4	3	3-5%	
191	7/6/2021	21:27:16	25-30yrs Female	Undergraduate	0-20,000	3	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	6-10%	
192	7/6/2021	22:04:40	25-30yrs Female	Undergraduate	0-20,000	2	2	2	5	5	5	5	5	5	5	5	5	5	1	3	5	5	5	5	6-10%	
193	7/6/2021	22:24:34	25-30yrs Female	Post graduate	21,000-50,000	5	5	5	4	5	4	5	4	4	3	5	4	3	4	3	3	4	4	3	6-20%	
194	7/6/2021	23:19:54	31-35yrs Female	Post graduate	21,000-50,000	2	3	4	3	4	5	5	5	3	5	5	5	4	4	5	5	5	5	5	6-10%	
195	7/7/2021	7:31:47	25-30yrs Male	Post graduate	101,000-200,000	3	4	1	5	1	4	2	1	1	1	5	5	5	1	1	3	5	2	3	3-5%	
196	7/7/2021	9:25:54	18-24yrs Female	Post graduate	21,000-50,000	3	5	2	5	5	4	5	5	5	3	3	2	4	2	4	5	4	4	3	1-2%	
197	7/7/2021	10:44:46	25-30yrs Female	Post graduate	above 201,000	5	5	3	3	5	4	5	5	5	3	5	5	5	1	5	5	5	5	2	3-5%	
198	7/7/2021	10:50:16	18-24yrs Female	Undergraduate	0-20,000	5	5	5	4	5	5	4	5	4	5	3	4	3	4	5	4	4	3	6-10%		
199	7/7/2021	13:44:09	25-30yrs Female	Post graduate	21,000-50,000	5	5	5	5	4	4	5	5	5	5	5	5	1	5	5	5	5	5	5	3-5%	
200	7/7/2021	14:37:16	25-30yrs Male	Post graduate	21,000-50,000	4	4	4	5	4	5	5	5	5	5	4	2	4	4	4	4	4	4	1-2%		
201	7/8/2021	8:57:31	31-35yrs Male	Post graduate	above 201,000	5	5	5	5	3	5	4	4	4	5	5	5	5	1	5	5	5	5	5	3-5%	
202	7/8/2021	12:15:25	25-30yrs Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	16-20%	
203	7/8/2021	12:16:25	25-30yrs Female	Undergraduate	21,000-50,000	5	5	5	5	5	3	3	5	4	5	3	4	4	4	4	4	4	4	4	11-15%	
204	7/8/2021	15:46:06	25-30yrs Female	Post graduate	above 201,000	3	4	3	4	3	4	5	5	5	5	5	5	5	1	3	3	4	4	3	3-5%	
205	7/8/2021	15:47:20	31-35yrs Male	Post graduate	101,000-200,000	5	5	3	4	5	2	5	3	4	5	5	5	5	4	5	5	5	4	3	6-10%	
206	7/8/2021	18:12:49	25-30yrs Male	Undergraduate	101,000-200,000	4	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	11-15%	
207	7/8/2021	18:18:10	36-40yrs Female	Post graduate	101,000-200,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3-5%	
208	7/8/2021	19:38:20	31-35yrs Male	Post graduate	51,000-100,000	5	5	3	4	5	5	5	4	5	5	5	4	4	5	5	5	5	5	5	3-5%	
209	7/8/2021	19:44:26	18-24yrs Male	Undergraduate	0-20,000	4	4	4	4	4	5	4	5	5	3	4	3	4	2	4	5	4	3	3	3-5%	
210	7/8/2021	21:43:13	25-30yrs Male	Undergraduate	above 201,000	5	5	5	4	4	3	5	3	4	4	5	4	4	3	4	5	3	4	4	6-10%	
211	7/8/2021	23:14:01	25-30yrs Male	Undergraduate	0-20,000	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	16-20%	
212	7/9/2021	1:52:24	31-35yrs Male	Post graduate	101,000-200,000	3	5	2	2	5	2	3	3	4	3	4	4	3	3	3	3	3	3	3	3	6-10%
213	7/9/2021	8:51:00	36-40yrs Male	Post graduate	101,000-200,000	3	4	4	5	5	3	5	4	5	4	5	3	4	3	4	5	4	4	4	4	3-5%
214	7/9/2021	10:37:15	25-30yrs Male	Post graduate	21,000-50,000	5	5	5	5	4	2	5	5	5	5	5	5	2	1	3	5	5	5	4	6-10%	
215	7/9/2021	12:18:41	25-30yrs Male	Undergraduate	21,000-50,000	4	5	5	5	4	5	5	5	5	3	3	3	4	2	4	5	4	4	4	3	6-10%
216	7/9/2021	16:21:44	18-24yrs Male	Undergraduate	51,000-100,000	4	4	4	5	4	4	5	4	5	4	5	5	5	4	4	4	4	4	4	1-2%	
217	7/9/2021	22:56:07	18-24yrs Female	Undergraduate	0-20,000	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	5	5	5	1-2%	
218	7/9/2021	23:21:53	25-30yrs Female	Undergraduate	51,000-100,000	5	5	5	4	5	3	5	4	2	3	5	5	3	4	4	5	5	4	5	16-20%	
219	7/9/2021	23:23:32	25-30yrs Female	Post graduate	51,000-100,000	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	6-10%	
220	7/10/2021	5:58:08	31-35yrs Female	Post graduate	51,000-100,000	5	5	5	5	3	5	5	5	3	5	5	5	4	3	4	5	5	5	5	more than 20%	
221	7/10/2021	8:24:21	25-30yrs Female	Post graduate	51,000-100,000	5	5	5	5	3	5	5	5	5	5	5	5	2	5	5	5	4	4	6-10%		
222	7/10/2021	8:31:36	31-35yrs Male	Post graduate	above 201,000	4	5	3	3	3	3	5	5	3	3	4	4	3	2	3	4	4	3	3	0%	
223	7/10/2021	8:32:59	46-50yrs Male	Post graduate	above 201,000	5	5	4	5	5	5	5	5	5	5	5	2	2	5	5	5	5	5	5	11-15%	
224	7/10/2021	8:51:34	31-35yrs Female	Undergraduate	51,000-100,000	5	5	4	4	1	5	5	5	5	5	3	5	5	5	5	5	5	5	5	1-2%	
225	7/10/2021	11:22:23	18-24yrs Female	Undergraduate	0-20,000	5	5	3	2	3	1	4	3	5	3	5	4	5	2	5	5	2	3	3	3-5%	
226	7/10/2021	12:10:41	25-30yrs Female	Post graduate	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	more than 20%	
227	7/11/2021	22:02:24	25-30yrs Female	Post graduate	21,000-50,000	3	3	1	3	3	4	3	4	3	3	4	3	4	1	3	3	3	3	3	1-2%	
228	7/11/2021	22:16:39	25-30yrs Female	Undergraduate	101,000-200,000	5	5	3	4	3	4	5	5	5	5	4	3	3	4	4	5	5	5	4	3-5%	
229	7/11/2021	22:49:07	18-24yrs Female	Undergraduate	51,000-100,000	5	5	3	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	11-15%	
230	7/11/2021	23:22:19	25-30yrs Female	Post graduate	51,000-100,000	5	5	4	4	5	5	5	5	5	5	5	4	5	2	3	3	2	4	3-5%		
231	7/11/2021	23:53:20	25-30yrs Female	Undergraduate	101,000-200,000	5	5	5	5	5	5	5	5	5	5	5	3	1	5	5	5	5	5	5	11-15%	
232	7/12/2021	6:34:20	25-30yrs Female	Post graduate	0-20,000	5	5	5	5	5	3	5	5	5	5	5	4	4	3	5	5	5	5	3	6-10%	
233	7/12/2021	9:34:35	25-30yrs Female	Post graduate	21,000-50,000	3	5	3	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	0%	

234	7/12/2021 14:03:55	31-35yrs Male	Post graduate	101,000-200,000	5	5	4	5	3	4	5	5	5	5	5	5	5	2	5	5	5	4	3	11-15%
235	7/12/2021 14:29:28	25-30yrs Female	Post graduate	51,000-100,000	5	5	3	4	5	5	5	5	4	5	4	5	4	4	5	5	4	3	3-5%	
236	7/12/2021 15:17:54	25-30yrs Male	Post graduate	101,000-200,000	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1-2%
237	7/12/2021 17:44:43	25-30yrs Male	Post graduate	101,000-200,000	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	1-2%
238	7/12/2021 21:45:59	18-24yrs Female	Undergraduate	21,000-50,000	5	5	1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5-10%
239	7/12/2021 21:56:47	18-24yrs Female	Post graduate	21,000-50,000	5	5	5	5	4	4	5	5	4	3	5	5	4	3	5	5	5	3	5	5-10%
240	7/13/2021 0:34:39	25-30yrs Female	Post graduate	51,000-100,000	5	5	3	5	5	3	5	5	5	3	5	5	5	5	5	5	5	5	5	5-10%
241	7/13/2021 9:37:03	25-30yrs Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3-5%
242	7/13/2021 9:39:54	18-24yrs Female	Undergraduate	21,000-50,000	2	3	3	4	5	2	3	3	4	3	5	3	2	2	2	4	4	4	3	6-10%
243	7/13/2021 11:43:19	25-30yrs Female	Undergraduate	21,000-50,000	5	5	3	2	2	1	3	5	5	4	3	2	5	4	4	3	3	2	1	3-5%
244	7/13/2021 11:46:18	25-30yrs Female	Undergraduate	0-20,000	4	4	3	4	3	4	4	4	4	4	3	4	3	3	4	4	4	4	3	3-10%
245	7/13/2021 11:47:17	25-30yrs Male	Post graduate	51,000-100,000	5	5	3	4	3	4	3	5	4	4	5	4	5	3	4	5	4	3	4	16-20%
246	7/13/2021 12:00:30	31-35yrs Female	Post graduate	51,000-100,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	more than 20%
247	7/13/2021 12:02:25	18-24yrs Female	Undergraduate	21,000-50,000	4	5	1	3	3	2	5	4	5	4	1	5	4	1	2	2	2	2	2	4-16-20%
248	7/13/2021 12:10:40	31-35yrs Female	Post graduate	above 201,000	4	5	5	4	4	5	5	5	5	5	4	3	1	3	5	4	4	4	4	1-2%
249	7/13/2021 12:52:19	25-30yrs Female	Post graduate	21,000-50,000	4	5	3	5	5	3	5	4	5	3	5	3	4	3	4	4	4	4	5	3-5%
250	7/13/2021 13:45:11	18-24yrs Female	Undergraduate	0-20,000	2	3	2	2	1	2	2	4	2	2	4	3	2	1	3	4	3	3	4	3-5%
251	7/13/2021 14:40:45	36-40yrs Female	Undergraduate	101,000-200,000	3	4	1	2	3	5	5	5	5	5	5	3	2	3	3	5	5	5	3	3-10%
252	7/13/2021 15:19:24	18-24yrs Female	Undergraduate	21,000-50,000	3	4	2	4	5	4	5	4	4	3	5	4	3	1	4	5	4	5	4	3-5%
253	7/13/2021 15:23:54	25-30yrs Female	Post graduate	101,000-200,000	5	5	1	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5-10%
254	7/13/2021 19:53:37	18-24yrs Female	Undergraduate	0-20,000	5	5	5	5	2	4	5	4	4	5	5	3	4	4	4	5	4	4	4	11-15%
255	7/13/2021 21:03:07	25-30yrs Female	Undergraduate	21,000-50,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	more than 20%
256	7/14/2021 3:01:52	36-40yrs Female	Post graduate	101,000-200,000	5	5	5	5	4	5	5	5	5	5	5	5	2	5	5	5	5	5	5	more than 20%
257	7/14/2021 10:30:50	25-30yrs Female	Post graduate	51,000-100,000	5	5	5	5	4	4	5	4	4	5	4	4	4	3	3	4	4	3	4	6-10%
258	7/14/2021 13:07:46	18-24yrs Female	Post graduate	51,000-100,000	5	4	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5-10%
259	7/14/2021 16:32:02	36-40yrs Male	Post graduate	101,000-200,000	3	4	4	5	3	5	4	5	4	5	3	4	3	4	5	4	4	4	3	3-5%
260	7/15/2021 19:26:40	18-24yrs Female	Undergraduate	0-20,000	2	5	5	3	2	5	5	5	1	3	2	2	3	2	2	5	5	5	5	11-15%
261	7/15/2021 19:26:48	18-24yrs Female	Undergraduate	0-20,000	2	5	5	3	2	5	5	5	1	3	2	2	3	2	2	5	5	5	5	11-15%
262	7/15/2021 23:54:32	18-24yrs Female	Undergraduate	0-20,000	2	5	5	3	2	5	5	5	1	3	2	2	3	2	2	5	5	5	5	11-15%
264	7/16/2021 19:49:45	46-50yrs Male	Undergraduate	above 201,000	2	3	2	1	2	5	4	3	4	1	4	2	3	2	5	5	3	3	4	1-2%
265	7/19/2021 21:22:47	46-50yrs Female	Undergraduate	51,000-100,000	5	5	2	3	2	1	2	1	1	2	5	5	5	1	4	5	5	1	1	0%
266	7/19/2021 21:24:56	46-50yrs Male	Undergraduate	101,000-200,000	1	2	2	2	1	2	2	2	2	3	5	3	5	1	5	5	2	2	2	1-2%
267	7/20/2021 21:50:11	41-45yrs Female	Secondary Edu	21,000-50,000	4	4	5	5	2	3	4	3	3	3	5	4	5	4	4	5	5	4	3	1-2%
268	7/20/2021 21:54:01	41-45yrs Male	Secondary Edu	21,000-50,000	5	5	2	2	4	5	5	3	5	4	5	4	3	1	5	5	5	5	5	3-5%
269	7/20/2021 21:56:35	36-40yrs Female	Undergraduate	101,000-200,000	5	5	4	5	3	5	5	4	5	5	5	4	3	5	5	5	4	5	3-5%	
270	7/20/2021 22:00:38	36-40yrs Female	Undergraduate	101,000-200,000	3	5	2	5	2	4	5	5	3	5	4	5	3	5	5	5	4	5	5	5-10%
271	7/20/2021 22:03:34	41-45yrs Male	Post graduate	above 201,000	3	3	3	4	4	4	5	4	4	3	5	5	4	1	5	5	4	5	5	5-10%
272	7/20/2021 22:08:38	41-45yrs Male	Secondary Edu	51,000-100,000	2	2	1	2	2	5	5	3	2	4	4	2	1	5	5	3	2	5	1-2%	
273	7/21/2021 0:52:16	46-50yrs Female	Undergraduate	51,000-100,000	5	4	4	4	5	5	5	3	3	3	5	5	4	4	4	5	5	4	5	1-2%
274	7/21/2021 6:42:23	41-45yrs Female	Post graduate	above 201,000	4	4	4	4	2	2	3	3	4	4	4	4	2	3	4	4	3	3	3	3-5%
275	7/21/2021 7:19:03	25-30yrs Female	Post graduate	above 201,000	3	5	1	3	1	1	3	2	2	1	2	1	1	1	4	4	4	1	1	0%
276	7/21/2021 7:30:31	25-30yrs Female	Post graduate	above 201,000	3	5	4	5	3	2	4	4	4	5	5	3	3	2	5	5	4	3	3	3-5%
277	7/21/2021 7:30:45	31-35yrs Female	Post graduate	above 201,000	4	4	2	3	4	2	4	5	5	4	4	4	2	3	4	4	3	4	3	1-2%
278	7/21/2021 9:17:14	31-35yrs Male	Post graduate	above 201,000	3	5	5	4	2	5	5	5	4	5	5	4	2	2	4	4	4	4	4	11-15%
279	7/21/2021 10:56:43	25-30yrs Male	Post graduate	101,000-200,000	3	5	3	4	3	2	4	4	5	5	5	1	4	3	3	4	5	5	4	3-5%
280	7/21/2021 10:57:49	46-50yrs Male	Undergraduate	above 201,000	5	4	1	3	2	5	5	4	3	2	5	4	5	3	4	5	4	4	5	3-5%
281	7/21/2021 11:34:39	41-45yrs Male	Post graduate	above 201,000	4	4	1	3	2	4	5	5	4	5	4	3	1	5	5	4	4	5	3-5%	
282	7/21/2021 11:42:19	41-45yrs Female	Post graduate	above 201,000	5	5	5	5	4	5	3	4	4	5	5	5	4	5	5	5	4	5	5	5-10%
283	7/21/2021 11:50:09	41-45yrs Male	Post graduate	101,000-200,000	5	4	2	5	3	4	3	3	1	5	4	5	3	2	4	2	5	4	2	6-10%
284	7/21/2021 11:51:37	41-45yrs Female	Undergraduate	51,000-100,000	4	4	5	5	4	2	3	2	3	2	2	3	1	2	5	4	3	3	5	3-5%
285	7/21/2021 11:52:46	36-40yrs Female	Post graduate	101,000-200,000	2	5	2	1	2	5	2	5	5	5	1	2	5	4	4	1	2	4	5	11-15%
286	7/21/2021 11:55:23	41-45yrs Female	Post graduate	above 201,000	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	16-20%
287	7/21/2021 11:56:12	46-50yrs Male	Undergraduate	51,000-100,000	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1-2%
288	7/21/2021 11:57:01	36-40yrs Female	Secondary Edu	21,000-50,000	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	16-20%
289	7/21/2021 11:58:15	46-50yrs Female	Undergraduate	101,000-200,000	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3-5%
290	7/21/2021 18:47:28	46-50yrs Male	Undergraduate	above 201,000	2	5	2	3	4	4	5	3	3	4	5	3	2	2	4	5	4	5	2	1-2%
291	7/21/2021 18:52:51	41-45yrs Male	Post graduate	above 201,000	5	5	3	3	1	5	4	4	2	2	5	2	4	2	4	5	4	4	4	1-2%
292	7/21/2021 18:57:14	31-35yrs Male	Secondary Edu	51,000-100,000	1	4	2	2	2	2	5	3	3	4	4	2	2	2	3	4	4	3	3	0%

Figure 8: Raw data of the Survey

### Annex 3: ANOVA Performed to Check the Differences in Willingness to Pay Premium and Sustainability Knowledge

The ANOVA was performed to establish the differences between willingness to pay premium among those who agree, disagree, and gave a neutral opinion about sustainability knowledge. Table 12 below shows that  $F = 8.399$ ,  $P = 0.000$ , there is a significant difference between the groups, and their willingness to pay premium differs among the group of those who agree and disagree. Table 13 shows that there is no significant difference between those who disagree and gave a neutral opinion (they can be classified as the same), however, there is a significant difference between disagreeing or neutral and agree.

Table 12: Output from Anova for WPP and Sustainability Knowledge

WPP1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	19.381	2	9.690	8.399	.000
Within Groups	332.296	288	1.154		
Total	351.677	290			

Table 13: Output from LSD Post-Hoc Test for WPP and Sustainability Knowledge

Dependent Variable: WPP1

	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	1.00	2.00	-.399	.341	.243	-1.07	.27
		3.00	-.949*	.295	.001	-1.53	-.37
	2.00	1.00	.399	.341	.243	-.27	1.07
		3.00	-.550*	.197	.006	-.94	-.16
	3.00	1.00	.949*	.295	.001	.37	1.53
		2.00	.550*	.197	.006	.16	.94

\*. The mean difference is significant at the 0.05 level.

1= disagree; 2= Neutral; 3= agree

#### Annex 4: ANOVA for Purchase Intention and Income

The tables below show that there is no significant difference in purchase intention and income levels with P-value  $0.973 > 0.05$ ; that is, income levels do not affect their intention to purchase sustainable and organic shea butter. Also comparing within groups, there is no significant difference among the ranges of income.

Table 14: ANOVA Table showing the differences in purchase intention among various income levels

Pur.Intention

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.359	4	.090	.126	.973
Within Groups	203.246	286	.711		
Total	203.605	290			

Table 15: LSD Post-Hoc test for Purchase Intention and Income

Dependent Variable: Pur.Intention

	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	1.00	2.00	-.04892	.15569	.754	-.3554	.2575
		3.00	-.08791	.15949	.582	-.4018	.2260
		4.00	-.07026	.16172	.664	-.3886	.2481
		5.00	.00332	.17615	.985	-.3434	.3500
	2.00	1.00	.04892	.15569	.754	-.2575	.3554
		3.00	-.03899	.14376	.786	-.3220	.2440
		4.00	-.02133	.14624	.884	-.3092	.2665
		5.00	.05225	.16205	.747	-.2667	.3712
	3.00	1.00	.08791	.15949	.582	-.2260	.4018
		2.00	.03899	.14376	.786	-.2440	.3220
		4.00	.01765	.15028	.907	-.2781	.3134
		5.00	.09123	.16571	.582	-.2349	.4174
	4.00	1.00	.07026	.16172	.664	-.2481	.3886
		2.00	.02133	.14624	.884	-.2665	.3092
		3.00	-.01765	.15028	.907	-.3134	.2781
		5.00	.07358	.16786	.661	-.2568	.4040
	5.00	1.00	-.00332	.17615	.985	-.3500	.3434
		2.00	-.05225	.16205	.747	-.3712	.2667
		3.00	-.09123	.16571	.582	-.4174	.2349
		4.00	-.07358	.16786	.661	-.4040	.2568

1= 0-20,000 (€40); 2= 21,000-50,000 (€42-€100); 3= 51,000-100,000 (€102-€200); 4= 101,000-200,000 (€202-€400); 5= above 201,000 (>€402)

## Annex 5: ANOVA for Willingness to Pay Premium and Appearance Concern

Table 16: ANOVA between WPP and Appearance Concern

### WPP1

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	21.622	2	10.811	9.433	.000
Within Groups	330.055	288	1.146		
Total	351.677	290			

Table 17: LSD Post-Hoc for WPP and Appearance concern

**Multiple Comparisons**

Dependent Variable: WPP1

	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	1.00	2.00	.096	.267	.719	-.43	.62
		3.00	-.593*	.215	.006	-1.02	-.17
	2.00	1.00	-.096	.267	.719	-.62	.43
		3.00	-.689*	.188	.000	-1.06	-.32
	3.00	1.00	.593*	.215	.006	.17	1.02
		2.00	.689*	.188	.000	.32	1.06

\*. The mean difference is significant at the 0.05 level.

1= disagree; 2= Neutral; 3= agree

Table 16 above shows that there is a significant difference between consumers' willingness to pay a premium and their concern towards their appearance; which means that appearance concern has a significant impact on their decision to pay a premium for sustainable and organic shea butter. There is no significant difference between those who disagree or gave a neutral opinion about their appearance being a concern to them; however, there is a significant difference between the groups that disagreed or neutral and those who agreed to their appearance is a concern to them.

**Annex 6: Establishing a Market Segment by Building a Demographic Profile of Respondents Who are concerned about their Appearance and have Knowledge of Sustainability Using Chi-Square.**

For this analysis, the age classification was recoded to reduce the number of cells with an expected count less than 5. Initially, age was classified under 6 groups; however, for the purpose of this test age was regrouped into 4 classifications. Table 18 below shows that the Pearson Chi-square value 29.583 is significant, which means that sustainability knowledge is influenced by a particular age group or a certain age group has more knowledge of sustainability. Table 19 shows where exactly the significance is. The adjusted residual determines the significance is; the higher the adjusted residual, the greater the contribution of the cell to the chi-square value obtained. Ideally a threshold value of above 1.96 is significant, however, values close to and above 1.96 shall be considered. In this case, the focus is on respondents who agree to the knowledge of sustainability (3). Age class two (25-30yrs) and three (31-40yrs) have adjusted residual score of 1.7 and 2.3 respectively

**Table 18: Chi-Square test for Age and Sustainability Knowledge**

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	29.583 <sup>a</sup>	6	.000
Likelihood Ratio	26.600	6	.000
Linear-by-Linear Association	.761	1	.383
N of Valid Cases	291		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is 1.49.

**Table 19: Cross-tabulation of Age and Sustainability Knowledge**

		Sustainability.knowledge			Total	
		1.00	2.00	3.00		
New..Age	1.00	Count	6	6	47	59
		Adjusted Residual	2.2	-.4	-.9	
	2.00	Count	5	13	124	142
		Adjusted Residual	-1.0	-1.3	1.7	
	3.00	Count	0	4	55	59
		Adjusted Residual	-1.9	-1.3	2.3	
	4.00	Count	3	11	17	31
		Adjusted Residual	1.3	4.4	-4.5	
Total		Count	14	34	243	291

New.Age: 1= 18-24yrs; 2=25-30yrs; 3=31-40yrs; 4=41-50yrs  
 Sustainability Knowledge: 1= Disagree; 2= Neutral; 3= Agree

**Table 20: Chi-Square test of Age and Appearance Concern**

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	10.111 <sup>a</sup>	6	.120
Likelihood Ratio	8.927	6	.178
Linear-by-Linear Association	5.115	1	.024
N of Valid Cases	291		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.98.

**Table 21: Cross-tabulation of Age and Appearance Concern**

		Appearance.Concern			Total	
		1.00	2.00	3.00		
New..Age	1.00	Count	3	10	46	59
		Adjusted Residual	-1.3	1.0	.1	
	2.00	Count	11	17	114	142
		Adjusted Residual	-1.1	-.5	1.2	
	3.00	Count	7	6	46	59
		Adjusted Residual	.7	-.7	.1	
	4.00	Count	7	5	19	31
		Adjusted Residual	2.6	.5	-2.3	
Total		Count	28	38	225	291

New.Age: 1= 18-24yrs; 2=25-30yrs; 3=31-40yrs; 4=41-50yrs

Appearance Concern: 1= Disagree; 2= Neutral; 3= Agree

Comparing age and appearance concern, Table 20 shows that there is no significance between age and appearance p-value 0.120; that is, age has no influence on the respondents' concern for their appearance. The focus again is on those who agree to being concerned about their appearance (3). Table 21 shows that no age range significantly agrees more to appearance concern, although age clas 2 (25-30yrs) can be recognized with an adjusted residual of 1.2.

**Table 22: Chi-Square test for Gender and Sustainability Knowledge**

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	.557 <sup>a</sup>	2	.757
Likelihood Ratio	.547	2	.761
Linear-by-Linear Association	.381	1	.537
N of Valid Cases	291		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 4.62.

Table 22 above shows that gender has no significant influence on sustainability knowledge, however, table 23 shows that a large number of women responded positively to knowing about sustainability with an adjusted residual of 0.73

**Table 23: Cross-tabulation of Gender and Sustainability Knowledge**

		Sustainability.knowledge			Total
		1.00	2.00	3.00	
NewSex	1.00	Count	5.00	13.00	78.00
		Adjusted Residual	.22	.69	-.73
	2.00	Count	9.00	21.00	165.00
		Adjusted Residual	-.22	-.69	.73
Total	Count	14.00	34.00	243.00	291.00

NewSex/Gender: 1= Male; 2= Female

Sustainability Knowledge: 1= Disagree; 2= neutral; 3= Agree

**Table 24: Chi-Square test of Gender and Appearance concern**

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	6.171 <sup>a</sup>	2	.046
Likelihood Ratio	5.821	2	.054
Linear-by-Linear Association	5.417	1	.020
N of Valid Cases	291		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.24.

**Table 25: Cross-tabulation of gender and Appearance Concern**

			Appearance.Concern			Total
			1.00	2.00	3.00	
NewSex	1.00	Count	15	13	68	96
		Adjusted Residual	2.4	.2	-1.9	
	2.00	Count	13	25	157	195
		Adjusted Residual	-2.4	-.2	1.9	
Total		Count	28	38	225	291

NewSex/Gender: 1= Male; 2= Female

Appearance Concern: 1= Disagree; 2= neutral; 3= Agree

Tables above show that gender has a significant influence of appearance concern. Table show that the female gender are more concerned about their appearance with count of 157 and an adjusted residual of 1.9.

**Table 26:** Chi-square test between Education level and sustainability knowledge

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	30.121 <sup>a</sup>	4	.000
Likelihood Ratio	21.168	4	.000
Linear-by-Linear Association	11.907	1	.001
N of Valid Cases	291		

a. 3 cells (33.3%) have expected count less than 5. The minimum expected count is .48.

**Table 27: Cross-tabulation between Education and Sustainability Knowledge**

		Sustainability.knowledge			Total	
		1.00	2.00	3.00		
New.EDucation	1.00	Count	0	6	4	10
		Adjusted Residual	-.7	4.8	-3.8	
	2.00	Count	8	14	76	98
		Adjusted Residual	1.9	1.0	-2.0	
	3.00	Count	6	14	163	183
		Adjusted Residual	-1.6	-2.8	3.3	
Total	Count	14	34	243	291	

New Education: 1= lower education (Primary and secondary); 2= Undergraduate; 3= Postgraduate

Sustainability Knowledge: 1= Disagree; 2= neutral; 3= Agree

Table 24 shows that education level has a significant influence on the sustainability knowledge of the respondents. Looking at Table 25, with focus on those who agree to have knowledge of sustainability, it is seen that 163 respondents have a postgraduate education and have knowledge of sustainability with an adjusted residual of 3.3; which contributes strongly to the significance.

**Table 28: Chi-Square test for Education and Appearance Concern**

	Value	df	Asymptotic Significance (2- sided)
Pearson Chi-Square	6.339 <sup>a</sup>	4	.175
Likelihood Ratio	4.770	4	.312
Linear-by-Linear Association	2.626	1	.105
N of Valid Cases	291		

a. 2 cells (22.2%) have expected count less than 5. The minimum expected count is .96.

**Table 29: Cross-tabulation of Education and Appearance Concern**

		Appearance.Concern			Total	
		1.00	2.00	3.00		
New.Education	1.00	Count	3	1	6	10
		Adjusted Residual	2.2	-.3	-1.3	
	2.00	Count	9	16	73	98
		Adjusted Residual	-.2	1.2	-.8	
	3.00	Count	16	21	146	183
		Adjusted Residual	-.7	-1.0	1.3	
Total	Count	28	38	225	291	

New Education: 1= lower education (Primary and secondary); 2= Undergraduate; 3= Postgraduate

Appearance Concern: 1= Disagree; 2= neutral; 3= Agree

Table 26 shows that the level of education of the respondents has no significant influence on their appearance concern with a Pearson Chi-Square of 6.339 and a significance of 0.175. Table 27 shows that 146 respondents have a postgraduate education and are also concerned about their appearance.

