

Article



A Comparative Study of High-Quality Broiler Purchase Behavior between Chinese and Sierra Leonean Consumers: The Moderating Role of Uncertainty Avoidance

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Abstract: This research aims to analyze the effects of perceived environmental responsibility (PER), environmental knowledge (EK), new ecological paradigm (NEP), and environmental collective efficacy (ECE) on the high-quality broiler purchase intention of China and Sierra Leone. Despite prior studies that have investigated the relationship between Hofstede's cultural dimensions' impacts on high-quality food (e.g., organic and green) purchase behavior, research on the moderating effect of uncertainty avoidance (UA) on the formulation of high-quality food purchase intention is rarely found. Based on this, a study was conducted via administrating an online structured questionnaire to 588 Chinese consumers and 410 Sierra Leoneans. The validity and reliability of the new conceptual model were examined through a confirmatory factor analysis, while structural equation modelling (SEM) was employed for the data analysis, and to test the hypothesized relationships among the variables. The results revealed that PER, EK, NEP, and ECE directly influence consumers' purchase intention (PI) and actual purchase behavior (APB) for high-quality broilers in China and Sierra Leone. However, the results from Chinese consumers show that UA has a direct impact on highquality purchase intention and actual purchase behavior, but was not found to have a moderate impact between the antecedents and purchase intention as well as actual purchase behavior, while UA positively moderates the relationship between PER, EK, ECE, and GPI, as well as between PI and APB in Sierra Leone markets. Therefore, the study concluded that enterprises in African markets, particularly Sierra Leone, can segment their customers and target them with persuasive positioning approaches by taking the cultural element (uncertainty avoidance) into account. This study enhances the methodology for learning about the preferences and behavioral patterns of cross-cultural consumers.

Keywords: high-quality broilers; uncertainty avoidance; purchase intention; actual purchase behavior; Chinese and Sierra Leonean consumers

1. Introduction

Globally, the food sector is facing tremendous challenges in meeting consumer preferences, ensuring food security for the teeming population, and mitigating global warming. As a result of environmental concerns and global warming, customers are steadily demanding ecologically friendly food items. Food demand in many developing and emerging countries is rapidly undergoing a profound transformation as consumers diversify their diets towards the consumption of quality and environmentally friendly food products such as organic and green food, meat, vegetables, and fruits [1,2]. As such, meat consumption has substantially increased in demand [3,4], and consumers are showing a growing interest in white meat, especially broilers, which is largely substituted for other types of meat [5,6]. The increase in meat consumption is driven by broiler consumption, which has taken center-stage on environmental concerns and product quality. In recent years,



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Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). China has seen a sharp increase in its consumption of broilers, which is the second most consumed meat after pork. The yearly consumption of chicken increased from 13.73 to 15.47 million tons between 2019 and 2020, as well as the per capita consumption, which rose from 12.15 kg to 13.93 kg [6,7]. Sierra Leonean broiler per capita consumption has surged from 4.14 to 4.31 kg from 2018 to 2020 with a rate of increase of 4.12%, and is the major animal protein consumed [7]. The spectacular growth in broiler consumption in emerging and developing countries reflects the changes in consumers' attitudes due to the acquisition of knowledge about the quality of broiler meat [6]. The rapid transition of consumers towards more broiler consumption is therefore desirable and has come under more and more critique as a result of large scale production, environmental pollution, emergence of the avian flu in Asia and other parts of the world, indiscriminate use of drugs, feed additives, and antimicrobials [8]. These issues have resulted in multidimensional economic impacts facing the production system, such as massive deaths of birds, a bad reputation for the broiler industry, food safety scandals, attenuated consumer confidence in their chicken consumption, as well as environmental degradation [6,9,10].

Moreover, the food system also plays a significant role in greenhouse gas emissions. For instance, about 1/3 of all greenhouse gas emissions were derived from food production systems [11,12]. Consequently, consumers have become increasingly aware and concerned about their health issues caused by environmental deterioration [13,14]. In addition, environmental problems including global warming, climate change, and water, land, and air pollution have adverse effects on food production, and consumers have become increasingly aware of environmental problems, which have become an important topic among researchers, governments, and organizations [15,16].

In recent years, the persistence of climate change caused by severe global warming and air pollution has become a serious social concern in many countries, including China and Sierra Leone. Consumers are aware of the negative effects of environmental deterioration, such as rapid deforestation due to irresponsible consumption and the expansion of cities around the world, from which China and Sierra Leone are not exempt. Therefore, broiler industries need more information on how consumers value these effects in high-quality food purchasing decisions with respect to environmental concerns, which enhances the effectiveness of high-quality food marketing strategies.

With regard to environmental issues, the government of Sierra Leone, headed by President Julius Maada Bio, signed a treaty at the 26th Conference of the Parties of the United Nations (UN) framework on climate change in order to implement urgent measures to improve the country's rapid degradation of forests and global warming issues. With a review of the drafted 13th Five-Year Plan [13] by the Chinese government, China is also committed to sustainable development. Concerns and awareness among consumers about their environment and the food they consume are leading them to change and adjust their usual buying behaviors with the aim of protecting the natural environment, ecosystems, and health, which has led to the creation of a new concept in food marketing literature known as high-quality food purchase intention and behavior [17–20]. In this study, high-quality food consists of both organic and green foods that are free from antibiotic residues, and ethical issues are taken into consideration during the production processes. Furthermore, green agriculture is significantly contributing to achieving the Sustainable Development Goals proposed by the United Nations, especially regarding sustainable consumption and production [21].

Prolific research in the determinants of purchase intention for high-quality food such as organic and green has been done over the past four decades in several contexts, which include: the way food products are purchased [22,23], differences in consumer perception [24,25], the influence of culture on purchase intention [26–30], and factors influencing their choices at the time of purchase and willingness to pay for quality meat [31–34]. Despite a vast number of empirical studies that have predicted the antecedent of purchase intentions for high-quality food in emerging and developed countries, their findings have not reached an agreement with respect to the major determinants of consumer purchase intentions for

quality food [35–37]. Furthermore, findings regarding the influence of antecedent variables on high-quality purchase behavior remain weak and sometimes controversial [13,38].

Hofstede's cultural dimensions have been applied in international marketing, and country is frequently used as a proxy for culture to measure consumers purchase behavior at group level [28]. According to Sohiba and Kang [30], the most suitable way to measure culture is at an individual level because buying involves an individual oriented one-person action. A lot of studies have been conducted on the impact of culture on consumers' purchase behaviors and most researchers agree that culture influences consumer behavior [28,39]. Although, several cross-cultural studies found in the existing literature, measuring the impact of culture on purchase behavior, used Hofstede's cultural dimensions such as power distance, long-term orientation, masculinity-femininity, and individualism–collectivism [20,26,29,40]. However, a majority of these studies were conducted in developed nations and few in emerging countries, possibly due to the concern of food quality [28,29]. As such, lack of focus in developing countries, particularly African countries, is indicated in the literature [41]. Additionally, Hofstede's cultural dimensions are quite limited in the literature, particularly in terms of individuals' purchase intentions toward high-quality products in emerging and developing countries, despite its importance in consumer purchasing decisions [30,41]. Nevertheless, previous studies have incorporated Hofstede's culture dimensions focusing on the relationship between purchase behavior and individualism–collectivism or power distance [20,42]. Most of this research suggested a need to expand the investigation of the impact of Hofstede's culture dimensions on purchasing intention beyond power distance, individualism, and collectivism [20]. Moreover, de Morais Watanabe et al. [43] revealed that these dimensions, such as individualism-collectivism and power distance, do not fully explain the influence of culture on food purchasing behavior. Yet, Sreen et al. [20] showed that other Hofstede's culture dimensions might give essential insights into consumer behavior that could provide a better understanding of consumers' purchasing behavior of food quality. Based on the literature, there is a need to broaden the dimensions to understand purchasing behavior for quality food products and to ascertain that new dimensions could extend the understanding of purchasing intention of high-quality broilers. To address these gaps, we conducted an in-depth empirical study using uncertainty avoidance in a cross-cultural perspective which has been employed in few empirical purchase intentions [28–30].

This research focused on two important countries: one with a potential emerging market and a low level of uncertainty avoidance (China) and one developing country with a high level of uncertainty avoidance (Sierra Leone), because both countries have diverse cultures and a wide range of consumer preference for environmentally friendly food products [44]. According to Hofstede [45], uncertainty avoidance is the extent to which an individual engages in particular behaviors to maintain a comfortable situation or environment, or is the degree to which a person feels threatened by an ambiguous and unknown situation or environment, and to what extent they attempt to avoid this situation. When new food products are introduced to the market, consumers feel uneasy about the new products, although various societies display different levels of uncertainty avoidance. For example, consumer attitudes are less bigoted and more competitive in nations with a low degree of UA. These groups are competitive in taking on any challenges. Low-level uncertainty avoidance cultures are also seen as being considerate, less aggressive, accepting of individual risk, and welcoming of new technology. China's distinct score in uncertainty avoidance (30 percent) implies that Chinese consumers are flexible toward uncertainty and ambiguity because of the trust and confidence they have in broiler products imported from Hong Kong and the United States of America (USA). They perceive that meat products imported from those countries are more environmentally friendly and safer. In contrast, societies with a high level of uncertainty avoidance culture are usually described as being intolerable, unwilling to embrace change, and more likely to uphold the existing law. Consumers in these groups avoid conflict, value compromise, and rely more on perceived risk. Consumers in Sierra Leone are more likely to avoid risk due to their high-level

uncertainty avoidance score (50 percent) [46]. Despite the fact that consumer preferences differ, research has shown that societies with a high propensity to avoid uncertainty will tend to resist change. Based on Hofstede's cultural dimension scores, the characteristics of uncertainty avoidance in China and Sierra Leone differ, and their effects are expected to diverge in relation to high-quality broiler purchase behavior. Making comparisons and examining the differences between two distinct cultural groups with regard to their purchase behavior for environmental concerns for high-quality broilers has not been fully investigated. Figure 1 shows the cultural dimensions' comparative scores between China and Sierra Leone.





The comparative analysis shows that China and Sierra Leone have a similar cultural pattern as the cultural dimensions' scores are alike, particularly in individualism and uncertainty avoidance indices. Although there are significant differences in uncertainty avoidance in consumer responses toward promotion framing for a cross-cultural study [30,44]. Based on Hofstede's cultural dimension scores, the characteristics of uncertainty avoidance in China and Sierra Leone differ, and their effects are expected to diverge in relation to high-quality broiler purchase behavior. The distinct score of uncertainty avoidance research revealed that Chinese consumers are flexible toward uncertain risk and ambiguity. In contrast, Sierra Leone consumers are more likely to avoid risk.

The significance of selecting these two markets for investigation is supported by the tremendous increase in chicken consumption, cultural diversity, and concerns about food production that is environmentally benign. This situation illustrates the necessity of researching the significant aspects that could affect purchasing intention and customer behavior toward high-quality broilers in both China and Sierra Leone, where environmental concerns have become necessary factors in the food business. China is an emerging market with distinct cultural values, high economic growth, a wide range of food preferences, environmental concerns, and a perceptual swing from pork to broiler consumption. A low-income nation like Sierra Leone has a variety of cultural values and a wide range of customer preferences and environmental concerns. A deeper understanding of the broiler markets could be gained by looking at the mechanisms that influence consumer behavior in a cross-cultural context. Examining the mechanism that influences their purchase behavior for high-quality broilers in low-income countries with a high level of uncertainty and emerging countries with a high level of income and a low level of uncertainty avoidance could give insight into the broiler markets.

Therefore, the objectives of this study include: to investigate the impact of perceived environmental responsibility (PER), environmental knowledge (EK), new ecological paradigm (NEP), environmental collective efficacy (ECE), and uncertainty avoidance (UA) on highquality broiler purchase intention (PI) and actual purchase behavior (APB) of China and Sierra Leone. Also, the study extends on the work of Lee [13] by including the role perceived environmental responsibility and uncertainty avoidance toward high-quality broiler purchase. This study also investigated the moderating role of individual level of uncertainty avoidance between PER, EK, NEP, ECE, PI, and APB. Moreover, this study also examined whether consumers with low levels of UA (China) and consumers with high-levels of UA (Sierra Leone) are different in purchase intention and actual purchase behavior toward high-quality broiler. With regard to aforementioned objectives, the following research questions were raised.

- Do PER, EK, NEP, ECE, and UA influence actual purchase behavior for high-quality broilers?
- 2. Does individual uncertainty avoidance play a significant role in moderating between the antecedent of purchase intention and actual purchase behavior toward high-quality broilers?

Are there differences between consumers with high-levels of UA and low-levels of UA with regard to high-quality broiler purchase intention and actual purchase behavior?

This research reviewed empirical literature pertaining to the relationships between the explanatory variable (antecedents) and high-quality food purchase behavior. Based on the existing literature, the study empirically examined the relationships among the antecedents (PER, EK, NEP, ECE, and UA) and high-quality PI as well as APB between Chinese and Sierra Leonean consumers. Also, the study tests the moderating role of UA on the relationship among PER, EK, NEP, ECE, and GPI in China and Sierra Leone because Hofstede classified China and Sierra Leone as countries characterized by low and high UA tendencies, respectively, and their impacts are expected to differ. The moderating impact of uncertainty avoidance on high-quality food purchase intention still remains at a rudimentary level.

Therefore, this study compared whether uncertainty avoidance positively moderates the effects of PER, EK, NEP, and ECE on high-quality broiler PI as well as APB in both countries. The study will contribute to international marketing research as it will be the first to analyze the moderating effects of uncertainty avoidance on the formation of highquality food purchase intention and to compare the impacts of uncertainty avoidance on high-quality purchase intention between Chinese and Sierra Leone consumers. Therefore, the current research can generate new insight into the effects of uncertainty avoidance on high-quality food consumption. Furthermore, traders can use these findings to develop innovative marketing strategies to promote broiler consumption in China and Sierra Leone.

The remaining sections of this research are organized as follows: The theoretical and conceptual framework, including hypotheses development, are presented in Section 2. Research methodology, which includes data collection, measurement, and data analysis, is presented in Section 3. Section 4 includes descriptive statistics and SEM, Section 5 includes a discussion of the research findings and implications, and Section 6 includes conclusions, research limitations, and future work.

2. Review of Literature and Hypotheses Development

2.1. Theoretical and Conceptual Framework

The present study adopted the theory of planned behavior (TPB) to investigate the relationship between the antecedents (perceived environmental responsibility (PER), uncertainty avoidance (UA), environmental knowledge (EK), new ecological paradigm (NEP), and environmental collective efficacy (ECE), purchase intention (PI), and actual purchase behavior (APB) of high-quality broilers because of the superiority it has over the other psychological theories to predict human behavior that postulate one's control [20,46]. Furthermore, TPB has been revealed to be one of the most important social psychological models for predicting individual behavior [20]. The TPB model was first developed as an extension to the theory of reasoned action (TRA) by introducing an extra construct variable known as perceived behavioral control (PBC) to attitudes and subjective norms to predict purchase behavioral intention [46].

TPB assumes that an individual's likelihood to perform or not perform a specific behavior is determined by their positive or negative attitude toward that behavior, social

approval for that behavior, and greater control to perform that behavior [46]. Antecedently, the TPB model has been widely employed in many studies related to environmental issues, such as green food purchase intention [47–49], cross-cultural studies [17,20,21,50], online green purchase intention [51], recycling [52,53], and environmental attitude [54,55]. In cross-cultural and purchase behavior studies, including organic and green food products, researchers have utilized an extension of the TPB model in predicting consumer behavior [17,20,27]. The TPB model has been validated in a cross-cultural context to determine high-quality purchase intention as well as behavior. Hence, the present study aims to use the TPB model to predict the relationship between antecedents (PER, UA, EK, NEP, and ECE), PI, as well as APB of high-quality broilers in both Chinese and Sierra Leonean consumers. The proposed research model is illustrated in Figure 2. This figure includes seven constructs: PER, UA, EK, NEP, ECE, PI as well as APB of high-quality broilers. In the next section, the authors establish the relationships between these constructs.



Figure 2. Research model. Note: PER = perceived environmental responsibility; EK = environmental knowledge; NEP = new ecological paradigm; ECE = environmental collective efficacy (ECE); PI = purchase intention; and APB = actual purchase behavior.

2.2. Hypotheses Development

2.2.1. Purchase Intention (PI) and Actual Purchase Behavior of High-Quality Broilers

In the TPB model, intention is considered the main predictor of actual consumer behavior [46]. Furthermore, intention is apprehended as a motivational factor that influences an individual to perform a specific behavior [46]. In other words, intention is assumed to determine a person's behavior, which has been applied to many consumers' decision-making research including green food purchases and consumption. However, there is limited research on actual purchase behavior for high-quality food products, particularly broiler marketing in a cross-cultural context. Additionally, most of the studies used intention and concluded that intention is a significant predictor of green purchase behavior [13,20,21,55], and were investigated in developed and emerging countries. In this study, it is assumed that the higher the level of intention an individual displays towards purchasing high-quality broilers, the more likely the individual is to effectively purchase that type of food product. The following hypothesis is proposed:

Hypothesis 1 (H1): *Actual purchase behavior of high-quality broilers is positively influenced by purchase intention.*

2.2.2. Perceived Environmental Responsibility (PER)

The term "perceived environmental responsibility" refers to the obligation of the user to protect the environment and make sure that their actions don't harm other people or the ecosystem [56–58]. This implies that all members, including high-quality food consumers, should take responsibility for protecting the environment [59]. The desire of consumers to spend extra money in order to purchase high-quality items reflects their resolve to assume personal responsibility [60,61]. Lee [13] found that perceived environmental responsibility was significantly influencing adolescents' green purchase behavior in Hong Kong. Similarly, Zheng's [56] finding revealed that perceived environmental responsibility positively influences green buying behavior. There has been little or no research into the relationship between perceived environmental responsibility and high-quality purchases in a crosscultural context. Therefore, the idea of perceived environmental responsibility requires further investigation to better understand its role as a predictor of purchase behavior for high-quality broilers. Thus, the following hypotheses are postulated:

Hypothesis 2 (H2a): *Perceived environmental responsibility has a positive effect on purchase intention.*

Hypothesis 3 (H2b): *High-quality purchase intention mediates between perceived environmental responsibility and actual purchase behavior.*

2.2.3. Environmental Knowledge (EK)

Environmental knowledge is considered one of the most vital prerequisites for predicting pro-environmental behavior. According to Fryxell and Lo [62], environmental knowledge refers to the degree to which a person is knowledgeable about environmental issues such as general environmental concepts and the relationships between ecological systems. Prior studies have used different concepts to predict the effect of EK on high-quality food, especially green purchase behavior [13,63]. Environmental knowledge can be categorized into general or specific and subjective or objective concepts in order to predict a consumer's green purchase behavior [13,63]. For instance, prior research has examined the effects of specific and general environmental knowledge on pro-environmental behaviors [64,65]. However, their findings were inconsistent. For example, Barber et al. [65] investigated the impact of general and specific environmental knowledge on green purchase intention. Their finding revealed that green products with specific environmental knowledge had a significant impact on green purchase intention, while general environmental knowledge had little impact. In contrast, Polonsky et al. [64] showed that both general and specific EK were positively related to green purchase behavior. Similarly, Ellen [66] investigated the effects of objective and subjective knowledge on recycling-based purchase behavior. His findings showed that there is a significant relationship between subjective knowledge and recycling behaviors, while objective knowledge was significantly influencing committed recycling behavior. Based on the above literature, this research defines environmental knowledge as a personal perception of how familiar or acquaintance one is with the general environmental issues, and we hypothesize that environmental knowledge has a positive impact on purchase intention for high-quality broilers.

Hypothesis 3 (H3a): Environmental knowledge has a positive effect on purchase intentions.

Hypothesis 3 (H3b): *Purchase intention mediates between environmental knowledge and actual purchase behavior.*

2.2.4. New Ecological Paradigm (NEP)

A new ecological paradigm (NEP) is a construct variable that measures consumer attitudes toward environmental products [13,67]. This method was first presented by Dunlap and Van Liere [67] in 1978, and has become one of the most commonly accepted

and extensively used approaches to measure environmental attitudes worldwide [68]. Hence, NEP is frequently used to predict environmental behavior [68]. In this study, the NEP scale was used to measure the cognitive and emotional attitudes of consumers concerning environmental issues with regard to high-quality broilers. Attitudes toward high-quality purchase behavior refer to the degree to which an individual performs holistic favorable or unfavorable appraisals of the behavior in question, and hence, they can predict intentions as well as behaviors [46,69]. Attitude is measured as a predisposition to respond favorably when a person's perception tends towards a positive final behavior [20].

Although several studies have examined the relationship between NEP and proenvironmental behavior, their findings are mixed. For instance, Dunlap and Van Liere [67] showed that NEP has no influence on pro-environmental behavior, while Hinesa et al. [70] found a weak relationship between NEP and green purchase behavior. However, there are a few studies that show a strong positive relationship between NEP and pro-ecological consumption. For example, Lee [13] found a strong correlation between NEP and green purchase behavior. Similarly, Ellen [66] also revealed that there is a positive relationship between general attitudes and pro-environmental behaviors, and hence, NEP is a good and significant predictor of green purchase behavior. Similarly, Hoang and Nguyen [71] showed that NEP significantly influences green purchase intention among Vietnamese consumers. Chen [72] found that NEP influenced Chinese and Taiwanese consumers' willingness to stay in environmentally friendly and environmentally responsive hotels. Individual attitudes, therefore, tend to play a critical role in shaping green purchase behavior in accordance with the intended context of high-quality broiler consumption. The consumer's attitude towards green purchasing intentions of high-quality broilers reflects the consumer's inner values, which guide the consumer's understanding of the products and whether to purchase or not, or to continue to buy them in the future. Thus, based on the TPB and literature review, the study puts forward the following hypotheses:

Hypothesis 4 (H4a): New Ecological Paradigm has a positive effect on purchase intention.

Hypothesis 4 (H4b): *Purchase intention mediates between a new ecological paradigm and actual purchase behavior.*

2.2.5. Environmental Collective Efficacy (ECE)

For high-quality food, including green purchase behavior, researchers often employ the TPB model and norm-activation models [20,73]. Both models view pro-environmental behavior in diverse ways. For instance, norm-activation models view green purchase behavior as pro-socially motivated, while the TPB model observes it as self-interest, which depends on rational choice models as the main motivator [13]. According to the TPB model, individual decision-making is influenced by a rational attitude to evaluate behavioral consequences, perceived behavioral control, which is the ability to estimate the performance of the behavior, and perceived social norms resulting from significant reference group expectations [46]. The TPB model proposes that individuals should not only take into account NEP toward green purchase behavior but also consider the efficacy of performing green purchase behavior when developing a pro-environmental purchase model.

Prior studies have found a relationship between ECE and green purchase intention [13]. For example, strong collective efficacy, which is the conviction that a group's members can work together to accomplish desired results, may be more critical for a single person's contribution to solving a social problem [74]. According to Homburg and Stolberg [75], individuals who are involved in green purchasing activities can be predicted by group efficacy rather than self-efficacy. Lee [13] found that ECE influences green purchase intention in China and Korea. In this study, environmental collective efficacy refers to the belief an individual has about a group's ability to solve environmental issues effectively. Based on the literature, this study assumes that ECE is positively associated with people's willingness to purchase high-quality food products.

Hypothesis 5 (H5a): *Environmental collective efficacy has a positive effect on high-quality broiler purchase intentions.*

Hypothesis 5 (H5b): *Purchase intention mediates between environmental collective efficacy and actual purchase behavior for high quality broilers.*

2.2.6. The Roles of Cultural Dimension (Uncertainty Avoidance)

Hofstede's [45] cultural theory reveals that cultural differences are the major reason for different individual behaviors. As a result, previous studies have used the cultural dimension to examine consumer purchase behavior for different green food products [17,20,76]. Hofstede's cultural dimensions are frequently used for cross-cultural comparisons [44], and China and Sierra Leone are no exceptions. To the researcher's best knowledge, there is little or no existing literature that has explored the path of cultural dimension (uncertainty avoidance) to predict purchase intention for high-quality broilers in China and Sierra Leone. However, with the addition of environmentally friendly factors, the impact of uncertainty avoidance on high-quality food purchases requires further investigation. As a result, the purpose of this research is to fill that gap by further investigating the relationship between uncertainty avoidance and purchase intention for high-quality broilers in China and Sierra Leone.

According to Hofstede [77], culture is a collective system of ideas that differentiates the members of one grouping of individuals from others. Hofstede categorized six cultural dimensions and allocated scores according to the magnitude of those dimensions in the particular culture [45]. Uncertainty avoidance (UA) is one of the dimensions that refers to the degree of fear with which individual members of society feel ambiguity when facing uncertainty or risk [78]. Hofstede [79] concluded that societies with high UA are more likely to concentrate on life security, which increases the use of perceived risk. These communities are susceptible to stress and anxiety because they try to distance themselves from avoidance. According to Hofstede [79], societies with low UA have a more unbigoted attitude and are more competitive in taking on any challenges or risk failing to meet them.

In a high-quality food purchase intention context, an individual with low uncertainty avoidance has the tendency to increase his or her purchase intention for the high-quality broilers. In a country with a high index of UA, people are cautious about unknown things and may perceive relatively high risks. Few studies have investigated the influence of UA on purchase intention and most of these studies expressed that UA has a positive influence on purchase intention, which may also influence consumer choice of green food [80]. For example, green food sourced from recyclable materials may enhance consumers' incertitude with respect to the quality of products. The consumer may feel that environmentally friendly products are of adherent quality compared with those made from original materials. Therefore, the following hypotheses are proposed to test the correlation between uncertainty avoidance and purchase intention and actual purchase behavior for high-quality broilers among Chinese and Sierra Leonean consumers.

Hypothesis 6 (H6a): *Culture (CF) positively moderates PER and PI, such that high CF would strengthen the positive relationships between PER and PI, and low CF would weaken the relationship between PER and PI in both markets.*

Hypothesis 6 (H6b): *Culture (CF) moderates the relationship between EK and PI in both markets, so a high CF strengthens the positive relationships between EK and PI, and a low CF weakens the relationship between EKF and PI.*

Hypothesis 6 (H6c): *Culture (CF) positively moderates between NEP and PI, such that high CF would strengthen the positive relationships between NEP and PI, and low CF would weaken the relationship between NEP and PI in both markets.*

10 of 25

Hypothesis 6 (H6d): *Culture (CF) positively moderates between ECE and PI, such that high CF would strengthen the positive relationships between ECE and PI, and low CF would weaken the relationship between ECE and PI in both markets.*

Hypothesis 6 (H6e): *Culture (CF) positively moderates between PI and AP, such that high CF would strengthen the positive relationships between PI and AGP, and low CF would weaken the relationship between PI and AP in both markets.*

3. Materials and Methods

This study employed a quantitative method by conducting an online survey among meat consumers in order to evaluate the stated hypotheses. The sample participants were comprised of Chinese and Sierra Leonean consumers aged 18 years and above who had been involved in purchasing high-quality broilers and expressed interest in purchasing high-quality broilers. This ensured that the participants had a certain level of knowledge and interest relating to environmental factors, thus improving the prediction of purchase intention.

The questionnaire items were chosen based on the literature review on consumer purchase intention as discussed. The questionnaire consisted of close-ended questions and was first piloted among 30 respondents in both countries to evaluate its substance and functionality (structure, filters, instructions, duration). The questionnaire was administered in both Mandarin (for China) and English (for Sierra Leone). The questionnaire was separated into two sections: the demographic section, which consists of four questions (gender, age, educational level, and monthly household income); and the main variables section, which consists of seven questions and is shown in Appendix A. A total of 998 respondents were jointly collected from both countries. After the elimination of incomplete and duplicate responses, 588 and 410 responses, respectively, from China and Sierra Leone, were counted in the sample for analysis using a structural equation model (SEM) approach.

Measures of Construct Variables

The study examines the role of various types of high-quality determinants in relation to consumer attitude and purchase intention, as illustrated in Figure 2. The measurement scale was adopted from previous validated literature, and a questionnaire was developed using scales in previous literature. The items of each construct were measured using the five-point Likert scale. "1" was anchored as "Strongly Disagree" and "5" was anchored as "Strongly Agree" on the scale. The scales' descriptions are listed as follows: the PER scale was measured using 5 items based on the studies of Dunlap et al. [81] and Dunlap [82]; the EK scale had 3 items based on the study of Wahid et al. [83]; 3 items from the works of Dunlap et al. [81] and Dunlap [82] were used to measure NEP; 4 items from the study of Bonniface, & Henley [84] were used to measure ECE; GPI was measured using 3 items from Kim & Pysarchik [85] and Chan [86]; CF was measured using 3 items adapted from Erdem et al. [87]; and 4 items measuring APB from Asif et al. [88]. An online structured questionnaire with a five-point Likert scale in both languages; Mandarin (for China) and English (for Sierra Leone) were used. A total of 998 responses were collected from both countries via the non-probability sampling approach. After data cleansing, we analyzed 588 and 410 responses from China and Sierra Leone, respectively, using a Structural Equation Model (SEM) approach.

In our study, to facilitate the price comparisons between the two countries, we used the International Comparisons Program (ICP) statistics. Using the statistics for 2021, both currencies were converted to USD for direct comparison. To further keep track of the purchasing power parity in both situations, the sample covers family members whose family monthly income fall within the given intervals for both countries. We arrived at a common interval for the two countries by converting the domestic currency to United States dollars. In the case of Sierra Leone, one United States dollar was equivalent to nine thousand leones (US\$1 = Le 9000) as of September 2021. Similarly, we also converted the

Chinese yuan to the United States dollar. One United States dollar was equivalent to six yuan, three fen (US1 = 46.3).

In Table 1, we present the summarized descriptive statistical analysis of the consumers' socioeconomic characteristics in terms of gender, age, educational attainment, and monthly income. The survey sample has a relatively balanced ratio of males to females in both countries, with 51.29% and 48.71% for males and 54.65% and 45.35% for females for China and Sierra Leone, respectively.

Variables	Categories	China (%)	Sierra Leone (%)
	No. of Responses	588	410
	Male	51.29	54.65
Gender	Female	48.71	45.35
	≤25	14.25	13.62
A 322	26–35	47.24	49.86
Age	36–55	26.09	25.35
	≥ 66	12.42	11.17
	High School and below	1.73	4.82
	Technical Certification	2.78	12.85
Education Background	Bachelor's degree	31.93	35.62
C C	Master	46.83	37.47
	Doctoral	16.73	9.24
	500–600	6.52	28.73
	601–1000	8.70	34.92
Monthly Family Income (\$)	1001-1500	9.24	17.65
	1501-2000	38.58	10.24
	>2000	36.96	8.46

Table 1. Consumer Demography Information.

Age-wise, there are 431 (73.33%) and 308 (75.21%) young adults between the ages of 26 and 55 in China and Sierra Leone, respectively, while this group is also the largest consumer of premium, high-quality broilers. With regards to education, both countries have a comparable number (in percentage) of samples for each of the education levels, which is convenient for comparative analysis. Regarding monthly income, 444 consumers with a monthly household income of \$1501 to \$2000 and above account for 75.54% of the entire Chinese sample, which represents a common income level range for ordinary families in Chinese society. In contrast, 261 consumers with a monthly household income of \$500 to \$1000 account for 63.65% of the total Sierra Leone sample, which represents a common income level range for ordinary families in Sierra Leone.

4. Results

4.1. Measurement Model

The first portion of the analysis concentrated on internal consistency reliability (Cronbach's α , composite reliability, and factor loadings), convergent validity via the average variance extracted (AVE), and discriminant validity (the square root of the AVE) of the constructs. To explore the measured variables of the research model, confirmatory factor analysis (CFA) was conducted to test the validity and reliability of the measurement model using IBM SPSS (version 24.0) and AMOS (version 23). Common reliability measures include Cronbach's α coefficient, fold-half coefficient, retest reliability, and replicate reliability [89,90]. Among them, Cronbach's α is the most widely used reliability measure, and it was employed for this investigation due to its numerous advantages [89]. According to Hair et al. [90], for a construct to be reliable and credible, the computed Cronbach's α value needs to be greater than 0.7. The greater the value, the more reliable the test is [90]. In this study, α was computed separately for the question items corresponding to each measurement construct, in which the Cronbach's (α) of PER, EK, NEP, ECE, PI, CF, and APB exceeded the threshold value of 0.7 and they were greater than 0.8 which showed very good reliability, and the α of CF was >0.7, which also confirmed good reliability for both the China and Sierra Leone samples. This indicated that the data reliability and consistency are high. Based on the overall reliability of the questionnaire and the reliability of each sub-scale, we concluded that this questionnaire is reasonably designed and has strong reliability.

Furthermore, the loading coefficients were utilized to estimate the convergent validity. The loading coefficient, which ranges in value from 0 to 1, is the correlation coefficient (degree) between the variable and the common factor. The greater its absolute value, the closer to 1, the stronger the relationship between the variable and the common factor, and usually a value higher than 0.5 is acceptable [90]. Table 2 displays the factor loading for each question item in this study. All items loaded above 0.5 indicate that the questionnaire exhibited strong structural validity. In order to determine the model fitness for both countries, the data in SPSS were imported into AMOS, and the measurement models were plotted for each country. The model fit is as shown in Figures 3 and 4 for China and Sierra Leone, respectively.

Constructs	Indicators		China			Sierra Leone			
		Loadings	α	CR	AVE	Loadings	α	CR	AVE
	PER1	0.871	0.921	0.938	0.765	0.883	0.902	0.917	0.742
	PER2	0.912				0.903			
Perceived Environmental Responsibility	PER3	0.881				0.901			
	PER4	0.911				0.894			
	PER5	0.882				0.902			
	EK1	0.913	0.916	0.925	0.774	0.885	0.886	0.905	0.763
Environmental knowledge	EK2	0.902				0.883			
	EK3	0.864				0.894			
	NEP1	0.903	0.905	0.917	0.749	0.904	0.903	0.921	0.755
New Ecological Paradigm	NEP2	0.887				0.902			
	NEP3	0.914				0.890			
	ECE1	0.882	0.916	0.942	0.756	0.912	0.887	0.907	0.762
Environmental Collective Effice av	ECE2	0.904				0.873			
Environmental Conective Encacy	ECE3	0.873				0.902			
	ECE4	0.855				0.895			
	PI1	0.882	0.907	0.921	0.784	0.904	0.901	0.916	0.774
Purchase Intention	PI2	0.884				0.903			
	PI3	0.913				0.912			
	CF1	0.904	0.911	0.936	0.761	0.890	0.853	0.903	0.791
Cultural Factors	CF2	0.902				0.901			
	CF3	0.862				0.903			
	APB1	0.914	0.908	0.927	0.774	0.882	0.901	0.923	0.730
Astrol Doubses Robertion	APB2	0.854				0.904			
Actual Furchase Benavior	APB3	0.883				0.892			
	APB4	0.871				0894			

Table 2. Confirmatory Factor Analysis and Convergent Validity.

The chi-square difference ($\Delta \chi^2$), Tucker Lewis Index (TLI), comparative fit index (CFI), goodness of fit index (GFI), adjusted goodness of fit index (AGFI), and root mean square error of approximation (RMSEA) were used to estimate the model fit of the confirmatory factor analysis (CFA) measurement and structural equation modelling (SEM) [91]. The proposed structural model was represented by additive indices of construct items based on the CFA output, with PER, EK, NEP, and ECE as the exogenous variables, PI and CF as the intervening variables, and APB as the dependent variable. In this study, a mediating effect model was used to conduct nested model analysis to further evaluate the model fit's competency.



Thus, the relevance of the contradiction between the two models was investigated in this model analysis.

Figure 3. Measurement model for China.

The major indices for the measurement model of Chinese consumers were as follows: χ^2 (166) = 293.17, $\Delta\chi^2$ =1.766 (p < 0.0001), TLI = 0.918, CFI = 0.931, GFI= 0.921, AGFI = 0.873, and RMSEA = 0.031. In the case of Sierra Leone, the main indices for the measurement model were: χ^2 (183) = 291.29, $\Delta\chi^2$ =1.592 (p < 0.0001), TLI = 0.937, CFI = 0.941, GFI= 0.924, AGFI = 0.875, and RMSEA = 0.041, which are shown in Table 3.

Table 3. Model fit results of the measurement models.

Model Fit Indices		Values	Values				
	Criteria	China	Sierra Leone				
χ^2/df	<3.0	1.766	1.592				
GFI	≥ 0.90	0.921	0.924				
AGFI	≥ 0.80	0.873	0.875				
TLI	≥ 0.90	0.918	0.937				
CFI	≥ 0.90	0.931	0.941				
RMSEA	< 0.08	0.031	0.041				

The measurement model fit assessment indicated an acceptable fit of the models. The $\Delta \chi^2$ for the China and Sierra Leone models was 1.766 and 1.592, respectively, which was less than the threshold of three (3); the GFI was 0.921 for the China model and 0.924 for the Sierra Leone model, which was greater than 0.90; the AGFI was 0.873 for the China model and 0.875 for the Sierra Leone model, which were both greater than 0.85; the CFI for the China model was 0.931 and the Sierra Leone model was 0.941, which were both greater than 0.90, and the RMSEA was 0.031 and 0.041, which were both less than 0.08 for China and Sierra Leone, respectively. These data are all within the commonly accepted thresholds suggested in the relevant literature [89,90,92,93]. Therefore, the fit indices indicated that the models had a good fit to the data.



Figure 4. Measurement model for Sierra Leone.

Moreover, our findings met the requirement of Fornell and Larcker [93] for discriminant validity across the two samples (China and Sierra Leone). "The square roots of each antecedent's AVE were greater than its correlation with another antecedent". See the result in Table 4. Consequently, the square root of the AVE was compared to their paired correlations as shown in the diagonal (highlighted in bold) of the correlation matrix in Table 4 to establish discriminant validity. So far, the pre-estimation of the survey data has been fully completed.

Country		Mean	SD	PER	EK	NEP	ECE	GPI	CF	APB
	PER	4.41	0.528	0.876						
	EK	4.32	0.522	0.184	0.878					
	NEP	4.18	0.604	0.163	0.243	0.888				
China	ECE	3.87	0.520	0.234	0.215	0.133	0.859			
	PI	4.07	0.613	0.274	0.320	0.241	0.174	0.868		
	CF	4.02	0.719	0.281	0.193	0.273	0.183	0.212	0.874	
	APB	4.08	0.528	0.253	0.314	0.334	0.293	0.224	0.193	0.882
	PER	4.05	0.628	0.869						
	EK	4.10	0.527	0.213	0.874					
с: т	NEP	4.01	0.470	0.184	0.334	0.873				
Sierra Leone	ECE	4.11	0.504	0.321	0.310	0.263	0.855			
	PI	4.29	0.548	0.174	0.164	0.331	0.214	0.872		
	CF	4.18	0.640	0.243	0.184	0.272	0.152	0.174	0.866	
	APB	4.12	0.627	0.223	0.334	0.354	0.171	0.194	0.232	0.893

Table 4. Correlation matrix, descriptive statistics, and discriminant validity.

4.2. Structural Model

After confirming the measurement models in the pre-estimation analysis, we estimated the structural model to test the proposed study hypotheses. Structural equation modelling has been frequently used in studies of attitudes and behavioral intentions using TPB concepts [32,94–97].

In China, the primary estimates for the structural model were: $\chi^2_{(182)} = 337.00$, $\Delta\chi^2 = 1.852$ (p < 0.0001), TLI = 0.927, CFI = 0.943, GFI = 0.918, AGFI = 0.884, and RM-SEA = 0.036. The Sierra Leone main indices for the SEM were: $\chi^2_{(172)} = 327.80$, $\Delta\chi^2 = 1.906$ (p < 0.000), TLI = 0.931, CFI = 0.928, GFI = 0.944, AGFI = 0.891, and RMSEA = 0.042. The critical ratio (CR) is an indicator used in item analysis to test whether the questionnaire items are able to identify the level of response of different respondents and is calculated as the estimated value of the regression coefficient divided by its standard error. In this study, a significant level of CR is required to be less than 5%, which was calculated using AMOS (version 24.0). The specific values are shown in Table 5.

In the estimated structural equation model, the variables PER, EK, NEP, and ECE explained 88.6% of the variation in the Chinese customer's purchase intention of high-quality broilers. Additionally, PI explained 76.3% variation in the actual buying behavior of the consumers for high-quality broilers. On the other hand, PER, EK, NEP, and ECE explained 84.2% variation in Sierra Leonean consumers to make high-quality broilers purchase intention. Overall, the estimated model for Sierra Leone explained 71.9% of the variability in the actual purchase behavior of high-quality broilers. The R² values for each outcome variable in both models for the direct relationships are reported in the lower panel of Table 5.

At the two tails, we used the bias-corrected accelerated bootstrapping technique (5000 sub-samples) with a significance level of 0.05 and multi-group analysis [90,97]. We discovered that high-quality broilers' PI had a significant impact on actual purchase behavior (APB) in both countries. Consequently, Hypothesis H1 was proven correct [13]. This study found that PER, EK, NEP, and ECE considerably influenced consumers' purchase intention of high-quality broilers in China and Sierra Leone. Accordingly, the Hypotheses H2a–H5a were likewise found to be valid. Based on the results, purchase intention for high-quality broiler meat and actual purchase behavior were more influenced by Chinese consumers than their Sierra Leone counterparts (see Table 5).

This study found mediating effects of PI between actual purchase behavior and the antecedents (PER, EK, NEP, and ECE) toward high-quality broilers in both countries. As a result, it was determined that the Hypotheses H2b–H5b could be true. In China, it was determined that the moderated interaction between PI and CF on APB was not significant; however, in Sierra Leone, it was determined that this interaction was significant. The moderation Hypotheses (H6a–H6e) therefore received some support. Similar findings were observed for the moderating effects of CF and PER, EK, NEP, and ECE on PI in China. These

Hypothesis	Path	China		Sierra	Sierra Leone			
		β-Value	C.R.	β -Value	C.R.	Supported		
		I	Direct Relationshij	2				
H1	PI→APB	0.483 ***	11.527	0.379 ***	10.52	Yes		
H2a	PER→PI	0.256 ***	10.392	0.232 ***	4.792	Yes		
H3a	$EK \rightarrow PI$	0.189 ***	5.621	0.103 **	3.427	Yes		
H4a	NEP→PI	0.138 ***	4.183	0.108 **	3.628	Yes		
H5a	ECE→PI	0.252 ***	5.627	0.262 ***	7.623	Yes		
		Me	ediating Relations	hip				
H2b	PER→PI→APB	0.451 ***	8.536	0.322 ***	9.722	Yes		
H3b	$EK \rightarrow PI \rightarrow APB$	0.310 ***	9.832	0.190 ***	6.029	Yes		
H4b	NEP→PI→APB	0.219 ***	8.933	0.173 ***	8.828	Yes		
H5b	ECE→PI→APB	0.325 ***	7.748	0.147 ***	5.492	Yes		
	Moderating relationships							
H6a	$PI \times CF \rightarrow APB$	0.073	0.826	0.419 ***	7.201	Yes		
H6b	$PER \times CF \rightarrow PI$	0.018	0.788	0.362 ***	6.529	Yes		
H6c	$EK \times CF \rightarrow PI$	0.109	0.282	0.315 ***	6.095	Yes		
H6d	$NEP \times CF \rightarrow PI$	0.026	1.095	0.110	1.052	No		
H6e	$ECE \times CF \rightarrow PI$	0.088	0.938	0.197 **	2.883	Yes		
	Ex	plained variance ((\mathbb{R}^2) for each dependence	ndent variable in the	e direct relationsh	uip		
		PI	APB	PI	APB			
		0.886	0.763	0.842	0.719			

effects of NEP and CF on PI.

Note: "(** p < 0.01), (*** p < 0.001), and (two-tailed)", the Sobel Test's z-values are replaced in the C.R. columns for mediation relationships. \times = Multiplication.

moderating effects were significant in Sierra Leone, with the exception of the moderating

The permutation test was employed to compare China and Sierra Leone. This study's results revealed that there were no significant differences (p > 0.05) between China and Sierra Leone for any of the hypotheses, with the exception of H3b. With regard to PI and APB, the two countries shared a similar perspective on PER, EK, NEP, and ECE. However, the findings of these linkages vary between the cultures of the two countries.

5. Discussion and Implications

5.1. Discussion

According to this study, culture plays a significant effect in forming attitudes and behaviors regarding products. Previous studies looked into how culture affected purchasing decisions in various nations and discovered a cross-cultural influence. In accordance with this notion, we sought to examine the purchase intention and behavior toward highquality broilers while concentrating on uncertainty avoidance as a cultural dimension. This study discovered the perceptions of consumers' purchase intentions of high-quality broilers among Chinese and Sierra Leonean consumers, such as H2a–H5a, indicating that PER, EK, NEP, and ECE were effective indicators that affect purchase intentions of highquality broilers in Chinese and Sierra Leonean markets. However, China had a more significant impact than Sierra Leone. Therefore, customers in China are more interested in buying features of high-quality broilers. This finding agrees with [98] who found that Chinese consumers are more likely to be influenced by high-quality buying features and environmental control, and in this present study, the effects were more pronounced in China than in Sierra Leone. Similarly, the results from Hypothesis 1 (H1) showed that perceived environmental responsibility of high-quality broilers had a considerable impact on Chinese and Sierra Leonean consumers' actual high-quality broiler purchase behaviors. However, in comparison to Sierra Leone, the effects in China were more obvious. Similar

Table 5. Hypothesized Structural Model Results.

results were found by Lee [13] for Chinese and Korean markets, which support our findings. Consequently, it was discovered that PI is a possible signal that favorably influences actual purchase behavior of high-quality broilers in the two studied markets.

According to the findings of H2b–H5b, PI played a crucial role in mediating the relationship between actual purchase behavior toward high-quality broilers and the antecedents PER, EK, NEP, and ECE. The mediating effects of PI were more pronounced in China than in Sierra Leone due to their great dedication to environmental responsibility, environmental knowledge, and the new ecological paradigm. This finding is also in line with the finding in [13]. These considerations have significantly influenced Chinese customers' intentions to buy high-quality broilers in a sustainable way. It was discovered that using buying characteristics and behavioral attitudes toward purchases as signals of a desire to buy organic meat considerably improves a company's reputation in Vietnamese markets [27]. Even more so, high-quality broiler purchasing criteria influence consumer behavior in both direct and indirect ways [95]. NEP similarly affects Chinese and Sierra Leonean customers' attitudes toward premium broilers in both direct and indirect ways. The results of Pena-Garca et al. [27], who discovered that NEP had both direct and indirect effects on purchasing behavior in Spain and Colombia, lend weight to this conclusion.

Results from H6a–H6e demonstrate that Sierra Leonean culture was significantly influenced by the predictors with the exception of H6d; however, there was no moderating effect on PI and APB in Chinese culture. As a result, the study shows that Sierra Leonean customers select premium broilers to handle unexpected situations and avoid them. This finding is consistent with Hofstede's rankings of cultural dimensions, which assigned China 30 points (which has a low culture of uncertainty avoidance) and Sierra Leone 50 points (which has a high culture of uncertainty avoidance) for their respective cultures of uncertainty avoidance. Sierra Leonean consumers choose to purchase high-quality broilers to avoid ambiguous and uncertain situations, but Chinese consumers are more tolerant to ambiguous and uncertain situations. The favorable associations between PI and APB, PER and PI, EK and PI, and ECE and PI were reinforced in Sierra Leone by high uncertainty avoidance (CF), as demonstrated in Figures 5–8, while the unfavorable effect of low CF was diminished. As a result, customers in Sierra Leone with high levels of uncertainty avoidance favor premium broilers over those with low levels.

However, broilers are a preferred option for Chinese customers due to their highquality characteristics, such as their chemical-free status, freshness, country of origin, certification, and breeding procedures. Due to their confidence in the product's quality, it was discovered in this study that Chinese consumers do not consider uncertainty avoidance while making purchases of premium broilers (based on the study's insignificant moderating effects in Table 5).



Figure 5. Moderating Effects of Uncertainty Avoidance (CF) between PI and APB.



Figure 6. Moderating Effects of CF between PER and PI.



Figure 7. Moderating Effects of CF between EK and PI.



Figure 8. Moderating Effects of CF between ECE and PI.

Figures 5–8 presents a more intuitive comparison of the structural equation model results. It demonstrates that the high-quality broiler purchase intention of the high uncertainty avoidance group was stronger than that of the low uncertainty avoidance group for Sierra Leonean consumers, which conformed to the expectation that uncertainty avoidance helps to promote high-quality broiler welfare product consumption. The positive moderating effect of uncertainty avoidance was mainly manifested in the slope for the high uncertainty avoidance group, which was bigger than that of the low uncertainty avoidance group; that is, the impact of consumers' perceptions of environmental factors on high-quality broiler purchase intention in the high uncertainty avoidance group was bigger than that in the low uncertainty avoidance group, which was also in line with our expectations. The reason may be that uncertainty avoidance may be an important factor in motivating consumers to buy high-quality broiler products in Sierra Leone as opposed to China.

Customers in Sierra Leone are more likely to avoid uncertainty (CF), which reinforces the favorable association between predictors and outcomes. The slope interactions support the study of uncertainty avoidance regarding high-quality broiler; as a result, uncertainty avoidance has an impact on Sierra Leonean consumers' high-quality buying intentions.

5.2. Theoretical Implications

The principal theoretical contribution of this study is the expansion of an empirical research model based on the theory of planned behavior, which can be used for subsequent comparative studies. The second aspect of this study was to extend prior findings of the influence of environmental factors and cultural factors (uncertainty avoidance) on the purchase intention of high-quality broilers. More so, this study supplements the existing literature by applying cultural factors (uncertainty avoidance) as moderators in a proposed model to discover new and improved methods for measuring uncertainty avoidance in purchase intention. This research also contributes to validating the survey instrument using the various factors used in the proposed model. Researchers might adopt the survey instrument with increased confidence in a marketing context. Finally, the study argues and provides empirical evidence that culture is an important exogenous variable in the theory of planned behavior as it influences perceived environmental responsibility, environmental knowledge, new ecological footprints as purchase intention, and actual purchase behavior for the high-quality broiler.

5.3. Practical Implications

The principal marketing implication of this study provided empirical support from China and Sierra Leone markets that uncertain avoidance plays a critical role in meat buying decisions, resulting in a better perception of meat quality and effectiveness. The study also provides guidelines for meat producers and marketers, who want to integrate a sustainable environment into their products. This study might be useful to meat industry managers who could apply the insights to modify their marketing strategies. Broiler producers could use this finding to improve desirable outcomes by focusing on the relationship between cognitive assessments and consumer perceived quality attributes, which might boost their sales and profit margin. Since consumers are more interested in buying high-quality broilers with environmental factors, there is a need for the meat industry to understand which quality attributes consumers consider in order to ascertain what is important and how it could influence their purchase intentions.

6. Conclusions, Recommendations and Limitations

6.1. Conclusions and Recommendations

The study developed a unique model that links uncertainty avoidance with the elements of PER, EK, NEP, and ECE to predict the purchase intention (PI) and actual purchase behavior for high-quality broilers. The study concludes that PER, EK, NEP, and ECE are essential drivers of PI and necessary indicators to signal purchase intention in China and Sierra Leone. In China, the PER, EK, NEP, and ECE have more power than in Sierra Leone. In both marketplaces, the PI of high-quality broilers has been shown to mediate the reduction of consumer uncertainty and the improvement of customer actual purchase behavior. Interestingly, UA also served as an important intervening variable or moderator between PER, EK, NEP, ECE, and PI, and between PI and APB in the Sierra Leone market. Therefore, enterprises in African markets, particularly Sierra Leone, can conduct market segmentation of their customers and target these segments with persuasive positioning approaches by taking the cultural element (avoidance of uncertainty) into account.

6.2. Limitations and Future Research

Though this study covers several concepts, it still has certain limitations that, if overcome, could help bring further clarification to the study's findings. Firstly, the study was limited to only one Asian market (China) and one African market (Sierra Leone). However, we are not oblivious to the fact that the sample size and number of countries could be increased to improve the validity and applicability of the findings to other Asian and African markets. Secondly, the study used only one of Hofstede's cultural dimensions, UA as a moderator. Future studies should consider incorporating all six of Hofstede's cultural dimensions. Thirdly, our study considered only four main predictors, and there may be a number of other predictors that could influence consumers' decisions to purchase high-quality broilers. Future studies should explore a larger range of predictors such as environmental concerns, health, and demographic factors.

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Data Availability Statement: Data available on request.

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Appendix A

Table A1. The measurement scale of construct items and sources.

Constructs	Symbol	Statement	Source
	PER1	Environmental protection starts with me.	
Perceived Environmental Responsibility	PER2	I think I should have broad duties for protecting the environment.	
	PER3	I have been commited in protecting the environment, since I was young	[56,81,82]
	PER4	I am able to take responsibility for environmental protection in community	56,81,82]
	PER5	Environmentalprotection is not my duty, but that of the government.	

Constructs	Symbol	Statement	Source	
	EK1	I know how to protect and not cause damage to the environment.		
Environmental Knowledge	EK2	I am knowledgeable about causes and effects of global warming	[56,83]	
	EK3	I know the origin and effects of particulate matter		
	NEP1	Mankind are seriously abusing the environment as a result of food production.		
New Ecological Paradigm	NEP2	The balance of nature is very delicate and easily upset.	[13,82]	
	NEP3	If climate change continue on their present course, we will soon experience a major ecological calamity.		
	ECE1	I believe that we as members of one community can together reduceenvironmental degradation around us.		
	ECE2	I hope that my involvement in environmental conservation will also positively affect my family and friends	[13,84]	
Environmental Collective Efficacy	ECE3	I believe that we as members of one community can together encourage more and more people to behave in an eco-friendly way.	[13,84]	
	ECE4	I believe that we as members of one community can together help mitigate global climate change.		
	PI1	I will surely consider purchaing a pro-environmental broiler.		
Purchase Intention	PI2	I will prioritize a pro-environmental broilervwhen shopping	[85,86]	
	PI3	I feel like buying a pro-environmental product everyday		
	CF1	It is important to closely follow instructions and procedures.		
Cultural Factors	CF2	regulations are important because they inform me of what is expected of me	[87,99,100]	
	CF3	It is important to have instructions spelled out in detail so that I always know what I am expected to do.		
	APB1	Before any purchase of broiler, I check labels and see if it contains things that are harmful to the environment		
	APB2	When the characteristics of the products are identical, I prefer green goods to non-green products.		
Actual Purchase Behavior	APB3	I prefer to purchase broiler that are environmentally friendly.	[56,87,88]	
	APB4	I buy high-quality broiler despite they are costlier than non-green products		

Table A1. Cont.

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