

Article

Factors Influencing Organic Food Purchase Intention in Developing Countries and the Moderating Role of Knowledge

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Abstract: The current study focuses on understanding the factors (subjective norms (SNs), personal attitude, and perceived behaviour control (PBC)) that influence consumer purchase intention regarding organic food from the theory of planned behaviour and health consciousness as an additional factor in Tanzania and Kenya. It further explains the role of knowledge as a moderating variable in organic food purchase intention. A total of 331 responses from Tanzania and 350 responses from Kenya were obtained. Confirmatory factor analysis was applied for validation, and results were analysed using structural equation modeling. SNs, personal attitudes, and health consciousness were found to be significant predictors of organic purchase intention in both countries. Furthermore, findings show that knowledge positively moderates the relationship among SNs, personal attitude, health consciousness, and organic food purchase intention. However, PBC was found to be a weak influencer on consumer purchase intention in Kenya, and no knowledge interaction between PBC and consumer purchase intention in Tanzania was found. The current study theoretically contributes to the literature by introducing the moderating role of knowledge in the relationship. The results show that knowledge interaction increases the effects of the majority of predictors after being introduced in the relationship. Finally, this study provides an understanding of consumers' perspective regarding their intention to purchase organic foods, which will help stakeholders, such as marketers, retailers, and producers, to achieve marketing strategies for the development of these products.

Keywords: consumer behaviour; theory of planned behaviour; organic food

1. Introduction

Organic food production uses a system that combines the best environmental practices, preserves natural resources, and applies high standards of animal welfare. This goal is carried out by providing specific high-quality products that can satisfy certain consumers' demands [1]. Thus, consumers who prioritize food safety show their intention to buy food products that are environmentally friendly and deemed safe to protect their health [2–4]. Therefore, organic foods are defined as foods produced without herbicides, pesticides, antibiotics, inorganic fertilizers, and growth hormones [5]. Various bodies of literature have provided different definitions of organic foods, of which nearly all definitions were based on attributes, such as safety, nutrition, vital qualities, organic integrity, and true nature [6]. Organic foods are gaining popularity in developed and developing countries. As some countries in the North American and European regions are reported to comprise over 90% organic foods sales, a number of countries in Africa also reported an increase in organic farming land, that is, from 52,000 ha

in 2000 to over 1 million ha in 2014 [7]. The total global sales of organic food products have shown an impressive growth, which is reported at approximately USD 80 billion, as per a 2014 report [7]. This growth in organic foods farming in African countries is correlated with the increasing concern of organic foods consumption in developing countries due to improvement in the quality of life [3,8]. However, the reason for the increased consumption of organic foods in developing countries is caused by increased awareness of a healthy diet [9,10].

Recently, in Tanzania, consumers have considered organic foods because they are produced without using pesticides and other farming-related materials that are reportedly harmful to human health [11]. Fast-spreading information through social and other media on food scandals and multiple warnings about conventional foods have influenced consumers to consider organic foods [12,13]. For example, according to a study [14], 11% of milk powder samples that were purchased in Tanzania contained melamine at dangerous levels. This report suggested that contaminated milk from China reached East Africa, which was due to the lack of efficient food surveillance systems in Africa and China. Therefore, the rising demand for organic foods in Tanzania has forced many producers to shift from conventional to organic food production. The organic food effort started in the 1990s through certified organic farming for export by organizing smallholder farmers into cooperatives. The Tanzanian Certification association, the first local certification body in the country, was established. This effort was made possible with support from the Swedish International Development Cooperation Agency. Thereafter, a national network, namely, the Tanzania Organic Agriculture Movement (TOAM), was established with the goal of developing a sustainable organic sector through promotion, coordination, education, and research [15]. In 2015, Tanzania is estimated to own 268,729 ha of farmland [7].

On the other hand, Kenya's consumers were also reported to consider organic foods. In one study [16], the willingness to pay a premium for organic foods (African leafy vegetables) in terms of the level of education and type of outlets was assessed. Kimemia and Oyare [9] addressed the key benefits of promoting organic foods, one of which is to promote health to Kenyans' population. The Kenyan organic food industry started in 1986 and then shifted from individual to collaborative efforts with the establishment of organizations, such as the Kenya Organic Farmers' Association. The association published organic farming standards for members based on standards by the International Federation of Organic Agriculture Movements and the European Union (EU) [17]. Kenya's government and local non-governmental organizations have been dedicated to organic agriculture training, research, and promotion. Organic agriculture in Kenya has achieved a degree of legitimacy and authority in the eyes of donors, agro-scientific institutions, the Kenyan state, and small-scale farmers [18]. As of 2015, Kenya is estimated to own 150,479 ha of farmland [7]. Over the previous decade, organic food farming in developing countries has massively advanced in response to worldwide transformations in consumption inclination and cross-border purchasing requirements [19].

Multiple competitive studies found in the literature clarify organic food consumption behaviour [10,20–26]. The majority of these studies focused on developed economies perhaps due to increased demand in the developed world. Information presented via the literature on the effort exerted by both countries (Tanzania and Kenya) states the importance of evaluating the future perspectives of the local demand for organic products. The question imposed is "What are the factors that drive consumers' organic food buying intention in these countries?" Therefore, the current study aims to investigate the factors that describe consumer intention to purchase organic foods. Factors, such as subjective norms (SNs), personal attitude, and perceived control behaviour from the theory of planned behaviour (TPB) and health consciousness, were selected for testing.

Tanzania and Kenya lack empirical studies that specifically investigate the relationship between organic foods and consumers. Alphonse and Alfnes [3] used a Tanzanian sample to investigate consumers' willingness to pay a premium for organically produced tomatoes. Their findings reveal that consumers are mainly concerned about food safety. Furthermore, Nandonde and Kuada [27] used a Tanzanian sample to explore retailers' modern food purchase behaviours although the study does

not specify whether the food was organic or conventional. Other studies in Kenya, such as Lagerkvist and Hess [28], Chelang'a and Obare [16], and Lagerkvist and Okello [29], investigated the factors that influence consumer intention to purchase safe food. Consumers prefer nutritious foods, which are prepared with certified standard farms. However, the term “organic foods” was not specifically mentioned. Furthermore, the background factors that influence their intention to purchase this type of foods were not presented. Gakobo and Jere [30] used TPB to predict consumer intention to purchase African indigenous food in Kenya. Consequently, their gathered information provided research gaps on factors that influence consumer intention to purchase organic foods.

Consumers in these areas benefit from social media information, that is, an asymmetric type of information regarding organic foods and food safety. Although the information provided contributed to the enhancement of consumer purchase intention, consumers cannot distinguish the attributes of organic foods from conventional foods. This condition can negatively affect consumer purchase intention and the progress of organic food demand in the market. Tanzania and Kenya have exerted efforts to promote organic foods through National Organic Agriculture Movements to take advantage of local markets by providing marketing information, building capacity, and establishing linkage as reported by Rundgren and Lustig [31]. However, without comprehending customer factors that drive the intention to purchase organic foods, these efforts are insufficient. We argue that the factors, which influence consumer intention to purchase organic foods and the tested empirical findings will be very useful to stakeholders. These findings will provide proof of consumers' underlying motives for purchasing organic foods in addition to the current evidence. Furthermore, these factors will benefit stakeholders to establish appropriate market strategies for the development of the long run demand for these food products.

The study used Tanzania and Kenya as the sample because these countries are well known as agricultural producers and neighbours that share a number of their products and strive toward an organic market. They have promoted organic product projects, such as “Promoting Production and Trading Opportunities for Organic Agricultural products in East Africa” that was initiated by the United Nations Conference on Trade and Development [32]. Participation in organic movements using their countries' associations, such as TOAM and Kenya Organic Agriculture Network, prove the existence of harmonization and cooperation between both countries. Therefore, an investigation of consumer behaviour toward organic food consumption provides valuable insights individually and collectively. To accomplish the test, the SEM approach was applied. This test was also applied to other studies with similar objectives, such as de Magistris and Gracia [26] and Honkanen, Verplanken, and Olsen [5]. The remainder of the paper is structured as follows: Section 2 provides a literature review, in which all selected factors are explained in detail in relation to the existing literature. The study hypotheses are also presented in this section. Section 3 presents the methodology. Section 4 discusses the results. Lastly, discussion and conclusion are presented in Section 5.

2. Literature Review and Hypothesis

The literature defines intention as a person's plan, commitment, or decision to carry out an action or achieve a certain goal [33,34]. It is the direct antecedent of one's behaviour [33,35]. A consumer's intention to perform a behaviour is regarded as the primary determinant of its future behaviours. Ajzen, in his TPB, clarified that, when behaviour is under one's control, intention can predict behaviour with significant accuracy [35]. Thus, behaviour can be measured if the intention to perform is strong. If an individual is motivated by certain behaviours, then he/she can make a decision, and, ultimately, intention. Consumption intention is one's action toward a certain brand, which occurs due to the decision to act. In turn, this act reveals one's behaviour toward a certain product. This decision can be influenced by various factors, such as product feature, the perception of other consumers, and perception of the manufacturing country [36], which frequently originates from quality concerns [37]. The dependent variable in the study is purchase intention, which can be defined as the strength of mind to operate in a particular manner as a means to purchase [38].

The current study explores factors (SNs, personal attitude, and perceived behaviour control (PBC)) from the TPB. These factors are deemed to contribute to consumer purchase intention in relation to organic foods. The TPB has been largely useful in predicting consumer purchase intention [39]. It is a parsimonious, well-grounded theory, which robustly predicts a wide variety of planned behaviours [35]. Furthermore, it is well-suited to investigate and predict consumer purchase intentions. The theory focuses on individuals' volitional control. As such, various types of behaviours have been successfully predicted using this theory [40,41]. The TPB has been incorporated in the retail food market to elucidate consumer purchase intentions. Its wide applicability enables it to be a significant model for understanding consumer preferences in the food industry. Therefore, the TPB, with the addition of one more construct, namely, health consciousness, was used to investigate organic food purchase intention. The theory's constructs are as follows:

SN refers to the perception that others would approve of the decision of whether or not to consume. That is, an individual's perception of social pressure convinces one to perform the behaviour in question or not [42–44]. Thus, it reveals the beliefs of individuals on how they would be viewed by their reference groups if they are involved in certain behaviour. SNs consist of two interacting components: believing in the interest of other people, how one would like to see other people behave (normative beliefs), and negative or positive judgment about each belief (outcome evaluations). This perception can practically influence an individual to purchase organic products because it deals with the opinion of other people, who may have the power to influence the individual over a particular product. This notion can, therefore, significantly affect purchase intention in relation to organic foods [10]. This study summarizes this understanding with the following hypotheses:

Hypothesis 1 (H1). *SNs positively influence consumer purchase intention.*

Personal attitude, in theory, refers to the degree to which a person holds a favourable or unfavourable evaluation of a certain product. An individual with this attitude can be attracted to and take a stand on evaluative considerations [45]. A personal attitude toward the behaviour or attractiveness of the proposed behaviour or, in other words, the degree to which the individual holds a positive or negative valuation on purchasing organic foods is deemed to influence consumption intention [46,47]. In light of the increased purchase of organic foods as highlighted in the literature [48,49], we assume that attitude toward organic food purchases is extremely positive. The influence of personal attitude on organic food purchase intention was examined by testing the following hypothesis:

Hypothesis 2 (H2). *Personal attitude positively influences consumer purchase intention.*

PBC is the third construct, which is defined as the perception of ease or difficulty of performing a particular behaviour, i.e., the degree to which an individual feels that performance or non-performance of the behaviour in question is under their volitional control [43,46]. Thus, it is the degree of control that one perceives over the performance of the behaviour [48,50]. However, PBC is dependent on perceived limitations and ability that influence the buying intention of consumers [20]. In this manner, price consciousness and availability are considered major barriers in organic food consumption. Customers with the intention to consume these products may be ready to pay an exceptional price. However, they may be unable to afford due to several reasons, such as a recession or financial problems [20]. An individual controls his own behaviour. Therefore, the decision to purchase is a result of individual beliefs [42]. At the same time, Govindasamy, Puduri, and Simon [22] revealed that control is a major contributor to the elucidation of relationships. The influence of PBC on organic food purchase intention was examined by testing the following hypothesis:

Hypothesis 3 (H3). *PBC positively influences consumer purchase intention.*

Health consciousness. The consumption of organic products is considered as an investment for individual health [51–53]. Organic foods are frequently described as healthier than conventional foods [54,55]. Health consciousness evaluates one's readiness to decide on health actions. Consumers who are health conscious, such as those recognized as organic food buyers, are motivated to improve or maintain their health and quality of life because of their awareness and concern about their well-being [56]. Buyers of organic foods are aware of the effects of food intake and understand the risks associated with pesticides [57]. Therefore, they prefer healthy foods to protect their well-being. Siegrist [58] proposed that consumers are aware of the risks associated with genetically modified (novel) or traditional (inorganic) food products. As a result, organic foods are perceived as health products to be consumed. Health consciousness has been found to predict consumer purchase intention in relation to organic foods [59,60]. The findings from Alphonse and Alfnes [3], de Magistris and Gracia [26], Schifferstein and Oude Ophuis [56], Ludviga, Ozoliņa, and Afonina [61], Olivas and Bernabeu [62], Zagata [63], and Hamzaoui et al. [64] reveal that health is the primary factor of consumer purchase intention. A health concern has been found to differently predict intention to purchase organic foods. Thus, this study examined this perspective by testing the following hypothesis:

Hypothesis 4 (H4). *Health consciousness has a significant positive influence on consumer purchase intention.*

Knowledge. Furthermore, this study explores the role of knowledge as a moderating variable on the purchase intention of consumers in relation to organic food products. Knowledge of green brands enables consumers to develop a positive organic product marketing awareness and bolster their interest in preventing degradation of and fortifying the environment [65]. According to a focus group research [66], buyers and non-buyers desire to be better informed and appreciate supplementary information about the organic certification process when they make a purchase. Former competitive studies noted that consumers' positive attitude toward organic products can influence their purchase intention [67,68]. This attitude has developed from the knowledge that consumers have gathered about a product.

In addition, Smith and Paladino stated that knowledge of organic foods positively impacts the development of organic attitudes [69]. Padel and Foster [66] specified that the lack of information negatively influences green purchase behaviour. Thus, individuals are willing to accept health information with an external source and inclined to opt to improve their health behaviours [66]. Numerous studies report that environmental knowledge positively impacts consumer purchase intention and actual purchase of organic products [65,70–72]. Currently, the context of the study remains on developing economies, in which the organic food market is in its initial stages. Therefore, this study aims to examine the role of knowledge in the overall purchase intention of organic foods. The next hypothesis may be postulated as follows:

Hypothesis 5 (H5). *Knowledge positively moderates the relationship among SNs, personal attitude, PBC, health consciousness, and purchase intention.*

3. Methodology

We conducted a pilot survey to verify the current level of knowledge in relation to organic foods. A questionnaire was designed to consist of question regarding knowledge and motivation factors behind the purchase of organic foods. Forty questionnaires were sent to potential respondents in each country of interest for the pilot study. A general rule of thumb recommended by Browne [73] is to take 30 respondents or more to estimate a parameter. The results show that knowledge about the product is nearly identical in both countries. After the short survey, the structured questionnaire was designed to collect quantitative data from Kenya and Tanzania. The questionnaire was adopted from various studies, such as Asif et al. [74] and Keller [75] was considered relevant for the measurement of a construct. The questionnaire was drafted in English and translated into Swahili to ensure the

semantic equivalence of the constructs [76]. Then, the Swahili version of the questionnaire was back-translated into English by an independent scholar to assess whether the two versions of the questionnaire were conceptually and linguistically equivalent. A few discrepancies that were noted between the two versions were corrected before the questionnaire was administered. In this process, a questionnaire was adopted from Tarkiainen and Sundqvist [77] to measure health consciousness. Moreover, a questionnaire was adopted from Asif et al. [74] to measure attitude, SNs, PBC, and intention to purchase. The questionnaire on organic product knowledge was adopted from Keller [75]. The questionnaire items for this study is indicated in Appendix A. All constructs were measured on a seven-point Likert scale. Stratified random sampling was used in each country prior to asking the specific items to respondents. The criteria for stratification were as follows: (1) each respondent should be at least partially responsible for the family's grocery shopping and (2) the respondent should consume organic foods at least three times a week.

The study targeted middle-class respondents and sought help from local researchers. A list of potential respondents based on income level was provided. Middle-class consumers were defined as those with a monthly income level of US\$650 or more in Kenya and Tanzania. Our research defines middle class as the stable drivers of businesses given their demand for a variety of products. In addition, the majority of marketing campaigns target this class [78]. Thus, this class can easily access information regarding the importance of organic foods and be influenced by such information. A study by Washington [79] confirmed the difficulties of organic farming, which caused farmers to partly produce organic and conventional foods. Thus, consumers who purchase organic foods are those who are ready to pay more. The questionnaire was uploaded on a software, and the link of the questionnaire was sent to the targeted respondents through email, group emails, official group emails, and social-media tools, such as Facebook, WhatsApp, and WeChat. The questionnaire was also presented in person to a number of respondents for data retrieval convenience. In Tanzania, a questionnaire was sent to 800 respondents, out of which 450 responses were received. The response rate reached 56.25%, out of which 331 responses were considered for analysis. In Kenya, the questionnaire was sent to 750 respondents and received 460 responses for a response rate of 61.33%, out of which 350 responses were considered for analysis. The rejected questionnaires contained unengaged responses and some were outliers.

The sample size in the study used the N:q rule, which has been widely acknowledged for picking a sample with sufficient statistical power. The "N" in the rule refers to the number of cases (respondents), whereas "q" represents the number of model parameters that require statistical estimates. This rule determines the minimum sample size in terms of the ratio of cases (N) to the number of free parameters (q) in the model [80]. The hypothesized model in this study had 30 parameters that need statistical estimates. Therefore, the ideal minimum sample size on the lower dimension was $10 \times 30 = 300$ cases. The size of the Tanzania and Kenya sample were 331 and 350 respectively which have met the minimum sample size according to this method. Therefore, the remaining questionnaires met the criteria for the sample size. The proposed conceptual model is as shown in Figure 1.

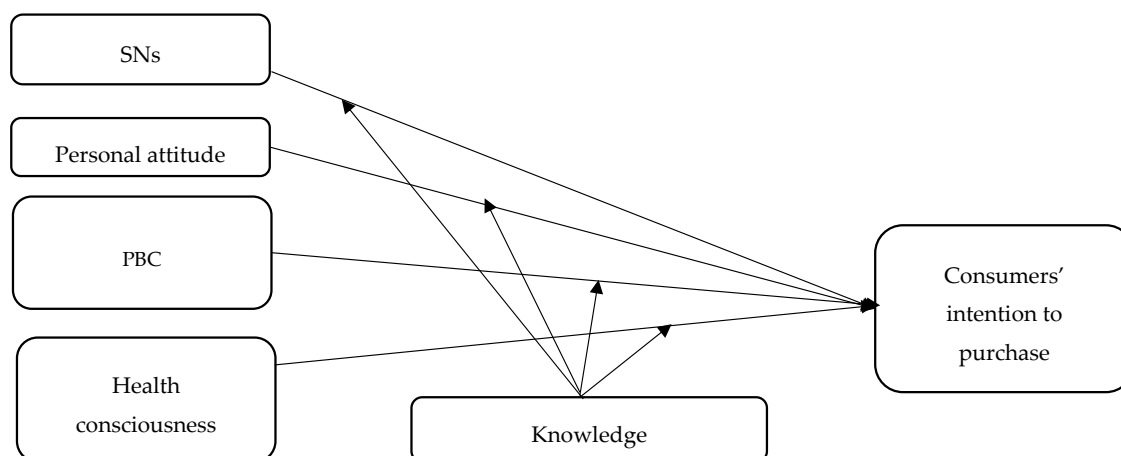


Figure 1. Conceptual framework.

4. Analysis and Results

The study used the Statistical Package for the Social Sciences (SPSS) and Analysis of Moment Structure (AMOS) software from IBM to conduct the analysis. Furthermore, it performed several analytic procedures to test whether the data were normally distributed and free from outlier cases using the Kolmogorov–Smirnov test and skewness and kurtosis values. Other tests were used to assess multicollinearity and singularity. In this process, tolerance values and variance inflation factors (VIF) were tested. Tolerance is an indicator that suggests the amount of variability of an independent variable that is not counted by other independent variables in the model [81]. The tolerance score and VIF values did not deviate from recommended cut-off points. The tolerance values ranged between 1.06 and 2.08. The VIF greater than 10 suggests that there is a concern for multicollinearity [80]. The process was followed by exploratory and confirmatory factor analyses, which were employed to verify validity and reliability. The foremost goal of exploratory factor analysis was to determine the number of fundamental influences that underlie a domain of variables. To quantify the extent to which each variable is associated with the factors, and obtain information about their nature from observing which factors contribute to the performance of each variable [82,83]. In this manner, cross-loadings were dropped from each country's dataset.

Moreover, the study examined convergent and discriminant validity of the latent factors by conducting first-order confirmatory factor analysis (CFA) in AMOS 21. In CFA, the square root of the average variance extracted scores for each construct was used to confirm the discriminant validity of the constructs [84]. Then, the structural model was analysed to test the hypothesis and model fit. Convergent validity of both countries was ensured by Cronbach's alpha values (which were at the acceptable cut-off level of 0.7), composite reliability values (which exceeded the accepted limit of 0.6), and average variance-explained values (which also exceeded the cut-off value of 0.5 [85,86]), as shown in Table 1.

Table 1. CFA and validity measures.

Kenya					Tanzania				
Measured Variables	Factor Loadings	Cronbach Alpha	CR	AVE	Measured Variables	Factor Loadings	Cronbach Alpha	CR	AVE
Att1	0.70	0.78	0.91	0.53	Att2	0.50	0.71	0.86	0.50
Att2	0.80				Att3	0.60			
Att3	0.76				Att4	0.53			
Att4	0.87				Att5	0.61			
Att5	0.83				Att6	0.71			

Table 1. Cont.

Kenya					Tanzania				
Measured Variables	Factor Loadings	Cronbach Alpha	CR	AVE	Measured Variables	Factor Loadings	Cronbach Alpha	CR	AVE
SN2	0.71	0.81	0.91	0.60	SN1	0.84	0.85	0.86	0.68
SN3	0.87				SN2	0.81			
SN4	0.85				SN3	0.83			
SN5	0.75				SN4	0.72			
PBC1	0.86	0.77	0.92	0.73	PBC1	0.81	0.79	0.80	0.57
PBC2	0.89				PBC2	0.83			
PBC3	0.85				PBC3	0.72			
HC1	0.71	0.83	0.77	0.53	HC1	0.88	0.81	0.79	0.55
HC2	0.83				HC2	0.66			
HC3	0.64				HC3	0.72			
IP1	0.72	0.89	0.80	0.57	IP2	0.69	0.70	0.73	0.50
IP2	0.88				IP3	0.82			
IP3	0.66				IP4	0.76			
KN2	0.87	0.87	0.91	0.78	KN1	0.80	0.69	0.71	0.50
KN3	0.93				KN2	0.78			
KN4	0.85				KN3	0.71			
KN5	0.72				KN4	0.74			

Att = attitude, SN = subjective norm, PBC = perceived behaviour control, HC = health consciousness, IP = intention to purchase, and KN = knowledge.

4.1. Tanzania

The description results were as follows. The demographic makeup of the sample for Tanzanian was composed of 82 (24.8%) men and 249 (75.2%) women. The education level; 27.2% master's level, 39.9% bachelor degree, and 32.9% basic education as depicted in Table 2. In the variable correlation assessment, a number of variables were only modestly related to one another, as indicated by the correlation coefficients that vary from 0.01 to 0.56. Although the correlation pattern suggests positive relationships between the variables, the correlation coefficients indicated that the relationship, especially between independent variables, was insufficiently strong to raise multicollinearity concerns. As shown in Appendix B, no interactor correlations were above the cut-off level of 0.8 suggested by Tabachnick and Fidell [81].

In this study, four types of absolute fit indices were used to assess the model fit, namely, goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), root mean residual (RMR), and adjusted goodness-of-fit index (AGFI). After CFA, the results were obtained as follows: GFI = 0.91 (cut-off: 0.90), RMSEA = 0.05 (cut-off: 0.08), AGFI = 0.81 (cut-off: 0.80), and RMR = 0.03 (cut-off: a low value that is close to zero). This test followed the recommendations from Hu and Bentler [87] and Hair, Black [85]. Therefore, the model fit values provided validity assurance for the items. For the hypothesis results, the study first tested the structural model fit. The model fit values were as follows: CFI = 0.89, Tucker–Lewis index (TLI) = 0.88, RMR = 0.04, and RMSEA = 0.06 [87].

To confirm the moderating effect of knowledge variables, interaction terms were developed by multiplying the composite constructs of SNs, personal attitude, PBC, and health consciousness with the composite construct of knowledge. The hypothesis test was carried out through a SEM model. Table 3 and Figure 2 depict the results. That is, PBC was a significant predictor of organic food purchase intention, with an estimate of 0.312 at the 0.004 significant level. The interaction term of PBC was insignificant, with an estimated value of 0.378, which indicated the absence of interaction. Moreover, the personal attitude was significantly associated with consumer purchase intention, with an estimated value of 0.101 at the 0.005 significance level, and substantially interacted with consumer purchase intention, with an estimated value of 0.158. Conversely, health consciousness was significantly associated with organic food consumer purchase intention, with an estimated value of 0.168 at the 0.01 significance level. It significantly interacted with consumer purchase intention,

with an estimated value of 0.198. Lastly, SNs were significant predictors of organic food purchase intention, with an estimated value of 0.202 at the 0.0001 significance level and significantly interacted with consumer purchase intention, with an estimated value of 0.252. The model explained 89% of the variance, which is considered positive.

Table 2. Sociodemographic characteristics of respondents.

Variables	Tanzania		Kenya	
	<i>n</i> = 331		<i>n</i> = 350	
	Frequency	%	Frequency	%
Gender				
Male	82	24.8	111	31.7
Female	249	75.2	239	68.3
Education				
Masters	90	27.2	133	38.0
Bachelors	132	39.9	158	45.1
Basic education	109	32.9	59	16.9
Monthly income (in USD)				
650–1000	141	42.6	152	43.4
1000–1500	179	54.1	183	52.3
>1500	11	3.3	15	4.3
Professional				
Firm employee	189	57.1	162	46.3
Civil servant	120	36.3	153	43.7
Housewife	22	6.6	35	10.0

Table 3. Hypothesized direct and moderation effects.

Hypothesis	Statement	Kenya			Tanzania		
		Estimate	Significance	Results	Estimate	Significance	Results
H1	SNs positively influence consumer purchase intention	0.112	0.010	Supported	0.202	0.0001	Supported
H2	Personal attitude positively influences a consumer purchase intention	0.145	0.000	Supported	0.101	0.005	Supported
H3	PBC positively influences consumer purchase intention	0.153	0.335	not supported	0.312	0.004	Supported
H4	Health consciousness has a significant positive influence on consumer purchase intention	0.219	0.002	Supported	0.168	0.01	Supported
H5-1	Knowledge positively moderates the relationship among SNs and purchase intention	0.171	0.005	Supported	0.252	0.0001	Supported
H5-2	Knowledge positively moderates the relationship among personal attitude and purchase intention	0.113	0.038	Supported	0.158	0.0001	Supported
H5-3	Knowledge positively moderates the relationship among PBC and purchase intention	−0.199	0.227	Not supported	0.378	0.6	not supported
H5-4	Knowledge positively moderates the relationship among health consciousness and purchase intention	0.229	0.005	Supported	0.198	0.007	Supported

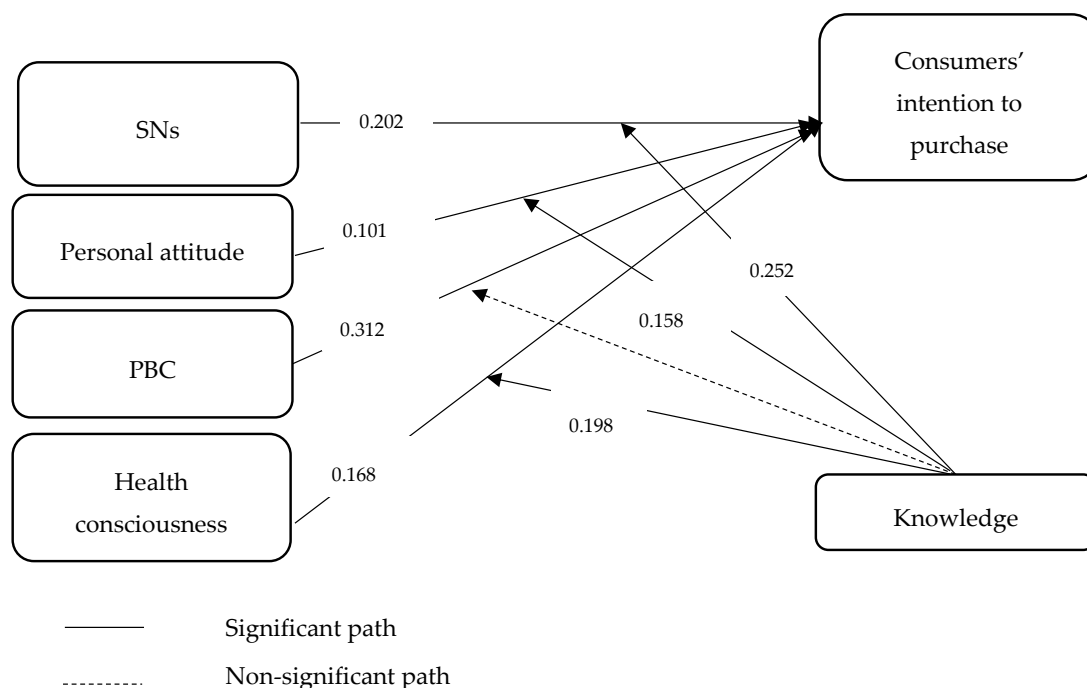


Figure 2. Hypothesis model with moderators (Tanzania).

4.2. Kenya

The description results were as follows. The demographic makeup of the sample for Kenya was composed of 111 (31.7%) men and 239 (68.3%) women. The education level; 38% masters level, 45.1% bachelor degree, and 16.9% basic education, as depicted in Table 2. In the variable correlation assessment, a few of the variables are only modestly related with one another as indicated by the correlation coefficients that varied from 0.01 to 0.66. Although the correlation pattern suggests positive relationships between variables, the correlation coefficients indicate that the relationship between independent variables in particular, is insufficiently strong to raise multicollinearity concerns. Appendix C shows that no interactor correlations were above the cut-off level of 0.8 suggested by Tabachnick and Fidell [81].

In this study, four types of absolute-fit indices were used to assess the model fit. After CFA, the results were as follows: GFI = 0.83 (cut-off: 0.90), RMSEA = 0.06 (cut-off: 0.08), AGFI = 0.80 (cut-off: 0.80), and RMR = 0.04 (cut-off: a low value that is close to zero). These model fit values ensured the items' validity. For the hypothesis results, the study first tested the structural model fit. The model fit values were as follows: CFI = 0.87, TLI = 0.89, RMR = 0.05, and RMSEA = 0.04. Table 3 and Figure 3 show Kenya's direct and moderation results: personal attitude was significantly associated with consumer purchase intention with an estimated value of 0.145 at the 0.000 significance level and significantly interacted with consumer purchase intention with an estimated value of 0.113.

Moreover, health consciousness was significantly associated with organic food consumer purchase intention with an estimated value of 0.219 at the 0.002 significance level and significantly interacted with consumer purchase intention with an estimated value of 0.229. SNs were also significant predictors of organic food purchase intention with an estimated value of 0.112 at the 0.010 significance level and significantly interacted with consumer purchase intention with an estimated value of 0.171. Lastly, PBC was a non-significant predictor of organic food purchase intention. The proposed constructs showed low coefficient estimates but were still significant. A non-spurious relationship remains between the variables of interest because their values were low, but remained significant [86]. The lowest value can be caused by other factors that are outside the scope of the current study. The model explains 76% of the variance, which is considered positive.

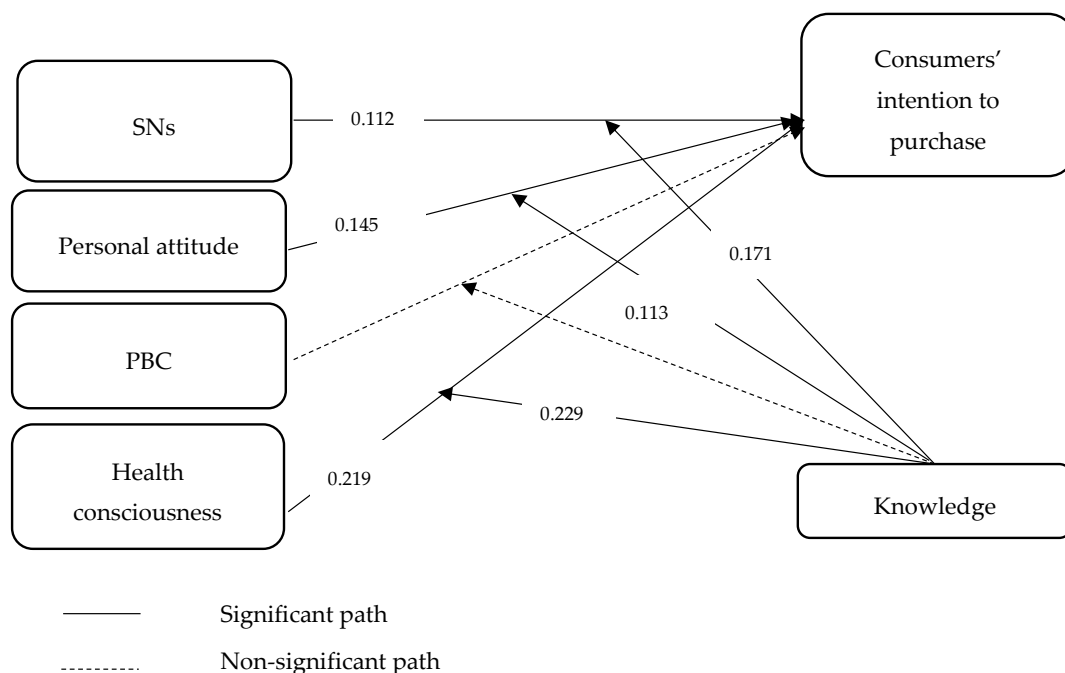


Figure 3. Hypothesis model with moderators (Kenya).

5. Discussion and Conclusions

The study focused on exploring the factors that influence purchase intention in relation to organic foods in Tanzania and Kenya. In addition, knowledge was employed as the moderating factor. The results provide evidence on factors that influence consumers' organic food purchase intention, which expanded the evidence for Kenyan and Tanzanian consumers and provided beneficial information to stakeholders in the industry. That is, the future progress of the demand for organic foods should be promoted. These countries have shown their effort in certifying organic farms and promoting organic foods locally [31].

The main results show that personal attitude, health consciousness, and SNs are important factors that influence consumer purchase intention in relation to organic foods. In addition, knowledge interactions were significant except for PBC. However, the strength of the links between the latent variables varied between countries. The findings on personal attitude support those of Chen [48] and Mohd Suki [65]. That is, when consumers' attitude toward organic brands becomes positive, then the level of organic-product purchase intention among consumers will also increase. Although a significant factor, personal attitude is ranked as the second influential factor that influences consumer purchase intention in Kenya. However, it is a contributor with the least importance in Tanzania. This result is in contrast with that of previous studies.

Moreover, the results for health consciousness align with those of Arvola, Vassallo [44], Krystallis and Chryssohoidis [88], Misra and Singh [89], Grubor and Djokic [90], de Magistris and Gracia [26], Zagata [63], Hamzaoui Essoussi and Zahaf [64], and Asif, Xuhui [74]. That is, intention to purchase organic products is influenced by consumers' beliefs on safety and health aspects. In addition, Crinnion [91] stated that organic foods are perceived to contain great nutritional value and few toxic chemicals, although nutrient content in organic foods varies from farmer to farmer. Health consciousness is the highest contributor to consumer purchase intention in Kenya, in contrast to Michaelidou and Hassan [59]. This factor ranked third in Tanzania. In the literature, Kenya has been cited to introduce organic production and promotion earlier than Tanzania. For this reason, Kenya might have more knowledge than Tanzania about food safety.

SNs appear significant in both countries, which implies that increasing knowledge regarding organic foods among consumers can lead toward establishing organic food purchase intention as

a social norm. This finding aligns with that of Al-Swidi, Mohammed Rafiul Huque [10], which implies that people are likely to be influenced by the perception of others [92]. SNs can be established by obtaining detailed information on organic foods through available social media channels. These channels are easily accessible to consumers even in poor countries due to technological improvements. Social media, such as WhatsApp, WeChat, Facebook, and Twitter, can instantly deliver information to all users, which has given rise to the value of SNs as one of the predictors of purchase intention. However, knowledge interacted well in the case of interaction. These results are in alignment with those of other studies, such as Al-Swidi, Mohammed Rafiul Huque [10], Gil and Soler [93], and Mesías Díaz, Martínez-Carrasco Pleite [94]. The above mentioned studies reported that the better the knowledge about organic foods and their benefits to human well-being, the higher the intention to purchase. However, a different perception of organic foods from people with low levels of knowledge and education is entirely possible.

Moreover, PBC in consumer purchase intention is highly significant in Tanzania. However, no knowledge interaction occurred. Thus, the lack of or excessive knowledge is a factor that cannot reduce individual intention to purchase if they have already intended to do so. By contrast, PBC is insignificant in Kenya, which is an interesting result. The extant literature on this situation, such as Ham, Pap and Stanic [95], clarified that people from collectivistic countries may experience strong pressure from others and be willing to comply with their opinions. Thus, they do not possess a high level of autonomy and self-confidence (PBC) in terms of decision-making regarding the trial/purchase of novel products. For example, if a husband were to ask a question regarding a product, then they would automatically prefer that the answer will come from their wife, and vice versa.

In conclusion, the results of the current study contribute theoretically by introducing the moderating role of knowledge on organic food purchase intention, which is aligned with those of Gil and Soler [93] and Mesías Díaz et al. [94]. However, knowledge was treated as the direct influence of the decision to pay in these studies. As the study separately examined the two developing countries, slight differences in terms of factors that drive consumer purchase intention in relation to organic foods were found. These overlapping perspectives were caused by the neighbourly relationship that these countries enjoy, such as sharing certain border markets in East African communities.

5.1. Implication

The study suggests that Tanzania and Kenya require aggressive marketing strategies to increase consumers' knowledge on benefits from the consumption of organic foods. Appropriate educational materials that can widen the organic food consumer base should be developed. A useful strategy can be through utilizing food safety and health information to convince consumers to consume only organic certified products. This initiative can influence organic food purchase intention and expand local sales. Furthermore, it can help in furnishing the local demand market. However, ethical procedures should be followed when conducting campaigns that associate food with health because universal scientific evidence has yet to prove that organic food products are healthier. Organic foods are considered healthier than conventional foods because it is produced without pesticides, synthetic chemicals, or additives. Accordingly, the only point to put across in marketing campaigns is how its production method differs from conventional production. Marketing campaigns should passionately deliver knowledge to consumers because the SN factor is a proof that people who are knowledgeable in organic food products can easily influence others. Organic food production can also be an important project to boost the economies of both countries because they are dependent on agriculture. This study proposes that organic foods may not be affordable for all consumers. Therefore, governments are advised to play a part in an effective response strategy to de-escalate organic food prices by enhancing sustainable organic farming. This process will be viable only if governments are ready to subsidize small farmers in organic food production process costs. As such, affordability will extend the influence of intention to buy to low-class customers as well.

5.2. Limitation

The study offers important implications for stakeholders but with several limitations. For example, it referred only to the middle class based on their income as a criterion and collected data in the cities of Dar-es-salaam and Nairobi in Tanzania and Kenya, respectively. Therefore, the results are not generalizable to other areas in these countries. Future studies are recommended to collect data in other areas. Income was the only criterion that was used to stratify the middle class. Therefore, future studies may also use other classes to broaden understanding. Furthermore, this study contains only regular organic food consumers, therefore, the future research should include both regular and occasional organic food consumer to obtain more interesting results. Purchase intention is perceived to be built by factors that were provided but not fully recognized through this study. Common observation states that people can fail to act based on their stated intentions. The TPB permitted an accurate prediction of voting intention but revealed inconsistency in intention behaviour in real decisions. Therefore, future studies should also expand their factors using other theories and experimental approach to obtain significant results.

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Appendix A

Questionnaire:

Subjective norm	SN1 Most people I value would buy organic food rather than non-organic food.
	SN2 My family thinks that I should buy organic food rather than non-organic food.
	SN3 People I value, such as my teachers, think I should buy organic food.
	SN4 Most friends whose opinions regarding diet are important to me think that I should buy organic food.
Personal attitude	Att1 I think that purchasing organic food is a good idea.
	Att2 I think that purchasing organic food is interesting.
	Att3 I think that purchasing organic food is important.
	Att4 I think that purchasing organic food is beneficial.
	Att5 I think that purchasing organic food is wise.
	Att6 I think that purchasing organic food is favourable.
Perceived behaviour control	PBC1 If I wanted to, I could buy organic food instead of non-organic food.
	PBC2 I think it's easy for me to buy organic food.
	PBC3 It's mostly up to me whether or not to buy organic food.
Health consciousness	HC1 I choose food carefully to ensure good health.
	HC2 I consider myself as a health-conscious consumer.
	HC3 I often think about health-related issues.
Intention to purchase	IP1 I am willing to purchase organic foods if they are available.
	IP2 I intend to buy organic foods if they are available.
	IP3 I plan to consume organic foods if they are available for purchase.
	IP4 I try to consume organic foods if they are available for purchase.
Knowledge	KN1 Do you know a type of organic food?
	KN2 Are you familiar with the term organic food?
	KN3 Have you ever purchased organic food?
	KN4 Are you interested in finding out about organic food?

Appendix B

Correlations, Means and Standard deviations (Tanzania sample)										
S/n	Variables	1	2	3	4	5	6	7	8	9
1	Gender									
2	Education	0.023								
3	Income	−0.023	0.200 **							
4	Health	0.068	0.210 **	0.180 **						
5	Consciousness	0.039	−0.056	−0.028	−0.079					
6	SNs	0.095	0.039	0.130 *	0.320 *	0.290 **				
7	Intention to purchase	0.045	0.001	0.016	0.098	−0.002	0.560 *			
8	PBC	0.003	0.029	0.120 *	0.064	−0.052	0.420 *	0.250		
9	Personal Attitude	−0.076	−0.012	0.088	0.150 **	−0.069	0.180 *	0.480 **	0.250 **	
	Knowledge	n/a	n/a	1031.420	4.053	4.600	5.549	4.010	2.304	4.010
	Mean	n/a	n/a	294.357	1.768	1.179	1.140	0.651	0.818	0.797
	Standard Deviation	N = 331, $p^* \leq 0.05$, $p^{**} \leq 0.01$ (Two tailed)								

Appendix C

Correlations, Means and Standard deviations (Kenya Sample)										
S/n	Variables	1	2	3	4	5	6	7	8	9
1	Gender									
2	Education	0.003								
3	Income	0.110 *	0.270 **							
4	PBC	−0.036	−0.013	0.056						
5	SNs	−0.007	0.012	0.064	0.240 **					
6	Personal Attitude	−0.024	−0.067	0.099	0.540 **	0.230 **				
7	Health	−0.054	0.051	0.070	0.320 **	0.280 **	0.630 **			
8	Consciousness	0.020	−0.029	0.470 *	0.160 **	0.660 **	0.130 *	0.160 **		
9	Intention to purchase	−0.085	−0.019	0.001	0.470 **	0.240 **	0.450 **	0.650 **	0.130 *	
	Knowledge	n/a	n/a	1145.714	4.021	2.316	3.754	3.756	3.285	3.562
	Mean	n/a	n/a	336.651	0.644	0.818	0.585	0.534	0.674	0.787
	Standard Deviation	N = 350, $p^* \leq 0.05$, $p^{**} \leq 0.01$ (Two tailed)								

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