Frida Thomas PACHO* and Madan Mohan BATRA**

Factors influencing consumers' behaviour towards organic food purchase in Denmark and Tanzania

This paper adds to the debate about factors influencing consumer behaviours that lead to the actual purchase of organic food in both developed and developing countries. Accordingly, authors seek to understand how consumers' knowledge about organic food and consumers' overall health consciousness play out as mechanisms for consumers' behaviours leading to actual purchase. Samples from Tanzania as a developing country and Denmark as a developed country are used. A total of 1393 consumers filled the questionnaire. The study found that consumer knowledge and health consciousness function as underlying mechanisms in the relationship of attitude and subjective norms for actual purchase of organic food behaviour in Tanzania. In addition, consumer knowledge and health consciousness function as an underlying mechanism in the relationship of attitude and perceived behaviour control for actual purchase of organic food in Denmark. The study argues for enhancing consumers' knowledge of organic food as the latter has been championed for its perceived health benefits in both developed and less developed countries.

Keywords: organic foods, consumer behaviour, theory of planned behaviour, consumer knowledge, health consciousness
JEL classification: Q13

* Mzumbe University, P.O. Box 6559, Tanzania. Corresponding author: fpacho@mzumbe.ac.tz.
** Indiana University of Pennsylvania, 664 Pratt Drive Indiana, PA 15705, USA.
Received: 17 February 2021, Revised: 8 May 2021, Accepted: 10 May 2021

Introduction

The global market for organic food and drinks reached $81.6 billion in 2015 with North America and Europe accounting for as high as ninety percent of sales (Willer & Lernoud, 2017). Organic food sales are also reported to have recently increased in Asia, Africa, and Latin America (Willer & Lernoud, 2017). The same report shows an increased growth rate in the organic food market in developing countries. Organic foods are produced without chemical pesticides, fertilisers, antibiotics, and growth hormones, which consumers perceive to be healthier (Lim *et al.*, 2014) than the conventionally produced, packed or canned food that usually are assumed to be harmful to human health (Sazvar *et al.*, 2018). Consumers have become cautious, and consumption of organic food is considered as a new lifestyle trend (Al-Taie *et al.*, 2015) that promotes well-being and health (Molinillo *et al.*, 2020). Consumers are now more knowledgeable about what they consume, and insist on knowing the benefits of a particular food before they decide to purchase it (Onyango *et al.*, 2006). Suppliers also require a better understanding of what drives consumers to purchase organic food so they may develop effective marketing strategies to increase sales. Thus, the present study explores the consumer's knowledge about organic food and consumer's overall health consciousness as underlying mechanisms of consumer behaviour which lead to actual purchase of organic food.

Prior research about organic food has focused on a range of consumer behaviours that lead to the consumer's organic food purchase intention. Specifically, the theory of planned behaviour with the inclusion of three important constructs; consumer attitude, subjective norms and perceived control behaviour, has been used to explain the consumers' intention to purchase organic food (Shahriari *et al.*, 2019). However, despite the understanding offered by the previous studies about how consumers develop their behaviours to purchase organic food, at least three research gaps still exist that need to be addressed. First, consumer's knowledge about organic food and consumer's health consciousness as underlying mechanisms that link consumer behaviours (as indicated by consumer's attitude, subjective norms, and perceived behaviour control) with the actual purchase of organic food is underexplored. Second, the comparison and reinforcement of the validity of consumers' planned behaviour models across developed and developing countries is less researched. Third, the prior studies have focused on consumers' planned behaviours which lead to the intention to purchase rather than an actual purchase.

The present study fills these knowledge gaps as explained below. First, the consumer knowledge about organic food revolves around the organic food's environmental impact, and animal welfare and fair trade, which collectively influence the consumer's decision to purchase organic food (Basha & Lal, 2019). However, the consumer knowledge regarding organic food has the power of itself to play as a mechanism that links consumer behaviour (namely, consumer attitude, subjective norms, and perceived behaviour control) with actual purchase of organic food. But not all consumers are consciously interested in finding out the information regarding environmental impact (Tait *et al.*, 2016), animal welfare (Grunert *et al.*, 2018) and fair trade (Clonan *et al.*, 2010) that helps them in making the organic food purchase decision. For example, Pham *et al.* (2019) concluded that environmental impact is not a final motivation for organic food purchase, and consumers tend to re-interpret the meaning of "organic" to suit their individual purchasing behaviour. Therefore, when it comes to organic food purchase, consumers extract the information/knowledge which they consider essential and beneficial in terms of taste, health benefits, premium price, availability, and food safety (Rana & Paul, 2017). The present study tests consumer knowledge as a mechanism that connects consumers' behaviour (in terms of attitude, subjective norms, and perceived behaviour control) with actual purchase of organic food.

OPEN ACCESS PEER REVIEWED

Second, prior studies have shown that the market for organic food has started to grow partly due to speculated concerns for food safety and health issues that are linked with non-organic food (Wekeza & Sibanda, 2019). The non-organic food has also been associated with rising incidences of non-communicable diseases (Wagner & Brath, 2012). Accordingly, Hansen *et al.* (2018) has considered health consciousness as an antecedent factor that leads to the purchase intention of organic food. Instead, the present study regards the health consciousness factor as an underlying mechanism that connects attitude, subjective norms, and perceived control behaviours with the actual purchase of organic food.

Third, some prior studies focus on intention to purchase rather than the actual purchase itself. For example, Molinillo *et al.* (2020) considered health consciousness as a mediating factor between product characteristics and willingness to purchase organic food. However, the intention and willingness to purchase is a prerequisite for the actual purchase. As a matter of fact, the willingness and intention to purchase proved unrealistic as many consumers claimed the positive attitude toward organic food but fewer engaged in actual purchasing (Voon *et al.*, 2011). The actual purchase is the result of intention and willingness as described by Ajzen (1991); therefore, the present study used actual purchase as a dependent variable which includes an individual's readiness to purchase organic food.

Lastly, prior studies focused on developed countries to identify factors that influence the purchase of organic food. Although there is some homogeneity in consumer motives (Thøgersen *et al.*, 2015) for purchasing organic food across countries, Asif *et al.* (2018) have argued that some macro and structural factors (such as governments subsidies and regulations) may boost the production and consumption of organic food, which in turn, may influence the awareness and purchase of organic food. This observation has fuelled our comparative study with data from a developed country and a developing country. The present study selected, on the one hand, the well-industrialised producer and matured supplier of organic food, Denmark, and, on the other hand, the emerging producer and novice supplier of organic food, Tanzania. In the present study, we expect differences in the strength of the mechanisms chosen to explain differences in consumer behaviours to purchase food between the two countries as Molinillo *et al.* (2020) suggest that a research should look at samples from different countries to ensure that theories have cross-national validity.

Theoretical Model: Planned Behaviour

The theory of planned behaviour as suggested by Ajzen (1991) is used as a basis in this study. The theory suggests that an individual's intention usually controls the individual's actions that are crucial in predicting and elucidating the individual's behaviour. Ajzen (2002) further indicates that three constructs, namely, attitude, subjective norms, and perceived behaviour control affect the intention to perform the behaviour. The present study attempts to improve this theory by including two new constructs (health consciousness and knowledge) as mechanisms (mediators) that link attitude, subjective norms, perceived behaviour control with actual purchase of organic foods in Tanzania in comparison to Denmark. As mentioned earlier, the present study focuses on the actual purchase of organic food rather than the intention to purchase as the actual purchase is the result of the purchase intention and willingness. The motivation here is to find out how consumers' health consciousness and knowledge influence the relationships of attitude, perceived behaviour control and subjective norms with actual purchase of organic food in Tanzania and Denmark.

The construct "attitude" in the theory of planned behaviour is described as the degree to which a person holds a favourable or unfavourable assessment of a certain product (Ajzen, 2002). Thus, if a consumer holds a favourable assessment of a certain product, the attitude towards it becomes positive. A person's attitude towards a behaviour represents an evaluation of the behaviour and its outcomes, for example, the positive attitude towards organic foods purchase represents its favourable assessment. Alphonce and Alfnes (2012) have shown Tanzanians' positive attitude towards purchase of organically produced tomatoes. In Denmark, school pupils have positive attitudes toward organic food and health, which influences their organic food consumption positively (He *et al.*, 2012).

"Subjective norm" in theory of planned behaviour is "the perceived social pressure to engage or not engage in a behaviour" (Ajzen, 2015). This notion can greatly influence purchase intention toward organic food (Bartels & Reinders, 2010). For example, Tanzanian consumers are more likely to be influenced by their peers who have similar consumption behaviours (Chacha, 2009) whereas family members and TV programs are social influencers for healthy eating among Danish consumers (Grønhøj, 2013). Previous studies such as of that of Çabuk *et al.* (2014) have shown that an individual may possess a favourable attitude towards certain behaviour. However, the individual may lower the intention to achieve the behaviour if the individual perceives difficulties in doing so.

Ajzen (2002) defined "perceived behaviour control" as the perception of ease or difficulty in performing a particular behaviour. However, perceived behaviour control relies on consumer's perceived limitations and ability that may affect the consumers' purchase intention (Yeon Kim & Chung, 2011). Thus, the perceived behaviour control considers the evaluation of resources desirable for performing a behaviour and the degree to which people have these resources (Ajzen, 1988). Access to organic food in Denmark is assured because organic food is produced and processed by large-scale industrialised units and distributed by mainstream sales channels (Wier *et al*., 2008). The effort to make certified organic food visible and accessible to consumers in Tanzania (Sogn & Mella, 2007) is not very effective. In Tanzania, the primary incentive of producing organic food is its export potential. However, the fact that it is exported significantly hinders its local access and availability. Consistent with the above discussion, this study extends the theory of planned behaviour as shown in Figure 1.

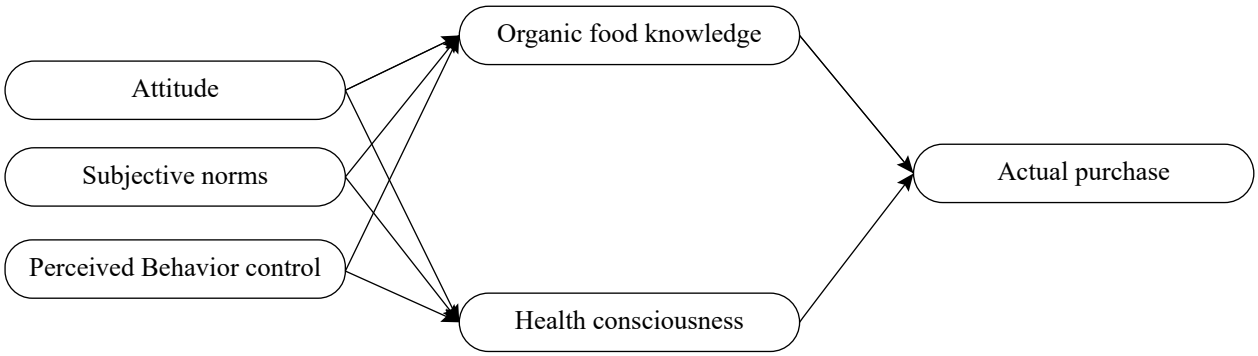

Figure 1: The Theoretical Model.
Source: Own composition

Hypotheses

Influence of Knowledge

Knowledge refers to what the consumers think they know about a product (Brucks, 1985). It has been used as a key influencer in consumers' behaviour regarding the actual purchase of organic food (Van Loo *et al.*, 2013). Both subjective and objective knowledge play their part in influencing consumers' decision to purchase organic food (Pieniak *et al.*, 2010). Consumer's objective knowledge refers to accurate factual information stored in the consumer's mind, and consumer's subjective knowledge is a belief about the stored knowledge about a product (Moorman *et al.*, 2004). Subjective knowledge of organic food refers to consumers' knowledge and understanding of organic food quality (Hsu *et al.*, 2016). From scientific point of view, organic foods are defined as foods that are grown without synthetic pesticides and synthetic fertilisers, and with extra attention to the preservation of environment, biodiversity, and animals (Ahmad & Juhdi, 2010); and, they contain high nutrition (Grzybowska-Brzezinska *et al.*, 2017). A study by Petrescu and Petrescu-Mag (2015) states that a high percentage of consumers believe that organic food contributes to environmental protection. However, there are critics say that organic-food farming uses more land that leads to deforestation which in turn causes high carbon dioxide emissions and biodiversity-loss making it less efficient than conventional farming. However, this negativity about the organic-food farming process does insignificant impact on consumer-thinking as they typically rely on a simple definition of organic foods to understand their meaning. Also, consumers may find it difficult to verify regulation about the organic food production process and its compliance (Lee & Jiyoung, 2016). The knowledge about organic food safety and healthiness has remained subjective along with diverse beliefs about them (Fernqvist & Ekelund, 2014). For all these reasons, and for the purposes of this study, we contend that simple knowledge that consumers possess about organic food leads to enhanced willingness to its purchase, and this may result into positive impact on actual purchase behaviour (Mesías Díaz Francisco *et al.*, 2012). However, consumers' insufficient knowledge may lead to confusion (such as, whether or not to even purchase organic food) as the consumers may fail to realise the benefit of the uniqueness of organic food compared to conventional food (Yiridoe *et al.*, 2005). Thus, it is argued in this study that simple and sufficient consumer knowledge about organic food is an underlying factor that influences actual purchase of organic food.

The knowledge about 'organic' food is expanding in Africa. Dixon (2002) points out that an individual can voluntarily identify, gather, and possess knowledge, and share it with others. This way, knowledge is transferred from one person to another. Multiple factors such as the rise of non-communicable disease (Wiggins & Keats, 2017), food safety risks associated with foodborne diseases, food fraud, and an absence of effective enforcement of regulations have contributed to numerous food-related concerns and controversies from consumers (Boatemaa *et al.*, 2019). Consumers have been developing self-knowledge, which leads them to inquire about the origin of the products they want to buy (Engel, 2009). In addition, consumers are highly sensitive to information gathered about organic food (Muhammad *et al.*, 2016), when the awareness of what to eat has come from their "significant others" (Wang *et al.*, 2019). The perceived social pressure (subjective norms) influences the actual purchase of organic food as people are affected by what others think (Ruiz de Maya *et al.*, 2011). Due to the rising positive influence of social peers as well as openness to change in developing countries (Mainardes *et al.*, 2017), consumers may feel confident regarding the sufficiency of their own knowledge and abilities to perform a given purchase behaviour (perceived behaviour control). Despite few studies on how consumers gain knowledge about organic food in Africa, the available studies such as Wang *et al.* (2019) have found that the consumer search about knowledge of organic food is positively linked with the consumer's positive attitude about organic food purchase in developing countries.

Consumers in developed countries have developed a habit of purchasing organic food because of the well-structured food-related environmental dimensions such as visibility, accessibility, and availability at the point of purchase (Henryks *et al.*, 2014). An increase in the knowledge of where to access the products influences the perceived behaviour control positively. Moreover, an introduction of European Union organic food logo in 2010, which aimed to harmonise and boost its organic food sector, added awareness and

recognition of organic food among consumers in Europe (Van Loo *et al.*, 2013). This increase in knowledge from the information in the organic food labels in developed countries makes it easier for consumers to purchase organic food. Prior studies such as Janssen and Hamm (2012) found out that the consumers' perception of organic labelling schemes is based on their overall knowledge about the organic products in Denmark. Higher organic food knowledge possessed by consumers influences the positive attitude towards its purchase in developed countries (de Magistris & Gracia, 2008). Furthermore, the experimental studies by Hidalgo-Baz *et al.* (2017) have indicated that the consumers' knowledge causes the willingness to purchase organic food. Therefore, these arguments suggest three hypotheses as stated below.

Hypothesis 1 (H1): Knowledge mediates the relationship between attitude and actual purchase of organic food.

Hypothesis 2 (H2): Knowledge mediates the relationship between subjective norms and actual purchase of organic food.

Hypothesis 3 (H3): Knowledge mediates the relationship between perceived behaviour control and actual purchase of organic food.

Influence of Health Consciousness

Health consciousness as a construct is positioned as a determinant of food purchase by consumers in organic food studies (Akhondan *et al.*, 2015; Yadav & Pathak, 2016). Basha and Lal (2019) and Çabuk *et al.* (2014) found that consumers' attitude, subjective norms and perceived behaviour control regarding purchase of organic food were caused by their awareness of the chemical effects present in foods. This impact may be caused by the lower content of unhealthy substances such as dietary cadmium and synthetic fertilisers and pesticides in organic foods although only a few clinical and epidemiological studies have been carried out so far to affirm this (Brantsæter *et al.*, 2017). Though a few clinical studies have been carried out to prove if organic foods contribute to human health (Dangour *et al.*, 2010), numerous health-benefit studies associated with organic food also exist in the literature, and this creates a room for the current study which assesses health consciousness as an underlying mechanism between consumers' behaviour (attitude, perceived behaviour control and subjective norms) and purchase of organic food.

In our present study's context, it may be noted that numerous earlier studies have shown that consumers are ready to purchase nutritious vegetables in Africa (Armesto *et al.*, 2020; Popa *et al.*, 2019). The knowledge of consumers about food explains their willingness to purchase high quality (i.e. nutritious) vegetables in Kenya (Ngigi *et al.*, 2011). Food safety risks associated with foodborne diseases, food fraud, as well as the absence of effective enforcement of regulations are the challenges that are noted in South Africa (Boatemaa *et al.*, 2019). The behaviour to purchase organic products has translated into a health movement in developed and developing countries (Hansen *et al.*, 2018; Wekeza & Sibanda, 2019). The existence and awareness of health consciousness is explained by the consumers' behaviour to purchase organic food in Tanzania (Wang *et al.*, 2019) as well as in Denmark (Hansen *et al.*, 2018). Speculation about non-communicable diseases has contributed to consumers' awareness in Tanzania regarding their health maintenance, thereby strengthening their commitment for organic food purchase (Wang *et al.*, 2019). Denmark has a robust healthcare system (Mainz *et al.*, 2015) which serves as a source of early information on imminent diseases; such a system makes consumers selective in their food choices. Also, the social influencers for healthy eating are mainly attributed to family members, television programmes and school teachers (for adolescents) in Denmark (Grønhøj, 2013). Consistently, considering the role of health consciousness in healthy eating as well as its application to the theory of planned behaviour, this study suggests three more hypotheses as stated below.

Hypothesis 4 (H4): Health consciousness mediates the relationship between attitude and actual purchase of organic food.

Hypothesis 5 (H5): Health consciousness mediates the relationship between subjective norms and actual purchase of organic food.

Hypothesis 6 (H6): Health consciousness mediates the relationship between perceived behaviour control and actual purchase of organic food.

Research Methods

Sample Size, Respondents and Sampling Techniques

The above research model hypotheses were tested with data gathered from two countries (Tanzania and Denmark) using the same survey instrument. Tanzania is one of the two countries with the largest number of organic producers accounting for 21% of all producers in Africa, who produce from 0.7% (268,726 hectares) of its agricultural land (Willer & Lernoud, 2017). The present market share for organic food in Tanzania is not known, although the certified organic export from Tanzania was estimated to be $2 million in 2005 (Rundgren & Lustig, 2007). The study selected Denmark as a second country due to its highest organic food market share (9.7%) as well as the highest per-capita organic food consumption in Europe (Willer *et al.*, 2018). Denmark has a well-developed organic food market with pro-organic consumers and about 51% of them purchase organic food every week (Hansen, 2019). Consumers in Denmark enjoy organic food. The government of Denmark is actively engaged in enhancing the national supply of organic food (Mellino, 2013). Although these two countries (Tanzania and Denmark) are culturally and economically different, they are included in the current study because of the countries' significant efforts made toward the availability of organic food. The tests were replicated to generate two independent data sets aimed at establishing the robustness of the results. The findings about the two models based on two data sets (Denmark = 663, Tanzania = 730) were compared statistically to identify any significant differences. The questionnaire was

initially drafted in English, and then, translated into Danish and Swahili, respectively. After that, the Danish and Swahili versions of the questionnaire were translated back into English by an independent scholar to assess whether the two versions of the questionnaire were conceptually and linguistically equivalent.

Our ideal sample size required as per structural equation model (SEM) follows N:q rule (Chelang'a *et al.*, 2013), where N in the ratio represents the number of cases and q refers to the number of model parameters that require statistical estimates. The hypothesised model in this study had 24 parameters that needed statistical estimates. Therefore, the minimum ideal sample size was 23 (items) × 20 (cases) = 460 for each data set. In Tanzania, the data were collected from 16 supermarkets (8 in Kilimanjaro and 8 in Arusha region). The supermarkets selected were those that sold organic food. The respondents included in the study were based on the following criteria: (1) the respondent should be responsible for the family's grocery shopping; (2) the respondent should consume organic foods at least three times a week, and (3) the respondent should have a minimum monthly income of $650. The researchers approached 802 customers, 730 agreed to participate in the study resulting in 91 percent of respondents qualified to participate. Likewise, the same instrument was used as an online survey in Denmark. All cities in Denmark were selected to participate. The online survey format was opted to avoid high costs that are associated with a traditional face-to-face survey. The study used paid advertisement on Facebook for seven days inviting all organic food consumers to participate. The Facebook advertisement option enabled us to identify the prospective respondents for the survey. For those who clicked on the advertisement were able to access the questionnaire directly. We controlled the response by ensuring that the respondents met the three conditions (as stated earlier in the case of Tanzania questionnaire) of an organic consumer. If any one condition were not met, the subsequent questions could not be answered. To implement this, we used the following statement in the questionnaire: "If you meet all three criteria above you may continue to the organic food related-questions below." To minimise response error, at the end of the questionnaire, we asked the following qualifying error control question "I honestly responded to the questions in this questionnaire" with a Likert scale ranging from 1=strongly disagree to 7=strongly agree (Wu Gavin, 2019). Only respondents who checked "strongly agree" were chosen for further tests. The study also met the other criteria needed for sample robustness, namely, sample size and representation of the population being studied. As many as 940 respondents answered the questionnaire. Only 663 respondents replied "strongly agree" on the error control statement resulting in 70.5 percent of respondents qualified for the further analysis.

Measures

Our questionnaire was developed using items adapted from Ajzen (2002) to measure the attitude, subjective norms and perceived behaviour control. The actual purchase of organic food items were adapted from Ham *et al.* (2018a). The knowledge items were adapted from Flynn and Goldsmith (1999) with a slight change in connectives (De Leeuw *et al.*, 2012). The items on health consciousness were adapted from Tarkiainen and Sundqvist (2005). All items are shown in Appendix 1. However, the questionnaire started with a brief description of organic food and included a statement that was intended to give respondents confidence to answer the questions. The statement stated, "Be assured that all answers you provide will be kept in the strict confidentiality". The questionnaire had two sections. The first section had 24 statements that measured the six constructs (Figure 1). All constructs were measured on a seven-point Likert scale ranging from 1= "strongly disagree" to 7= "strongly agree". The second section contained demographic questions. Both data collection instruments were piloted on 30 respondents to assess their appropriateness and relevance before they were administered to all respondents. We followed a recommendation by Browne (1995) that 30 independent respondents or more are adequate for estimating a parameter. These respondents are not included in the overall data analysis sample. However, our study controlled for education, marital status, income and access to organic food (Dimitri, 2012), age and gender (Tung, 2012), organic food label recognition (Teisl *et al.*, 2001), and family size to minimise the possibility of contaminating our intended results.

Data Analysis

We used Statistical Package for the Social Sciences (SPSS) and Analysis of Moment Structures (AMOS) to analyse the data. To test the proposed hypotheses, we used the structural equation model (SEM) technique with the maximum likelihood estimation as suggested by Honkanen *et al.* (2006); Wang *et al.* (2019) and Irianto (2015). We adopted the most commonly used measures of fit including the chi-squared test (χ^2), root mean square error of approximation (RMSEA), standardised root mean residual (SRMR) and comparative fit index (CFI). A low χ^2 with an insignificant *p*-value was considered the acceptable threshold level. Other threshold levels for goodness of fit were RMSEA (cut-off < 0.08), SRMR (Cut-off < 0.08) and CFI (Cut-off > 0.9) (Hair *et al.*, 2013). The mediation results were confirmed by using the bootstrapping method (Andrew Hayes Process macro) applied as a *post hoc* analysis for evaluating the significance of the indirect paths (Hayes, 2017).

Results

Demographic Characteristics of the Respondents

The demographic results showed that in Tanzania more than 70 percent of the participants were female, while in Denmark 67 percent were male. The majority of the participants from Tanzania were between 25 and 55 years old, and 94.4% of the participants in Tanzania had an income above $650. In contrast, the majority of participants in Denmark

were between 25 and 66+ years old, with a monthly income above $1000. For Tanzania, the above-mentioned group represented the middle-class people who were able to purchase organic food products and had a high demand for a variety of products (Wang *et al.*, 2019). This case was different for the participants in Denmark, who had monthly income between $1000-1500; they represented a lower socio-economic class (Madsen *et al.*, 2010). Most of the participants, 63.3 and 73 percent in Tanzania and Denmark, respectively, had education levels above a bachelor's degree. Access to organic food was 89 percent in Denmark, which was higher than that of Tanzania (69 percent). Organic food label recognition level was very high in Denmark (92 percent), unlike Tanzania (23 percent). The demographic distribution of organic food respondents is shown in Table 1.

Reliability and Validity Measures

First, common method variance was examined by using Harman's one-factor test. The results showed that no single factor was dominant, whereby the first factor explained only 22.5 and 29.7 percent of the total variance for the Tanzania and Denmark samples, respectively. Thus, common method variance was not a significant problem in the data and results. Second, the study examined all variables using the correlation matrix to find out if there is a multicollinearity concern. The variables chosen for the studies were related to one another only modestly as the correlation coefficients that varied from 0.01 to 0.61 for both studies indicated no multicollinearity concern (Tabachnick and Fidell, 1996). Third, construct validity was assessed by using discriminant validity and convergent validity. Average variance extracted (AVE) met the threshold recommended by Hair *et al.* (2013) and is shown in Table 2, and construct reliability (CR) was higher than 0.7. Discriminant validity was measured using the method proposed by Fornell and Larcker (1981). This method needs the extracted variance for each construct to be greater than the squared correlation (i.e., shared variance) between the constructs. In our study, square roots of AVE are shown in Table 3 in the diagonal.

The smartPLS suggested by Hair Jr *et al.* (2017) was employed on this study to conduct a multigroup analysis (MGA) to assess if the path coefficients are equal across two samples employed. Table 4 depicts the differences of path coefficient estimates between the two groups. There were differences between two groups on four paths only. For example, we observed that the subjective norms to organic food knowledge as well as subjective norms to health consciousness were not significant in Denmark. Also, the perceived behaviour control to organic food knowledge as well

Table 1: Demographic distribution of organic food respondents.

Variable	Group	Tanzania (%)	Denmark (%)
Gender	Male	22.0	67.0
	Female	78.0	33.0
Age	25-35	16.4	19.2
	36-45	32.9	40.8
	46-55	39.6	24.2
	56-65	11.1	9.7
	66 and above	0.0	6.0
Marital status	Married	64.0	47.7
	Single	25.9	38.7
	Other	10.1	13.6
Education	Primary school	7.1	5.0
	High school	10.8	19.2
	Associate degree	18.6	2.8
	Bachelor	21.6	46.9
	Master	34.9	21.2
	PhD	6.8	5.0
	Other	0.0	0.0
Family monthly Income	650-1000	67.1	0.0
	1001-1500	30.0	89.0
	1501 and above	2.9	11.0
Occupation	Business	43.8	26.6
	Full-time-employees	21.9	46.9
	Part-time job	14.0	5.6
	Unemployed	6.4	2.6
	Housewives	13.8	18.4
Household size (persons)	<4	17.3	61.9
	>4	82.7	38.1
Access to organic food	Yes	69.0	89.0
	No	31.0	11.0
Organic food label recognition during the purchase	Yes	23.0	92.0
	No	77.0	8.0

n (Tanzania consumers) = 730; *n* (Denmark consumers) = 663
Source: Own composition

Table 2: The Reliability and Validity Measures.

Tanzania						Denmark				
Measured Variables	**Pool sample factor loading**	**Factor loadings**	**α**	**CR**	**AVE**	**Measured Variables**	**Factor loadings**	**α**	**CR**	**AVE**
Attitude										
Att1	0.83	0.72				Att1	0.87			
Att2	0.91	0.87				Att2	0.64			
Att3	0.84	0.91				Att3	0.66			
Att4	0.93	0.77				Att4	0.70			
Att5	0.85	0.82				Att5	0.98			
Att6	0.73	0.78	0.90	0.91	0.62	Att6	0.85	0.82	0.85	0.65
Subjective Norms										
SN1	0.84	0.86				SN1	0.73			
SN2	0.89	0.89				SN2	0.68			
SN3	0.79	0.77				SN3	0.81			
SN4	0.85	0.82	0.92	0.93	0.74	SN4	0.73	0.82	0.83	0.55
Perceived Behaviour Control										
PBC1	0.87	0.84				PBC1	0.85			
PBC2	0.96	0.81				PBC2	0.93			
PBC3	0.83	0.83	0.86	0.86	0.68	PBC3	0.87	0.91	0.91	0.78
Health Consciousness										
HC1	0.91	0.83				HC1	0.81			
HC2	0.71	0.95				HC2	0.88			
HC3	0.98	0.89	0.91	0.93	0.79	HC3	0.87	0.88	0.89	0.73
Actual Purchase										
AP1	0.86	0.77				AP1	0.75			
AP2	0.93	0.89				AP2	0.88			
AP3	0.82	0.82				AP3	0.87			
AP4	0.87	0.85				AP4	0.91			
AP5	0.80	0.83	0.94	0.91	0.74	AP4	0.89	0.91	0.91	0.73
Knowledge										
KN1	0.97	0.69				KN1	0.76			
KN2	0.89	0.78				KN2	0.77			
KN3	0.78	0.88				KN3	0.81			
KN4	0.81	0.85	0.87	0.86	0.63	KN4	0.84	0.84	0.87	0.68

Note: Att = Attitude, SN = Subjective norms, PBC = Perceive Behaviour control, HC = Health consciousness, AP = Actual purchase, KN = Knowledge, CR = Construct reliability, α = Cronbach alpha AVE = average variance extracted.
Source: Own composition

Table 3: The Discriminant Validity.

Tanzania						
	IP	**KN**	**Att**	**PBC**	**HC**	**SN**
AP	0.852					
KN	0.098	0.772				
Att	0.428	0.058	0.784			
PBC	0.084	0.013	0.022	0.824		
HC	0.47	0.001	0.564	0.037	0.883	
SN	0.227	0.091	0.225	0.02	0.244	0.857
Denmark						
	SN	**IP**	**KN**	**PBC**	**HC**	**Att**
SN	0.738					
AP	0.442	0.789				
KN	0.063	0.098	0.882			
PBC	0.561	0.47	0.001	0.88		
HC	0.22	0.232	-0.073	0.244	0.857	
Att	-0.052	-0.079	-0.149	-0.081	-0.074	0.628

Note: Att = Attitude, SN = Subjective norms, PBC = Perceive Behaviour control, HC = Health consciousness, AP = Actual purchase, KN = Knowledge.
Source: Own composition

Table 4: Multigroup Analysis.

	Tanzania		Denmark		MGA
Paths	**PC**	**t-value**	**PC**	**t-value**	**PC**
Att → KN	0.24	2.66**	0.26	4.10***	0.04 ns
SN → KN	0.30	6.05*	0.20	2.21 ns	0.17*
PBC → KN	0.12	0.29 ns	0.25	0.15*	0.21 ns
KN→ AP	0.21	2.37**	0.27	0.17**	0.03 ns
Att → HC	0.23	2.71***	0.23	3.08*	0.04 ns
SN → HC	0.17	2.23*	0.10	1.74 ns	0.08 ns
PBC → HC	0.19	2.37ns	0.11	2.23**	0.15 ns
HC → AP	0.22	5.52*	0.11	2.71**	0.07 ns
Variance explained R^2					
KN	0.28		0.27		
HC	0.18		0.19		
AP	0.21		0.23		

Note: * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$, ns = non-significant, PC = Path coefficient, MGA = Multigroup analysis, Att = Attitude, SN = Subjective norms, PBC = Perceive Behaviour control, HC = Health consciousness, AP = Actual purchase, KN = Knowledge.
Source: Own composition

as the perceived behaviour control to health consciousness were not significant in Tanzania.

Multigroup analysis

The SmartPLS software suggested by Hair Jr *et al.* (2017) was used in this study to conduct a multigroup analysis (MGA) to assess if the path coefficients are equal across two samples (Tanzania and Denmark) employed. The data from both samples was combined and the multi-group analysis (MGA) was run using multi-group permutation tests through SmartPLS (Hair Jr *et al.*, 2017). The results depict a significant difference between the two groups in the path from subjective norms to organic food knowledge (Table 4). Further, this study observed differences on groups as follows: the path for the subjective norms → organic food knowledge and the path for subjective norms → health consciousness was not significant for Denmark, but they were significant for Tanzania. Also, the path for perceived behaviour control → organic food knowledge and path for the perceived behaviour control → health consciousness was not significant for Tanzania but were significant for Denmark.

Structural Equation Model Results

Tanzanian consumers

The bootstrapping procedure was conducted by creating a 95 percent confidence interval (percentile and bias-corrected) around the indirect effect estimates. The results with $p \leq 0.05$ were considered significant. To achieve the full first condition, the paths from attitude, subjective norms, and perceived behaviour control to actual purchase were assessed. The results showed the significant and positive path from attitude ($\beta = 0.40$, $p < 0.001$) and subjective norms ($\beta = 0.15$, $p < 0.001$) to actual purchase (Model 1). With the involvement of knowledge (Model 2), the effect of attitude ($\beta = 0.27$, $p < 0.01$) and subjective norms ($\beta = 0.12$, $p = 0.05$) on actual purchase remained significant but smaller than in Model 1. Furthermore, with the involvement of health consciousness as a mediator (Model 2), the effect of attitude ($\beta = 0.25$, $p < 0.001$) and subjective norms ($\beta = 0.11$, $p < 0.05$) on actual purchase remained significant but smaller than those in Model 1. By these results, Hypothesis 1, 2, 4, and 5 were supported.[1]

Denmark consumers

We applied the same conditions using the sample from Denmark, in which the paths between the attitude and perceived behaviour control to knowledge and health consciousness were significant except for the subjective norms. For Model 1, the results indicated the significant and positive effect of attitude ($\beta = 0.71$, $p < 0.001$) and perceived behaviour control ($\beta = 0.52$, $P < 0.001$) on actual purchase. With the involvement of knowledge in Model 2, the effect of attitude ($\beta = 0.39$, $p < 0.05$) and perceived behaviour control ($\beta = 0.28$, $p = 0.05$) on actual purchase remained significant but smaller than those in Model 1. Moreover, the involvement of health consciousness as a mediator (Model 2), and the effect of attitude ($\beta = 0.31$, $p < 0.01$) and perceived behaviour control ($\beta = 0.22$, $p < 0.01$) remained significant and positive but smaller than those of Model 1. By these results, H1, H3, H4, and H6 were supported. The mediation results are summarised in Table 5.

The smartPLS suggested by Hair Jr *et al.* (2017) was employed on this study to conduct a multigroup analysis (MGA) to assess if the path coefficients are equal across two samples employed. Table 4 depicts the differences of path coefficient estimates between the two groups. There were differences between two groups on four paths only. For example, we observed that the subjective norms to organic food knowledge as well as subjective norms to health consciousness were not significant in Denmark. Also, the perceived behaviour control to organic food knowledge as well as the perceived behaviour control to health consciousness were not significant in Tanzania.

[1] β is a standardized beta coefficient that compares the strength of the effect of each individual independent variable with the dependent variable. The higher the absolute value of the beta coefficient, the stronger the effect. The p-value for each term tests the null hypothesis that the coefficient is equal to zero (no effect).

Table 5: The Mediation Results.

		Tanzania		Denmark	
Hypotheses	**Mediation path**	**Model 1**	**Model 2**	**Model 1**	**Model 2**
H1	Att -KN-AP (Model 2)	0.40***	0.27**	0.71***	0.39*
H2	SN -KN-AP (Model2)	0.15***	0.12*	0.11ns	0.09ns
H3	PBC-KN-AP (Model 2)	-0.09ns	-0.06ns	0.52***	0.28*
H4	Att-HC-AP (Model 2)	0.40***	0.25**	0.71***	0.31**
H5	SN-HC-AP (Model 2)	0.15***	0.11*	0.11ns	0.10ns
H6	PBC-HC-AP (Model 2)	-0.09ns	-0.06ns	0.52***	0.22**
	Fit statistics				
	X^2	473.03	363	272	261.31
	X^2/df	2.28	2.03	1.54	1.50
	RMR	0.03	0.07	0.05	0.04
	CFI	0.95	0.91	0.98	0.98
	RMSEA	0.05	0.03	0.03	0.03

Note: ns= Not significant; Model 1 constrained; Model 2 free; n (Tanzania consumers) = 730; n (Denmark consumers) = 663; * $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$; $\chi 2$ = Chi-squared, df = degrees of freedom, RMR = Root mean square residual, CFI = Comparative fit index, RMSEA = Root mean square error of approximation; Att = Attitude, SN = Subjective norms, PBC = Perceive Behaviour control, HC = Health consciousness, AP = Actual purchase, KN = Knowledge.
Source: Own composition

Discussion and Implications

As per the published available data (Willer & Lernoud, 2017), the organic food consumption has been increasing worldwide. This means a necessity for the organic food companies to understand customers' motives behind the actual purchase of organic food. The findings in earlier studies have focused on numerous dimensions of consumer behaviour and consumers' willingness or attention to purchase organic food. The underlying mechanisms which connect consumer behaviours with actual purchase of organic food have largely been ignored. This study processes a theoretical model that links the theory of planned behaviour constructs with consumer knowledge about organic food, health consciousness, and the actual purchase of organic food. To do the mediation analysis, the direct paths were first assessed as recommended by Hair *et al.* (2013). The results did not find the direct relationship between subjective norms and actual purchase of organic food in Denmark, and perceived behaviour control and actual purchase of organic food in Tanzania. This was a significant difference between Denmark and Tanzania. Later, to test the hypotheses, the knowledge and health consciousness were introduced into the significant paths. The present study makes several contributions to the existing literature on consumer behaviour and actual purchase of organic food.

First, the proposed model focuses on the knowledge and health consciousness variables as underlying mechanisms that link consumer behaviour dimensions (consumer attitude, subjective norms, and perceived behaviour control) with the actual purchase of organic food. Most of the previous studies have linked these behaviours with intentions or willingness to purchase organic food (Chelang'a *et al.*, 2013; Shahriari *et al.*, 2019). However, it is known that the willingness and intention to purchase does not always lead to the actual purchase because of the barriers such as lack of availability and high price of the organic food (Ham *et al.*, 2018b). Therefore, an understanding of the actual purchase of organic food is essential. This study's results indicate that knowledge and health consciousness are underlying mechanisms in the relationship of attitude and subjective norms with the actual purchase of organic food in Tanzania. The knowledge and health consciousness have received attention as predictor variables (and not as underlying mechanisms) in prior studies (Ngigi *et al.*, 2011). The results of this study imply that the immediate information that consumers seek on health benefits changes their behaviour regarding food choices in Tanzania.

Second, knowledge and health consciousness are underlying mechanisms in the relationship of consumer attitude and perceived behaviour control with actual purchase of organic food in Denmark. In Denmark, the results indicate partial mediation of health consciousness and knowledge in the relationship of attitude and perceived behaviour control with actual purchase of organic food.

Third, the study encountered a significant difference in antecedent variables in the case of two countries. Attitude, subjective norms, and actual purchase were significant paths in Tanzania, and attitude, perceived behaviour control, and actual purchase were significant paths in Denmark. There was no significant path between subjective norms and actual purchase of organic food in Denmark, implying that Danes are not affected by what "important" people think or by social influence, which is in contrast with Ruiz de Maya *et al.* (2011). There was no significant path between perceived behaviour control and the actual organic food purchase in the Tanzania sample which is in contrast with Wang *et al.* (2019). A possible explanation is the inadequate availability of organic food in Tanzania, which is caused by its significant exports to other countries (Bakewell-Stone *et al.*, 2008; Valerian *et al.*, 2011). As per this study, both consumer knowledge and health consciousness were the underlying mechanisms that linked consumer attitude and subjective norms with actual purchase of organic food in Tanzania. Whereas consumer knowledge and health consciousness were the underlying mechanisms linking consumer attitude and perceived behaviour control with actual purchase of organic food in Denmark. The results concerning consumer knowledge are aligned with those of Choi and Kim (2011) which states that consumer knowledge explains the consumer

purchase behaviour of organic food. The results concerning health consciousness are in agreement with Alphonce and Alfnes (2012) which asserts that consumers rely on food safety being beneficial for their health. However, our study uniquely identifies both consumer knowledge and health consciousness as underlying mechanisms of actual purchase behaviour, unlike Choi and Kim (2011).

Conclusions

The prior studies have suggested that the differences in economy and culture of different countries cause dynamism in consumer behaviour from country to country (Al-Hyari *et al.*, 2012; De Mooij, 2019). The present study invites future research to examine the role of cultural and economic aspects of organic food purchases empirically. Moreover, the present study considered regular and middle-class consumers of organic food, which provides room for a future study to focus on occasional and rich class consumers for a more complete understanding of consumer behaviour of organic food. The present study used a mix of online and field surveys to obtain data from two countries. Only few studies (Moon & Balasubramanian, 2003) have collected data in this blended way, but have also shown that the two techniques (online and field survey) produce similar results. Future comparative studies may use consistent methods (either online or field survey) in two countries to ensure further generalisation of findings. Lastly, the present study focused on consumer's simple knowledge about organic food in general and did not incorporate the consumer's knowledge and understanding about the organic farming processes and techniques; therefore, future studies may use our conceptual work to explore consumer behaviour based upon consumer knowledge about specific organic products that are produced by using different organic food processes and techniques.

References

Ahmad, S. N. B. and Juhdi, N. (2010): Organic food: A study on demographic characteristics and factors influencing purchase intentions among consumers in Klang Valley, Malaysia. International journal of business and management, **5** (2), 105–118.

Ajzen, I. (1988): Attitudes, Personality and Behaviour, Buckingham. England: Open Press University.

Ajzen, I. (1991): The theory of planned behaviour. Organizational Behaviour and Human Decision Processes, **50** (2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Ajzen, I. (2002): Perceived behavioural control, self-efficacy, locus of control, and the theory of planned behaviour 1. Journal of Applied Social Psychology, **32** (4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x

Ajzen, I. (2015): The theory of planned behaviour is alive and well, and not ready to retire: a commentary on Sniehotta, Presseau, and Araújo-Soares. Health Psychology Review, **9** (2), 131–137. https://doi.org/10.1080/17437199.2014.88347

Akhondan, H., Johnson-Carroll, K. and Rabolt, N. (2015): Health consciousness and organic food consumption. Journal of Family & Consumer Sciences, **107** (3), 27–32.

Al-Hyari, K., Alnsour, M., Al-Weshah, G. and Haffar, M. (2012): Religious beliefs and consumer behaviour: from loyalty to boycotts. Journal of Islamic Marketing, **3** (2), 155–174. https://doi.org/10.1108/17590831211232564

Al-Taie, W. A., Rahal, M. K., AL-Sudani, A. S. and AL-Farsi, K. A. (2015): Exploring the consumption of organic foods in the United Arab Emirates. SAGE Open, **5** (2), 1–12. https://doi.org/10.1177/2158244015592001

Alphonce, R. and Alfnes, F. (2012): Consumer willingness to pay for food safety in Tanzania: an incentive-aligned conjoint analysis. International Journal of Consumer Studies, **36** (4), 394–400. https://doi.org/10.1111/j.1470-6431.2011.01067.x

Armesto, J., Rocchetti, G., Senizza, B., Pateiro, M., Barba, F. J., Domínguez, R., Lucini, L., Lorenzo, J. M. (2020): Nutritional characterization of Butternut squash (Cucurbita moschata D.): Effect of variety (Ariel vs. Pluto) and farming type (conventional vs. organic), Food Research International, **132**, 109052. https://doi.org/10.1016/j.foodres.2020.109052

Asif, M., Xuhui, W., Nasiri, A. and Ayyub, S. (2018): Determinant factors influencing organic food purchase intention and the moderating role of awareness: A comparative analysis. Food Quality and Preference, **63**, 144–150. https://doi.org/10.1016/j.foodqual.2017.08.006

Bakewell-Stone, P., Lieblein, G. and Francis, C. (2008): Potentials for organic agriculture to sustain livelihoods in Tanzania. International Journal of Agricultural Sustainability, **6** (1), 22–36. https://doi.org/10.3763/ijas.2007.0266

Bartels, J. and Reinders, M. J. (2010): Social identification, social representations, and consumer innovativeness in an organic food context: A cross-national comparison. Food Quality and Preference, **21** (4), 347–352. https://doi.org/10.1016/j.foodqual.2009.08.016

Basha, M. B. and Lal, D. (2019): Indian consumers' attitudes towards purchasing organically produced foods: An empirical study. Journal of Cleaner Production, **215**, 99–111. https://doi.org/10.1016/j.jclepro.2018.12.098

Boatemaa, S., Barney, M., Drimie, S., Harper, J., Korsten, L. and Pereira, L. (2019): Awakening from the listeriosis crisis: Food safety challenges, practices and governance in the food retail sector in South Africa. Food Control, **104**, 333–342. https://doi.org/10.1016/j.foodcont.2019.05.009

Brantsæter, A. L., Ydersbond, T. A., Hoppin, J. A., Haugen, M. and Meltzer, H. M. (2017): Organic food in the diet: Exposure and health implications. Annual Review of Public health, **38**, 295–313. https://doi.org/10.1146/annurev-publhealth-031816-044437

Browne, R. H. (1995): On the use of a pilot sample for sample size determination. Statistics in medicine, **14** (17), 1933–1940. https://doi.org/10.1002/sim.4780141709

Brucks, M. (1985): The effects of product class knowledge on information search behaviour. Journal of Consumer Research, **12** (1), 1–16. https://doi.org/10.1086/209031

Çabuk, S., Tanrikulu, C. and Gelibolu, L. (2014): Understanding organic food consumption: attitude as a mediator. International Journal of Consumer Studies, **38** (4), 337–345. https://doi.org/10.1111/ijcs.12094

Chacha, M. E. (2009): Socio-cultural factors influencing attitudes and perceptions on food and nutrition in Morogoro municipality. Master's thesis. Sokoine University of Agriculture.

Chelang'a, P. K., Obare, G. A. and Kimenju, S. C. (2013): Analysis of urban consumers' willingness to pay a premium for African Leafy Vegetables (ALVs) in Kenya: a case of Eldoret Town. Food Security, **5** (4), 591–595. https://doi.org/10.1007/s12571-013-0273-9

Choi, J.-E. and Kim, Y.-G. (2011): The relationships of consumers' objective knowledge, subjective knowledge, risk perception and purchase intention of organic food: A mediating effect of risk perception towards food safety. Culinary science and hospitality research, **17** (4), 1531–168.

Clonan, A., Holdsworth, M., Swift, J. and Wilson, P. (2010): UK consumers priorities for sustainable food purchases. https://doi.org/10.22004/ag.econ.91948

Dangour, A. D., Lock, K., Hayter, A., Aikenhead, A., Allen, E. and Uauy, R. (2010): Nutrition-related health effects of organic foods: a systematic review. The American Journal of Clinical Nutrition, **92** (1), 203–210. https://doi.org/10.3945/ajcn.2010.29269

De Leeuw, E. D., Hox, J. and Dillman, D. (2012): International handbook of survey methodology: Routledge. USA: Taylor&Francis.

de Magistris, T. and Gracia, A. (2008): The decision to buy organic food products in Southern Italy. British Food Journal, **110** (9), 929–947. https://doi.org/10.1108/00070700810900620

De Mooij, M. (2019): Consumer behaviour and culture: Consequences for global marketing and advertising. UK: Sage.

Dimitri, C. (2012): Organic food consumers: what do we really know about them? British Food Journal, **114** (8), 1157–1183. https://doi.org/10.1108/00070701211252101

Dixon, N. (2002): The neglected receiver. Ivey Business Journal, **66** (4), 35–40.

Engel, W. E. (2009): Determinants of consumer willingness to pay for organic food in South Africa. University of Pretoria.

Fernqvist, F. and Ekelund, L. (2014): Credence and the effect on consumer liking of food—A review. Food Quality and Preference, **32** (C), 340–353. https://doi.org/10.1016/j.foodqual.2013.10.005

Flynn, L. and Goldsmith, R. (1999): A Short, Reliable Measure of Subjective Knowledge. Journal of Business Research, **46**, 57–66. https://doi.org/10.1016/S0148-2963(98)00057-5

Fornell, C. and Larcker, D. F. (1981): Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research, **18** (1), 39–50. https://doi.org/10.2307/3151312

Grønhøj, A. (2013): Using theory of planned behaviour to predict healthy eating among Danish adolescents. Health Education, **113** (1), 4–17. https://doi.org/10.1108/09654281311293600

Grunert, K. G., Sonntag, W. I., Glanz-Chanos, V. and Forum, S. (2018): Consumer interest in environmental impact, safety, health and animal welfare aspects of modern pig production: Results of a cross-national choice experiment. Meat Science, **137**, 123–129. https://doi.org/10.1016/j.meatsci.2017.11.022

Grzybowska-Brzezinska, M., Grzywinska-Rapca, M., Zuchowski, I. and Bórawski, P. (2017): Organic food attributes determing consumer choices. European Research Studies Journal, **20** (2), 164–176.

Hair, J., Black, W., Babin, B., Anderson, R. and Tatham, R. (2013): Multivariate Data Analysis. Pearson Education Limited.

Hair Jr, J. F., Sarstedt, M., Ringle, C. M. and Gudergan, S. P. (2017): Advanced issues in partial least squares structural equation modeling. USA: SAGE.

Ham, M., Pap, A. and Stanic, M. (2018a): What drives organic food purchasing?–evidence from Croatia. British Food Journal, **120** (4), 734–748.

Ham, M., Pap, A. and Stanic, M. (2018b): What drives organic food purchasing? – evidence from Croatia. British food journal, **120** (4), 734–748. https://doi.org/10.1108/BFJ-02-2017-0090

Hansen, L. K. (2019): Facts & figures about Danish organics. Retrieved from: https://www.organicdenmark.com/facts-figures-about-danish-organics (Accessed in February 2021)

Hansen, T., Sørensen, M. I. and Eriksen, M.-L. R. (2018): How the interplay between consumer motivations and values influences organic food identity and behaviour. Food Policy, **74**, 39–52. https://doi.org/10.1016/j.foodpol.2017.11.003

Hayes, A. F. (2017): Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford Publications:

He, C., Breiting, S. and Perez-Cueto, F. J. A. (2012): Effect of organic school meals to promote healthy diet in 11–13 year old children. A mixed methods study in four Danish public schools. Appetite, **59** (3), 866–876. https://doi.org/10.1016/j.appet.2012.09.001

Henryks, J., Cooksey, R. and Wright, V. (2014): Organic Food at the Point of Purchase: Understanding Inconsistency in Consumer Choice Patterns. Journal of Food Products Marketing, **20** (5), 452–475. https://doi.org/10.1080/10454446.2013.838529

Hidalgo-Baz, M., Martos-Partal, M. and González-Benito, Ó. (2017): Attitudes vs. purchase behaviours as experienced dissonance: The roles of knowledge and consumer orientations in organic market. Frontiers in psychology, **8**, 248. https://doi.org/10.3389/fpsyg.2017.00248

Honkanen, P., Verplanken, B. and Olsen, S. O. (2006): Ethical values and motives driving organic food choice. Journal of Consumer Behaviour: An International Research Review, **5** (5), 420–430. https://doi.org/10.1002/cb.190

Hsu, S.-Y., Chang, C.-C. and Lin, T. T. (2016): An analysis of purchase intentions toward organic food on health consciousness and food safety with/under structural equation modeling. British Food Journal, **118** (1), 200–2016. https://doi.org/10.1108/BFJ-11-2014-0376

Irianto, H. (2015): Consumers' attitude and intention towards organic food purchase: An extension of theory of planned behaviour in gender perspective. International Journal of Management, Economics and Social Sciences, **4** (1), 17–31.

Janssen, M. and Hamm, U. (2012): Product labelling in the market for organic food: Consumer preferences and willingness-to-pay for different organic certification logos. Food Quality and Preference, **25** (1), 9–22. https://doi.org/10.1016/j.foodqual.2011.12.004

Lee, H.-J. and Jiyoung, H. (2016): The driving role of consumers' perceived credence attributes in organic food purchase decisions: A comparison of two groups of consumers. Food quality and preference., **54**, 141–151. https://doi.org/10.1016/j.foodqual.2016.07.011

Lim, W. M., Yong, J. L. S. and Suryadi, K. (2014): Consumers' Perceived Value and Willingness to Purchase Organic Food. Journal of Global Marketing, **27** (5), 298–307. https://doi.org/10.1080/08911762.2014.931501

Madsen, M. F., Kristensen, S. B. P., Fertner, C., Busck, A. G. and Jørgensen, G. (2010): Urbanisation of rural areas: A case study from Jutland, Denmark. Geografisk Tidsskrift-Danish Journal of Geography, **110** (1), 47–63. https://doi.org/10.1080/00167223.2010.10669496

Mainardes, E. W., de Araujo, D. V. B., Lasso, S. and Andrade, D. M. (2017): Influences on the intention to buy organic food in an emerging market. Marketing Intelligence & Planning, **35** (7), 858–876. https://doi.org/10.1108/MIP-04-2017-0067

Mainz, J., Kristensen, S. and Bartels, P. (2015): Quality improvement and accountability in the Danish health care system. International Journal for Quality in Health Care, **27** (6), 523–527. https://doi.org/10.1093/intqhc/mzv080

Mellino, C. (2013): Will Denmark Become the World's First 100% Organic Country? Retrieved from https://www.ecowatch.com/will-denmark-become-the-worlds-first-100-organic-country-1882162562.html (Accessed in March 2021)

Mesías Díaz F. J., Martínez-Carrasco Pleite, F., Miguel Martínez Paz, J. and Gaspar García, P. (2012): Consumer knowledge, consumption, and willingness to pay for organic

tomatoes. British Food Journal, **114** (3), 318–334. https://doi.org/10.1108/00070701211213447

Molinillo, S., Vidal-Branco, M. and Japutra, A. (2020): Understanding the drivers of organic foods purchasing of millennials: Evidence from Brazil and Spain. Journal of Retailing and Consumer Services, **52**, 101926. https://doi.org/10.1016/j.jretconser.2019.101926

Moon, W. and Balasubramanian, S. K. (2003): Willingness to Pay for Non-biotech Foods in the US and UK. Journal of Consumer Affairs, **37** (2), 317–339. https://doi.org/10.1111/j.1745-6606.2003.tb00456.x

Moorman, C., Diehl, K., Brinberg, D. and Kidwell, B. (2004): Subjective knowledge, search locations, and consumer choice. Journal of Consumer Research, **31** (3), 673–680. https://doi.org/10.1086/425102

Muhammad, S., Fathelrahman, E., Ullah, T. and Ullah, R. (2016): The significance of consumer's awareness about organic food products in the United Arab Emirates. Sustainability, **8** (9), 833. https://doi.org/10.3390/su8090833

Ngigi, M., Okello, J., Lagerkvist, C., Karanja, N. and Mburu, J. (2011): Urban consumers' willingness to pay for quality of leafy vegetables along the value chain: The case of Nairobi Kale consumers, Kenya. International Journal of Business and Social Science, **2** (7), 208–216.

Onyango, B., Hallman, W. and Bellows, A. (2006): Purchasing Organic Food in U.S. Food Systems: A Study of Attitudes and Practice. British Food Journal, **109** (5), 399–411. https://doi.org/10.1108/00070700710746803

Petrescu, D. C. andPetrescu-Mag, R. M. (2015): Organic food perception: fad, or healthy and environmentally friendly? A case on Romanian consumers. Sustainability, **7** (9), 12017–12031. https://doi.org/10.3390/su70912017

Pham, T. H., Nguyen, T. N., Phan, T. T. H. and Nguyen, N. T. (2019): Evaluating the purchase behaviour of organic food by young consumers in an emerging market economy. Journal of Strategic Marketing, **27** (6), 540–556. https://doi.org/10.1080/0965254X.2018.1447984

Pieniak, Z., Aertsens, J. and Verbeke, W. (2010): Subjective and objective knowledge as determinants of organic vegetables consumption. Food Quality and Preference, **21** (6), 581–588. https://doi.org/10.1016/j.foodqual.2010.03.004

Popa, M. E., Mitelut, A. C., Popa, E. E., Stan, A. and Popa, V. I. (2019): Organic foods contribution to nutritional quality and value. Trends in Food Science & Technology, **84**, 15–18. https://doi.org/10.1016/j.tifs.2018.01.003

Rana, J. and Paul, J. (2017): Consumer behaviour and purchase intention for organic food: A review and research agenda. Journal of Retailing and Consumer Services, **38**, 157–165. https://doi.org/10.1016/j.jretconser.2017.06.004

Ruiz de Maya, S., López-López, I. and Munuera, J. L. (2011): Organic food consumption in Europe: International segmentation based on value system differences. Ecological Economics, **70** (10), 1767–1775. https://doi.org/10.1016/j.ecolecon.2011.04.019

Rundgren, G. and Lustig, P. (2007): Organic markets in Africa: IFOAM.

Sazvar, Z., Rahmani, M. and Govindan, K. (2018): A sustainable supply chain for organic, conventional agro-food products: The role of demand substitution, climate change and public health. Journal of Cleaner Production, **194**, 564–583. https://doi.org/10.1016/j.jclepro.2018.04.118

Shahriari, E., Torres, I. M., Zúñiga, M. A. and Yarlou, P. M. (2019): Values Driving Organic Food Purchase Intention: A Comparative Analysis between a Developing Eastern Country (Iran) and a Developed Western Country (US). Journal of International Consumer Marketing, **31** (4), 317–329. https://doi.org/10.1080/08961530.2018.1561345

Sogn, Ø. and Mella, E. (2007): Tanzanian's interest in and access to organic food.

Tabachnick, B. and Fidell, L. (1996): Using Multivariate Statistics. New York: Harper Collins College.

Tait, P., Saunders, C., Guenther, M. and Rutherford, P. (2016): Emerging versus developed economy consumer willingness to pay for environmentally sustainable food production: a choice experiment approach comparing Indian, Chinese and United Kingdom lamb consumers. Journal of Cleaner Production, **124**, 65–72. https://doi.org/10.1016/j.jclepro.2016.02.088

Tarkiainen, A. and Sundqvist, S. (2005): Subjective norms, attitudes and intentions of Finnish consumers in buying organic food. British Food Journal, **107** (11), 808–822. https://doi.org/10.1108/00070700510629760

Teisl, M. F., Bockstael, N. E. and Levy, A. (2001): Measuring the Welfare Effects of Nutrition Information. American Journal of Agricultural Economics, **83** (1), 133–149. https://doi.org/10.1111/0002-9092.00142

Thøgersen, J., Barcellos, M., Perin, M. and Zhou, Y. (2015): Consumer buying motives and attitudes towards organic food in two emerging markets: China and Brazil. International Marketing Review, **32**, 389–413. https://doi.org/10.1108/IMR-06-2013-0123

Tung, S. J. (2012): Attitudinal inconsistency toward organic food in relation to purchasing intention and behaviour: An illustration of Taiwan consumers. British Food Journal, **114** (7), 997–1015. https://doi.org/10.1108/00070701211241581

Valerian, J., Domonko, E., Mwita, S. and Shirima, A. (2011): Assessment of the willingness to pay for organic products amongst households in Morogoro municipal. Report of the original work done for Sustainable Agriculture Tanzania (SAT): Tanzania.

Van Loo, E. J., Diem, M. N. H., Pieniak, Z. and Verbeke, W. (2013): Consumer attitudes, knowledge, and consumption of organic yogurt. Journal of Dairy Science, **96** (4), 2118–2129. https://doi.org/10.3168/jds.2012-6262

Voon, J. P., Ngui, K. S. and Agrawal, A. (2011): Determinants of willingness to purchase organic food: An exploratory study using structural equation modeling. International Food and Agribusiness Management Review, **14** (2), 103–120. https://doi.org/10.22004/ag.econ.103989

Wagner, K.-H. and Brath, H. (2012): A global view on the development of non communicable diseases. Preventive Medicine, **54**, S38–S41. https://doi.org/10.1016/j.ypmed.2011.11.012

Wang, X., Pacho, F., Liu, J. and Kajungiro, R. (2019): Factors Influencing Organic Food Purchase Intention in Tanzania and Kenya and the Moderating Role of Knowledge. Sustainability, **11** (1), 209. https://doi.org/10.3390/su11010209

Wekeza, S. V. and Sibanda, M. (2019): Factors Influencing Consumer Purchase Intentions of Organically Grown Products in Shelly Centre, Port Shepstone, South Africa. International journal of environmental research and public health, **16** (6), 956. https://doi.org/10.3390/ijerph16060956

Wier, M., O'Doherty Jensen, K., Andersen, L. M. and Millock, K. (2008): The character of demand in mature organic food markets: Great Britain and Denmark compared. Food Policy, **33** (5), 406–421. https://doi.org/10.1016/j.foodpol.2008.01.002

Wiggins, S. and Keats, S. (2017): Future diets in the developing world.

Willer, H. and Lernoud, J. (2017): The world of organic agriculture. Statistics and emerging trends 2017: Research Institute of Organic Agriculture FiBL and IFOAM-Organics International.

Willer, H., Lernoud, J. and Kemper, L. (2018): The world of organic agriculture 2018: Summary. In The World of Organic Agriculture. Statistics and Emerging Trends 2018, 22–31. Research Institute of Organic Agriculture FiBL and IFOAM-Organics International.

Wu Gavin, J. (2019): A goal-directed interactionist perspective of counterfeit consumption. European Journal of Marketing, **53** (7), 1311–1332. https://doi.org/10.1108/EJM-07-2017-0455

Yadav, R. and Pathak, G. S. (2016): Intention to purchase organic food among young consumers: Evidences from a developing nation. Appetite, **96**, 122–128. https://doi.org/10.1016/j.appet.2015.09.017

Yeon Kim, H. and Chung, J.-E. (2011): Consumer purchase intention for organic personal care products. Journal of Consumer Marketing, **28** (1), 40–47. https://doi.org/10.1108/07363761111101930

Yiridoe, E. K., Bonti-Ankomah, S. and Martin, R. C. (2005): Comparison of consumer perceptions and preference toward organic versus conventionally produced foods: A review and update of the literature. Renewable agriculture and food systems, **20** (4), 193–205. https://doi.org/10.1079/RAF2005113

Appendix

Appendix 1: Constructs and their Measures.

Codes	Items (All were in seven-point (1=strongly disagree to 7=strongly agree)	Author
	Subjective norms	
SN1	Most people I value would buy organic food rather than non-organic food.	Ajzen (2002)
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.	
	Attitude	
Att1	I think that purchasing organic food is a good idea.	Ajzen (2002)
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.	Ajzen (2002)
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	
	Actual purchase	
AP1	When I buy organic food, I buy meat and meat products from organic farms.	
AP2	When I buy organic food, I buy fresh fruits and vegetables from organic farms.	
AP3	When I buy organic food, I buy organic eggs.	
AP4	When I buy organic food, I buy organic bakery products.	
AP5	When I buy organic food products, I buy organically grown grains and beans.	Ham *et al. (*2018)
	Health consciousness	
HC1	I choose food carefully to ensure good health.	Tarkiainen and Sundqvist (2005)
HC2	I consider myself as a health-conscious consumer.	
HC3	I often think about health-related issues.	
	Organic food Knowledge	
KN1	I know different types of organic foods	Flynn and Goldsmith (1999)
KN2	I think I know enough about the term organic food	
KN3	I know about organic food well enough to be able to purchase them	
KN4	I have been interested to learn about organic foods	

Appendix 2: The Questionnaire.

This questionnaire is about organic food. Organic food is fresh or processed food farmed without the use of synthetic chemicals, such as human-made pesticides and fertilisers. The aim of this survey is to know the awareness of organic food products in the country. I would like to have a few minutes of your time to answer this survey. There are no right or wrong answers, only your personal opinions matter.

1. Are you able to access organic food easily in your area (Please tick an appropriate answer)?
□ Yes
□ No

2. Can you recognise organic food label during the purchase?
□ Yes
□ No

3. Please select the most appropriate response from 1 = strongly disagree to 7= strongly agree level

S/N	Statement	1	2	3	4	5	6	7
1	I know different types of organic foods							
2	I think I know enough about the term organic food							
3	I know about organic food well enough to be able to purchase them							
4	I have been interested to learn about organic foods							
5	I choose food carefully to ensure good health.							
6	I consider myself as a health-conscious consumer.							
7	I often think about health-related issues.							
8	When I buy organic food, I buy meat and meat products from organic farms.							
9	When I buy organic food, I buy fresh fruits and vegetables from organic farms.							
10	When I buy organic food, I buy organic eggs.							
11	When I buy organic food, I buy organic bakery products.							
12	When I buy organic food products, I buy organically grown grains and beans.							
13	If I wanted to, I could buy organic food instead of non-organic food.							
14	I think that it is easy for me to buy organic food.							
15	It is mostly up to me whether to buy organic							
16	I think that purchasing organic food is a good idea.							
17	I think that purchasing organic food is interesting.							
18	I think that purchasing organic food is important							
19	I think that purchasing organic food is beneficial							
20	I think that purchasing organic food is wise.							
21	I think that purchasing organic food is favorable.							
22	Most people I value would buy organic food rather than non-organic food.							
23	My family thinks that I should buy organic food rather than non-organic food.							
24	People I value, such as my teachers, think I should buy organic food.							
25	Most friends whose opinions regarding diet are important to me think that I should buy organic food.							

Demographic (Please tick an appropriate answer)

4. Gender
□ Male
□ Female

5. Marital Status
□ Married
□ Single
□ Other

6. Age
□ 25-35
□ 36-45
□ 46-55
□ 56-65
□ 66 and above

7. Education level
□ Primary school
□ High school
□ Diploma
□ Bachelor
□ Masters
□ PhD
□ Other (explain)……

8. Occupation
□ Business
□ Full-time employee
□ Part-time job
□ Unemployed
□ Housewife

9. How many people in your house are living permanently?
□ Less than 4
□ Over than 4

10. Monthly income (in USD)
□ 650-1000
□ 1001-1500
□ 1501 and above