Journal Brief

EFFECT OF MARKET ELEMENTS ON PURCHASE OF ORGANIC FOODS IN NYERI COUNTY, KENYA

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ABSTRACT

Organic food is experiencing an upsurge in global trends as regards farmer numbers, sales, revenues, and area coverage. However, despite this growth, its market share remains low in Kenya compared to conventional foods. This is attributable to a mis-link between research on organic food purchase factors and the market-focused stakeholders. The main objective of this study was to contribute to greater adoption, consumption, and market share of organic foods in Kenya. The specific objective was to estimate the effects of the market elements (Product, Place, Price, and Promotion) on the purchase of organic food products. A survey was carried out through a questionnaire where a sample of 230 respondents were interviewed from purchasers of organic food using a simple random method in Nyeri County, Kenya. The study found Promotion (Prom) to be greatly affecting Organic food purchases by 0.481 units (48.1%) per unit change in purchase. Place (PL) was second with an influence of 0.247 units (24.7%) per unit change in purchase and finally Price (PR) was with 0.164 units (16.4%) per unit change in Purchase. The product market element was found to be insignificant at 0.05 probability level with an effect of 0.092 units (9.2%) per unit change in purchase.

INTRODUCTION

The behaviour that persuades a consumer's attention to make a purchase of organic food has received little concern in terms of research in developing countries (Pacho, 2020). There is limited knowledge on record concerning the factors that influence a purchaser's intent to buy organic foods in these countries (Pacho, 2020). According to FAO (2021), organic agriculture encompasses all systems in Agriculture that support environmental, social, and economic approaches to fibre, animals, and food production. . The major concern in these production systems is to grow food in harmony with nature as cited by Nain *et al.,* (2020). To understand this sector, researchers globally have studied the regularly purchased food types, demographic characteristics, and the product's inherent characteristics (Li and Jaharuddin, 2020). The knowledge of the existence of organics and their difference from the conventional food need to be known by the purchasers. This will give them a reason for paying the premium prices charged and make them habitual purchasers. The passing of knowledge inorganic foods to the purchasers on product features is through marketing and the retailing strategies of merchandising and display who generally are in charge of the market elements of Place, Price, Product and Promotion (Melovic *et al*., 2020).

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MATERIALS AND METHODS

The study was carried out in Nyeri County which is located in the Central region of Kenya. A survey was carried out to collect data on the effect of the market elements on the purchase of Organic foods.

The sample size was 230, which was determined using the G-power program (available online at http://www.gpower.hhu.de/ (Table I); a program built on the foundations of the Ordinary Least Squares (OLS) regression method. Simple Random sampling technique was applied to determine the respondents who were the purchasers of organic food products in Nyeri County. Primary data were collected by administering questionnaires to 250 Organic food purchasers, whereby 230 duly filled questionnaires were returned and processed. A reliability test was carried out through a pre-test of 50 respondents from Murang'a County's Organic Food Purchasers. The data collected was coded, cleaned, and input into IBM SPSS Statistics version 26. The observations were assumed to be independent, errors uncorrelated between the items and the variables assumed to exhibit relationships between themselves. Tests to assess these data statistical assumptions were carried out which included; reliability, exploratory factor analysis, correlation, autocorrelation, and multicollinearity. These tests were to ensure

soundness and replicability of the data hence accuracy of results. After confirming the reliability and validity of the data, the General Linear Regression model was applied to determine the effect of size of the Price, Product, Place, and Promotion; market elements on the Purchase of Organic Food Products in Nyeri County, Kenya.

RESULTS

Respondents' information

Majority of the Organic food purchasers were educated up to polytechnic/ diploma level at 29.6%, purchasers aged between 21 and 29 years were at 40.9% while on gender, the females were more at 71.3%. The married purchasers formed a bigger portion of purchasers at 61.3%, while the households of less or equal to 5 members were more at 81.3%. Pertaining to the earnings, majority earned less than KES. 65,000/= at 82.2%. The results showed 24.3% of the informal sector, while the purchasers of organic foods who purchased at least once per week were more at 84.3% (Table II).

TABLE I - SAMPLE SIZE ESTIMATION USING THE G-POWER PROGRAM

F tests - Linear multiple regression: Fixed model, R^2 deviation from zero			
Analysis:	A priori: Compute required sample size		
Input:	Effect size f^2	=	0.15
	α err prob	=	0.05
	Power (1-β err prob)	=	0.8
	Number of predictors	=	41
Output:	Non centrality parameter λ	=	32.4
	Critical F	=	1.4594
	Numerator df	=	41
	Denominator df	=	174
	Total sample size	=	216
	Actual power	=	0.80118

TABLE II - RESPONDENTS' INFORMATION

Variable	DEMOGRAPHICS SUMMARY (N=230)	Percent
Education	Primary education	15.7
	Secondary/ High School	29.1
	Polytechnic/ Diploma	29.6
	University/ Undergraduate	22.6
	Masters, PhD and Above	3.0
Age	21-29 Years	40.9
	30-34 Years	16.5
	35-49 Years	28.3
	50-60 Years	11.3
	60 and Above Years	3.0
Gender	Male	28.7
	Female	71.3
	Transgender	0.0
	Gender Variant	0.0
	Undeclared	0.0
Ethnicity	African	99.1
	White	0.0
	Asian	0.4
	Arabic	0.0
	Mixed Ethnicity	0.4
Marital Status	Single/ Never Married	34.3
	Single/ Widowed	3.9
	Married	61.3
	Separated	0.0
	Divorced	0.4
Valid Values	Less or equal to 5 members	81.3
	6-10 members	17.8
	11-15 Members	0.0
	15-20 Members	0.0
	Above 20 Members	0.9
Income	Less than KES. 65,000	82.2
	KES. 65,000- 200,000	13.9
	KES. 200,001- 300,000	2.6
	KES. 300,001- 400,000	0.4
	Above KES. 400,000	0.9
Employment	Unemployed	22.2
	Employed / Permanent and Pensionable	18.7
	Employed/ Contract/ Freelance	15.7
	Employed- Own/ Formal Sector	19.1
	Employed/ Own/ Informal Sector	24.3
Purchase Frequency	At least once per week	84.3
	At least once every 2 weeks	11.3
	At least once per month	2.2
	At least once every 2 months	0.9
	A few times per year	1.3

Organic food type purchase frequency

Fruits and Vegetables were the most purchased organic food types (79.13%), followed by milk (7.83%), Meat (3.04%), Potatoes (3.04%), Arrowroots (1.74%) and Eggs (0.87%). The other category of foods was at 0.43% each (Table III**).**

TABLE III - ORGANIC FOOD TYPE PURCHASE FREQUENCY

ORGANIC FOOD (N=230)	PERCENTAGE
1. Fruits and Vegetables	79.13%
2. Organic Juice/ Yoghurt	0.44%
3. Meat	3.04%
4. Dairy Products	0.44%
5. Chia Seeds	0.44%
6. Honey	0.44%
7. Potatoes	3.04%
8. Eggs	0.87%
9. Milk	7.83%
10. Arrow roots	1.74%
11. Sweet Potatoes	0.44%
12. Nuts	0.43%
13. Coffee	0.43%
14. Cereals	0.43%
15. Food Supplements	0.43%
16. Butter nut	0.43%
Total	100%

Multiple regression analysis

Analysis of variance (ANOVA) was carried out to test the significance of the model at 5% significance level. The model was validated (P≤0.001). The association between the variables in the model was illustrated by replacing the beta coefficients in the relationship expressed as: -

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: -

Y= Purchase of Organic foods

α = Equation Constant

β_1= Product element coefficient

β_2= Price element coefficient

β_3= Place element Coefficient

β_4= Promotion element coefficient

X_1 = Product variable

X_2= Price Variable

X_3= Place Variable

X_4 =Promotion Variable

ε= error term

Based on the multiple regression analysis findings **(**Table IV**)** the regression model became: -

$$Y = 0.314 + 0.164X_2 + 0.247X_3 + 0.481X_4 + \varepsilon$$

Promotion (Prom) was found to have a greater effect on organic food purchases by up to 0.481 (48.1%) per unit change in purchases. Place (PL) was the second in influence at 0.247 (24.7%) per unit change in purchase, Price (PR) was the third in effect with 0.164 units (16.4%) per unit change in purchase, lastly and insignificant effect was from the Product (PD) at 0.092 units (9.2%) per unit change in purchases.

DISCUSSION

Majority of the Organic food purchasers were educated up to polytechnic/ diploma level at 29.6%, University degree holders were at 22.6% while the PhD and masters level were at 3%. This shows that a basic education is necessary at least to a Secondary or Diploma level to create

TABLE IV - MULTIPLE REGRESSIONOF STANDAEDISED AND UNSTANDERDISED COEFFICIENTS

Model	Unstandardized Coefficients		Standardized Coefficients	t	*P*
	B	Std. Error	Beta		
(Constant)	.314	.485		.647	.518
PD	.092	.079	.069	1.163	.246
PR	.164	.081	.126	2.038	.043*
PL	.247	.080	.195	3.082	.002**
PROM	.481	.080	.370	6.040	.000***

* significant at 0.05 level PD= Product PL = Place

** significant at 0.01 level Prom = Prootion PR = Price

*** significant at 0.001 level

the required awareness and knowledge attributable to changes in purchase choices. The results are in agreement with Vega-Zamora *et al*. (2020) who found that only basic education is important to make Organic food choice. The purchasers aged between 21-29 years were more (40.9%), supporting the work of Kranjac *et al*. (2017) who found that the younger households aged less than 40 years in Czech Republic were the biggest purchasers. The female gender (71.3%) purchase most organic food. This was more than the 20% gap in favour of the female gender supremacy established by Li and Jaharuddin, (2020). The married purchasers formed a bigger portion of purchasers (61.3%), and this supports the work by Kranjac *et al*. (2017) and Dangi *et al*. (2020) who found that majority of the organic food purchasers were buying the organic food products for their family members. Households of ≤ 5 members were most frequent purchasers (81.3%), followed by the 6-10 members (17.8%); establishing that the majority of the households of the Organic food purchasers in Nyeri County, had between 1 to 10 members. Concerning the income category, most of these organic food purchasers earned less than KES. 65,000/= (82.2%), validating the work of Ralph *et al*. (2020), who established no relationship between higher earnings and organic food purchase. 24.3% of the organic food purchasers employed themselves (informal sector) while 22.2% were unemployed. This indicated that majority of the Organic food purchasers were in informal jobs while the unemployed group at 22.2% which was composed of mostlyfemale gender and they were house helps and house wives . Lastly, most households purchased organic foods at least once per week (84.3%), followed by at least once every two weeks (11.3%), and this supported the work of Kranjac *et al.* (2017) who found that the majority of purchasers did it at least once per week (79.8%). Fruits and Vegetables were the most purchased organic food type (79.13%), followed by milk (7.83%), Meat (3.04%), Potatoes (3.04%) and Arrowroots (1.74%) (Table III). The impression here is that majority of the households are aware of the conventional fruits and vegetables situation and trust the Organic Most of them purchased the vegetables first before requesting for another product. Promotion was found to have the highest effect on the purchase of the organic foods which is supporting the work of Melovic *et al.* (2020); Mkhize and Ellis. (2020). The purchase decision is influenced strongly by the use of the Traditional media and the Modern media. The reach of promotional information and educational materials to the Organic food purchasers was still high within the farmers who utilized the traditional media to access information. Farmers within the county had not started to make full use of the modern media such as social networks, emails and websites. Place market element was also important as it was the second on order of effect. The Organic food purchasers were to respond on the ease of accessing the Organic food products in the market and also the distribution and reach of the Organic foods to the market. Most of the purchasers felt that the Organic food distribution was limited to some areas and lacking in other areas (Melovic *et al.,* 2020; Bazaluk *et al.,* 2020). The issue of availability of the Organic foods was not pronounced as the distribution aspect majorly because Nyeri County boasts of favourable climate and a number of Organic farmers and markets. Pricing was the third element in terms of effect. This element tried to assess the purchasers' opinions on the Organic food price; and to the contrary of many previous reports majority of the purchasers felt that these foods are not actually expensive. A survey carried out on the Organic foods' grocery shops prices and the market prices identified no price mark upsand was in support of Salisbury *et al.* (2018), who found that buying Organic foods from the local markets and the local grocery shops like the Nyeri County purchasers do, is actually cheaper than buying from the major retail giants. The least effect was from the Product market element; which was insignificant to the purchase of organic foods. The Organic markets in Nyeri County are mainly owned by a few certified Organic farmers who sell to the purchasers direct from their markets or have established grocery outlets within Nyeri town. This market element besides the lack of price mark ups is the least developed. The Products are packaged fairly at the point of sale and have no labels. This supports the work of Santos *et al.* (2021) who found that packaging of Organic foods is normally given the lowest importance in most developing countries.

CONCLUSION

Based on the findings of this study, to spur up the organic food purchases, it is important to consider that any marketing efforts and policies developed should focus on purchasers with basic education with the understanding that Organic foods are no longer a preserve of the highly educated. From these studies, majority of these consumers are young between 21-29 years age bracket. The female gender made the most of the household purchase decisions. They are generally taken to be sensitive to information

appealing to their emotions and as such any educational or advertisements should be structured to appeal to them. The informational materials should emphasise the healthy benefits associated with the products. Majority of these purchasers are smaller families of below 5 membersThe range of earnings at KES. 65,000 or less per month indicates that these foods need to be affordable and only a minimal price margin can be added in order to retain these purchasers. The informally employed and the unemployed category need to be considered by not launching promotional campaigns in offices. All efforts should be put in place to reach this category focusing where they work and the informational channels they mostly use. The outlets of these Organic foods should also make sure that they keep their produce fresh; and focus on the majority of "once per week" customers.. There is a very high use of traditional media of TV's, Radios and newspapers and unless the situation changes; these channels are the ones that can be effectively applied for any promotional campaigns. Majority of the purchasers also felt that Organic food distribution was limited to some areas and therefore there is need for the suppliers to increase distributional outlets to cater for more customers. The certified farmers are the ones operating the grocery outlets in town; and hence make the distribution to be poor.

RECOMMENDATIONS

The Government is supposed to focus on the Organic food industry to propel its growth and once grown, subsidize these foods to families while encouraging the practice. There is also need for the producers to increase the range of products from the fruits and vegetables category. Further, there should be a greater emphasis towards value addition and creation of industries which will increase the country's exports as well as offer employment opportunities to most of the skilled population. More focus should be created by the Government to ensure that digital literacy is up-held and that marketing channels can be diversified to inform this young generation. Suppliers also should set up more outlets to saturate the great demand of organic farming in Nyeri County. There is also need to have a fully developed Organic food supply chain in Nyeri.

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