FACTORS INFLUENCING THE CHOICE OF VIRGIN COCONUT OIL – A VALUE ADDED PRODUCT OF COCONUT

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ABSTRACT

The coconut palm, also known as the "tree of heaven," is a major commercial crop in tropical areas. And it exerts a powerful influence on the rural economies of many states and provides sustenance to more than 10 million people directly or indirectly. The value of coconut is determined by several factors. One of the main factors is the demand for value-added products made from coconut. The purpose of this study is to investigate the factors influencing the choice of virgin coconut oil—a value-added product of coconut. To achieve this objective, a sample of 101 respondents was collected in the Ernakulum district in Kerala by a convenient sampling method, and the results were analysed with the help of the statistical tool SPSS. The results indicated that the independent variables such as price, product quality, availability, and health benefits have a positive impact on purchase intention of virgin coconut oil.

Key words: Virgin coconut oil, Value-added products, Rural economies. Health benefits

1. Introduction

India is one of the largest producer and major players of coconut exporters and accounted for about 34% of the world's total production during 2020-21. The crop contributes around Rs. 307,498 million (US$ 3.88 billion) to the country's gross domestic product (GDP). The coconut palm provides food security and livelihood opportunities to more than 12 million people in India. It is also a fiber yielding crop for more than 15,000 coir-based industries, providing employment to nearly 6 lakh people The productivity of coconut at a national level for 2020–21 was at 9,687 nuts per hectare, which is one of the highest in the world**.** Despite being a major producer of coconut, India only used 2% of its output for value-added and industrial purposes. Value addition of agricultural produce may result in higher farm income, rural job creation, crop price stability during times of glut, and increased shelf life of the produce. The productivity of coconut at a national level for 2020–21 was at 9,687 nuts per hectare, which is one of the highest in the world**.** Despite being a major producer, India only used 2% of its coconut output for value-added and industrial purposes. Value addition of agricultural produce may result in higher farm income, rural job creation, crop price stability during times of glut, and increased shelf life of the produce.. Kerala is one of the states cultivating coconut as a major crop, and coconut farmers in Kerala are suffering from a lot of problems. One of the main problems faced by coconut cultivators is the

continuous fall in the price of coconut. This is mostly due to the lack of value addition in coconut. The price of coconut in Kerala is mainly dependent on coconut oil. When there is any slight change in the price of coconut oil, the coconut price will immediately react. This is because, in Kerala, about 70 per cent of matured nuts are converted into copra, and 80 per cent of the milled copra is converted into oil, and the rest, along with the ball copra, is dispatched to other states. One possible solution to overcome the problems of coconut cultivators is to generate more value-added products from coconut. This will help attract more customers and boost revenue

2. Review of literature

Sachu Zachariah John and K.N. Ushadevi (2018)) the study made a systematic effort on studying awareness and the consumption pattern of Virgin coconut oil (VCO) in three districts of Kerala *viz.,*Trivandrum, Ernakulam and Kozhikode The consumption pattern of consumers revealed high market potential for VCO and the marketers may try to take advantage of this situation. Regional differences observed in the awareness and preference of brands may be due to the inappropriate and inadequate distribution of the products to which the marketers should give more attention

Agarwal RK, Bosco SJD (2017) The study made a concerted effort on The extraction of VCO was studied by using various centrifugation speeds, temperatures, and time intervals. The results showed that there are many extraction methods, among which cold and hot extraction are conventional extraction processes. The hot extractions were carried out by pressing the clean, ground, and fresh coconuts to yield coconut milk, followed by heating at a high temperature that could remove the useful micronutrient. In the cold process, extraction of coconut oil takes place through destabilisation of coconut milk emulsion without heating, such as fermentation, chilling and thawing, or centrifugation, enzymatic treatment. Hot extraction processes have been found to provide a better yield than cold extraction processes.

Salomy et al.,(2019) has tried to assess the positioning and marketing potential of KALCO's Virgin Coconut Oil (K's-VCO) only from the perspective of being consumed as "functional food" After analysing various factors, the study concludes with the fact that there is a gap between demand and supply. The gap can be strategically capitalised upon if appropriate channels are first positioned to first position the concept-based product and also enable and ensure the last mile reach through appropriate retail points such as hyper stores and departmental stores.

A.M.Marina et al., (2009) revealed that VCO has gained wide attraction among the public and scientific community as a functional food oil .From the health point of view, VCO has been documented as having more beneficial effects in clinical trials, such as having more antioxidant potential compared to refined coconut oil. Investigators focused their efforts on developing methods for detecting adulteration in VCO.The overall knowledge improvement allowed the identification of suitable new techniques to better differentiate VCO from other vegetable oils, especially refined coconut oil.

3. Significance of the study

The majority of agricultural products are marketed in their raw form. To increase the return of farmers, we will go for value addition and product diversification. This will result in higher income for the farmers and the generation of more rural employment. Virgin coconut oil (VCO) is the most popular and important value-added product and is gaining fast acceptance in the market. While positioning a new product, marketers need to analyse factors influencing the choice of virgin coconut oil and consumption patterns in order to effectively plan their marketing strategies. A study was conducted to identify the factors influencing the choice of virgin coconut oil— The value-added product of coconut and the result of the study will help the marketers formulate different marketing strategies.

4. Statement of the problem

Kerala, the land of coconut, is the leading producer of coconut in the country. The state contributes 45% of the area under coconut cultivation and 38% of total coconut production in the country. Almost 42 lakh farmers are engaged in coconut cultivation in the state. During 2021, coconut experienced an unprecedented price fall for various reasons. Coconut cultivation in Kerala mainly revolves around the making of copra and coconut oil. In the country, almost 88%of the coconut produced is used for copra making, and 92% of the copra is used for making coconut oil. Hence, any price fall in coconut is directly transmitted to copra, and there by a fall in the price of coconut oil. One possible solution is encouraging and promoting value-added coconut products other than copra and coconut oil. On the basis of the above mentioned problem, the study addresses the following research questions:

1. Why people choose Virgin coconut oil?
2. What are the factors influence the choice of virgin coconut oil?

5. Objectives of the study

To analyse the demographic profile of respondents using virgin coconut oil
To critically evaluate customers' intention behind the purchase of virgin coconut oil.

6. Hypothesis of the study

H01: There is no significant relationship between Price and Purchase intention
H02: There is no significant relationship between Product Quality and Purchase intention
H03: There is no significant relationship between Availability and Purchase intention
H04: There is no significant relationship between Health Benefits and Purchase intention

7. Research methodology

This study was conducted through survey method by collecting the primary data through the questionnaire method from 225 consumers who use Virgin Coconut Oil. This empirical study collected data from various parts of the Kottayam and Alapuzha districts of Kerala. The

questionnaires were prepared with the help of Google Forms, which was circulated among the respondents through their e-mail addresses for the easy collection of data. Out of the 225 questionnaires distributed only 125 respondents and after the verification of completeness and accuracy 101 responses were finally chosen for the research. The study adopted pre-existing scales which were modified in accordance to suit the requirements of this research. A five point likert with "1" indicating Strongly Disagree and "5" Strongly Agree was used for the grading of the various measures of the study.

8. Data analysis and interpretation
8.1 Sample Characteristics

The demographic profile of the respondents indicated that out of the 101 respondents 36.6 percent are males and 63.4 percent are females. The age group depicts that, the majority of the respondents are between the age group of 26–35 years (33.7 percent) which implies that middle-aged females are well aware of the user benefits of VCO. The educational qualification of the respondent group was post-graduation 52.5 Percent, and the occupational status depicts that majority of them are working professionals 41.5 percent. The monthly income of 36.6 percent of respondents was between 26,000 – 40,000. Thus the demographic status of the respondents concludes that females within the age group of 26–35 years who are working professionals with a monthly income of 26,000 – 40,000 with post-graduate educational qualifications uses Virgin Coconut oil more on a regular basis.

Table 1

Demographic profile of the Respondent

Demographic	Frequency	Percent
Age		
Upto 25	24	23.8%
26-35	34	33.7%
36-45	28	27.7%
Above 45	15	14.9%
Gender		
Male	37	36.6%
Female	64	63.4%
Educational Qualification		
Primary Education	11	10.9%
SSLC	9	8.9%
HSC	9	8.9%
Degree	19	18.8%
PG & Above	53	52.5%

Occupation		
Business	30	29.7%
Self employed	4	3.9%
Professional	42	41.5%
Agriculturalist	6	5.9%
Student	9	8.9%
Housewife	10	9.9%
Monthly Income		
Less than 10,000	24	23.8%
10,000 - 25,000	21	20.7%
26,000 - 40,000	37	36.6%
41,000 - 55,000	7	6.9%
Above 55,000	12	11.9%

Measurement Item and Model Validation

A Reliability Test was carried out using Cronbach's Alpha, which measures the internal consistency of research constructs. The Alpha values for all the four factors were above 0.70, the threshold suggested by Nunnally (1978). Thus it can be concluded that the scale has internal consistency and reliability. In other words, the items that are used in it measures what is intended to measure.

Regression analysis was conducted to measure the influence of Price, Product Quality, Availability, and Health Benefits on Purchase Intention. The independent variables are Price, Product Quality, Availability and Health Benefits and the dependent variable is Purchase Intention. The main objective of regression analysis is to explain the variation in one variable (called the dependent variable) based on the variation in one or more other variables (called independent variables). If multiple independent variables are used to explain the variation in a dependent variable, it is called a multiple regression model. The output of multiple regression analysis was used to test the hypotheses.

Table 2
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.696	.485	.464	.61216	1.867

a. Predictors: (Constant), PR, PQ, AV, HB

R square is the per cent of the variance in the dependent explained uniquely or jointly by the independents. The R square and adjusted R square will be same when used for the case of few independents. The R square and adjusted R square shown in Table 2 is almost the same. Hence, adjusted R square value is used for interpreting the results.

Table 2 shows that 61.216 per cent variation in PI is explained by PR, PQ, AV and HB. The Durbin-Watson statistic tests for autocorrelation. As rule of thumb, the value should be between 1.5 and 2.5 to indicate independence of observations (Garson 2010). The value of the test is 1.867, which indicates independence of observations.

Table 3
ANOVA table showing the Regression Model Fit

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	33.881	4	8.470	22.603	.000**
	Residual	35.975	96	.375		
	Total	69.856	100			

a. Dependent Variable: PI
b. Predictors: (Constant), PR, PQ, AV and HB
**denotes significant at 1 per cent level.

ANOVA table showing the regression model fit presented in Table 3 shows that the model is statistically significant at 1 percent significance level (F=22.603).

Table 4
Coefficients of regression analysis

| Factor (Constructs)	Item Acronym	Standardized Beta coefficient(β)	Sig. (p value)
Price	PR	.385	.000**
Product Quality	PQ	.258	.002*
Availability	AV	.241	.004*
Health Habits	HB	.358	.000**

Source: Compiled by the Researcher
** Denotes significance at 1per cent level
*Denotes significance at 5per cent level

Table 8.8 presents the Standardized Beta coefficient values and the significant values of independent variables Price, Product Quality, Availability, and Health Benefits. The independent Price (PR) and Health Habits (HB) are statistically significant at 1 per cent significance level. Whereas, Product Quality (PQ) and Availability (AV) are statistically significant at 5 per cent significance level. Therefore, it is clear that these four independent variables have significant positive effect on Purchase Intention. **Hence, H01, H02, H03 and H04 are rejected.** The beta coefficients give a measure of the contribution of each variable to the model. Higher the beta value,

the greater is the effect of independent variable on the dependent variable. Among the independent variables Price (PR) has the greatest effect followed by Health Habits (HB).

Figure 1
Validated Model
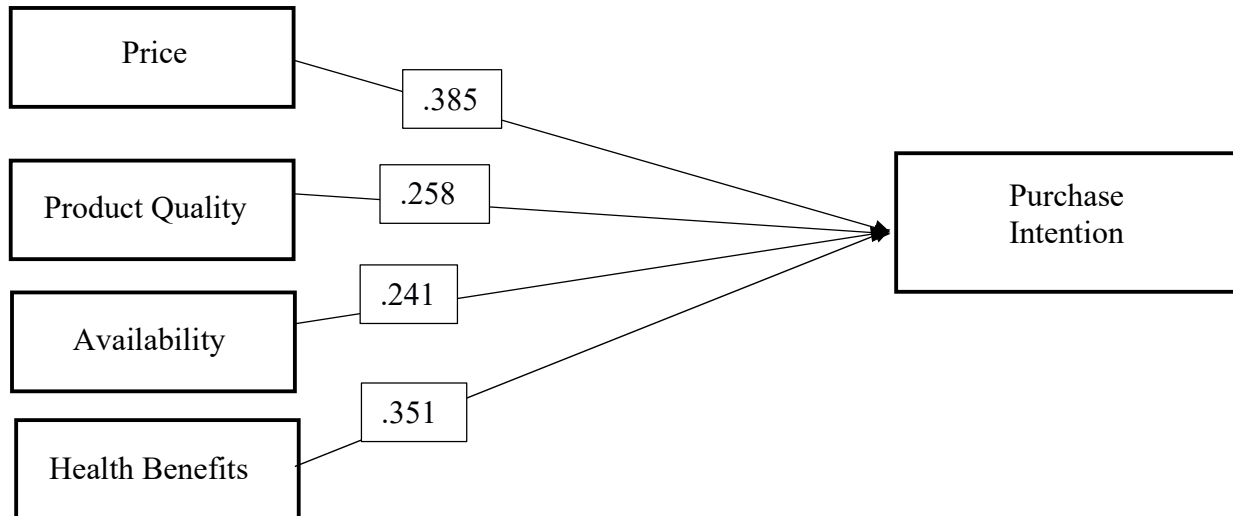
Source: Compiled by the Researcher based on Hypothesis tested

Empirically validated model is portrayed in Figure 1. Price (β = 0.385) has the highest beta coefficient followed by Health Benefits (β = 0.358). The beta coefficients of Price and Health Benefits statistically significant at 1 per cent significance level ($p < 0.01$) and Product Quality and Availability are statistically significant at 5 per cent significance level ($p < 0.05$).

9. Finding of the study

The major findings of this study add value to both the industrial and academic fraternity. The results of this study indicate that price is the most influencing factor in the choice of a virgin coconut oil brand. As it is very clear from the consumer behaviour of FMCG goods consumers give much preference to price than any other product attribute. Respondents are of the view that virgin coconut oil is reasonably priced and has great value for money. Apart from the price, the next most influential factor is the health benefits associated with virgin coconut oil. As per the traditional customary of south Indians, virgin coconut oils were homemade for application on newborn babies and also widely used for beauty care. The findings of this study also indicated that the consumers of virgin coconut oil are females than males. Thus it can be concluded that middle-aged women are well aware of the health benefits of virgin coconut oil and it contributes to purchase intention among them. While analysing the availability of virgin coconut oil respondents are of the view that virgin coconut oil is easily available in the market. Various brand is available in the market thus customers don't feel out of stock of virgin coconut oil in the market. The product quality of virgin coconut oil is considered adequate and good as per the opinion of the respondents.

As most of the respondents tend to buy only branded oils. The findings of this research indicated that virgin coconut oils are good for the health of human beings thus there open a wide market for virgin coconut oil. Thus coconut farmers have a good option to improve their cultivation and the production of value-added products from coconut like the virgin coconut oil.

10. Conclusion

In order to attract more purchasers as well as capture a larger market share of virgin coconut oil, the business organisation must identify the different factors that influence the choice of virgin coconut   oil. In this   research paper, the researcher identifies four   important variables, such as price, product   quality, availability, and health benefit, are considered. From the   multiple regression analysis, it is clear that these four independent variables have a significant positive effect on purchase intention, and quality and health benefit is the main factor the choice of virgin coconut oil From the analysis, it is also clear that there are several factors that affect the quality of virgin coconut oil. These include raw material condition, storage condition, and method of production. There were many methods to produce VCO. Even if the whole process is different from one another, VCO did not significantly differ from each one and meets the standards. The fresh-dry method obtained the highest oil recovery, but the fermentation method resulted in a superior VCO quality.

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