

Preference for banana products and their effects on consumer's satisfaction

V.V. LANDGE, B.R. PAWAR, P.P. YEWARE AND D.S. DESHMUKH

See end of the article for authors' affiliations

Correspondence to :

P.P. YEWARE

Department of
Agricultural Economics
and Statistics, College
of Agriculture,
PARBHANI (M.S.)
INDIA

ABSTRACT

Banana (*Musa paradisiaca* L.) is one of the most important fruit crops in the world. Banana is not only the staple food of million of people but also most important commercial crop of tropical region. In all 60 banana product consumers were randomly selected from Nanded city. Data pertained to the year 2007-08. Cluster analysis was used to analyse the opinion scores given by banana product consumers. The result revealed that, the consumer was preferring more *banana barfi* and *banana ice-cream* with similarity measure of 0.633 followed by *banana powder* and *banana jam* with similarity value of 0.498. It implied that consumer was preferring more *banana barfi* and *banana ice-cream*, *banana powder* and *jam* in high aggregate cluster. Hence, this cluster is named as highly preferred dimension. Similarly, consumer was preferring moderately *banana ripened fruit* and *banana shikran*, *raw banana vegetable*, *banana pakoda* and *banana juice*. Hence it is called as banana medium preferred dimension. Salad and chips are in low performance. Hence it is called as low preferred dimension.

INTRODUCTION

Banana (*Musa paradisiaca* L.) belong to family Musaceae. It is most important fruit crop in the world. Banana is important commercial crop of tropical region. It ranks next to mango in both area and production in India. Nanded is one of the districts in Maharashtra where banana has been grown on large scale. It is used in religious functions and it has other uses also. There are different varieties locally called Basari, Ardhapuri, Chekkerakeli, Mukhiri, Desi, Amrutpani, Pachorati, Karpura, Robusta, Poovan and Nendran. Various types of traditional health food can be prepared from banana such as chips, shikran, pakoda, barfi, ice-cream, vegetable, powder, juice, jam and salad. On the basis of consumer's preference, the different banana products may be sold by the processor. Keeping in view the above aspects, the study of preference for banana products and their effects on consumer's satisfaction has been undertaken.

METHODOLOGY

For this investigation, data were collected from randomly selected 60 consumers from Nanded city with the help of pre-tested schedule by personal interview method. Data pertained to the year 2007-08. Each of consumer was interviewed in regard to rank of preference for banana products that is in terms of five quantum scale. Consumer's

preference was measured as excellent, best, better, good and not-bad with assigned weightages as 5,4,3,2 and 1, respectively. Opinion scores of consumer to the banana products were obtained on eleven variables. These were namely, *ripened banana*, *banana chips*, *banana shikran*, *banana pakoda*, *banana barfi*, *banana ice-cream*, *banana vegetable*, *banana powder*, *banana juice*, *banana jam* and *banana salad*. A correlation matrix of 11 X 11 was developed for identifying maximum similarity values of variables or indicators. The indicators which had the similarity in values greater than or equal to $\bar{X} + (0.425 \text{ S.D.})$ were considered as high aggregate cluster. The indicator which had similarity values in between less than $\bar{X} + (0.425 \text{ S.D.})$ and greater than $\bar{X} - (0.425 \text{ S.D.})$ were considered as medium aggregate cluster. The indicator, which had similarity in values less than $\bar{X} + (0.425 \text{ S.D.})$ were considered as low aggregate cluster.

$$\text{Standard deviation (S.D.)} = \frac{[\sum (X - \bar{X})^2]^{1/2}}{n^{1/2}}$$

where,

\bar{X} = Similarity values or correlation values

\bar{X} = Arithmetic mean of the similarity values

n = Number of similarity values (8)

RESULTS AND DISCUSSION

The findings of the present study as well

Key words :

Banana, Products,
Cluster,
Consumption

Accepted :
December, 2009

as relevant discussion have been summarized under following heads:

Clustering of banana products:

Aggregate clusters of different banana products with respect to consumer preference, were calculated and are presented in Table 1. It was observed that on the basis of preference the banana products were grouped into high, medium and low aggregate clusters. In regard to high aggregate cluster, similarity measures were restricting greater than or equal to 0.498. In this cluster, consumer was preferring *banana barfi* and *banana ice-cream* with similarity measure of 0.633 followed by *banana powder* and *banana jam* with similarity value of 0.498. It implied that consumer was preferring more *banana barfi* and *banana ice-cream*, *banana powder* and *banana jam* in high aggregate cluster. Hence, this cluster is named as highly preferred dimension.

Similarly, medium aggregate cluster was restricting less than 0.498 and greater than or equal to 0.446. In this cluster, consumer was preferring *ripened banana fruit*

and *banana shikran* with similarity measure of 0.484 followed by *raw banana vegetable* with similarity value of 0.482, *banana pakoda* with similarity value of 0.473 and *banana juice* with similarity value of 0.446. It implied that consumer was preferring more *banana fruit* and *banana shikran* in medium aggregate cluster. Hence, this aggregate cluster can be designated as medium preferred dimension.

It was also observed that low aggregate cluster was restricting the similarity value less than 0.446. In this cluster, consumer was preferring *banana salad* with similarity value of 0.341 and *banana chips* with similarity value of 0.339. Hence, this cluster can be called as low preferred dimension. The results are conformity with those obtained by Tawale (2007) in regard to consumer's preference for rabi jowar products.

Effect of banana products on consumer's satisfaction:

Effect of different banana products on total satisfaction of consumer was estimated and is presented in Table 2. The results revealed that coefficient of multiple

Table 1 : Aggregate clusters of different banana products with respect to consumer's preference

Aggregate cluster	Variable code No.	Banana products	Similarity measure (x)
High (≥ 0.498)	5, 6	<i>Banana barfi</i> , <i>banana ice cream</i>	0.633
	8, 10	<i>Banana poeder</i> , <i>Banana Jam</i>	0.498
Medium (< 0.498 and ≥ 0.424)	1, 3	<i>Ripened banana fruit</i> , <i>Banana shikran</i>	0.484
	7	<i>Raw banana vegetable</i>	0.482
	4	<i>Banana Pakoda</i>	0.473
	9	<i>Banana juice</i>	0.446
Low (< 0.424)	11	<i>Banana salad</i>	0.341
	2	<i>Banana chips</i>	0.339

Arithmetic mean (\bar{X}) = 0.484

Standard deviation (SD) = 0.081

Table 2 : Effect of banana products on of consumer's satisfaction

Sr. No.	Particulars	Regression coefficient	Standard error	t-value	Mean (Score)
1.	<i>Ripened banana fruit</i>	0.929	0.170	5.460**	4.41
2.	<i>Banana chips</i>	1.157	0.126	9.182**	4.05
3.	<i>Banana shikran</i>	0.899	0.109	8.247**	3.80
4.	<i>Banana pakoda</i>	1.006	0.162	6.209**	1.83
5.	<i>Banana barfi</i>	0.397	0.288	1.378	1.30
6.	<i>Banana ice-cream</i>	1.267	0.244	5.192**	1.42
7.	<i>Banana vegetable</i>	0.972	0.131	7.419**	2.28
8.	<i>Banana powder</i>	1.254	0.179	7.005**	1.63
9.	<i>Banana juice</i>	0.859	0.142	6.049**	2.17
10.	<i>Banana jam</i>	0.726	0.214	3.392**	1.60
11.	<i>Banana salad</i>	1.212	0.207	5.855**	4.48

Intercept a = 0.386

R^2 = 0.969

F value = 140.098**

$\frac{n}{Y}$ = 60

$\frac{1}{Y}$ = 28.98

** indicates significance of value at P=0.01

determination (R^2) was 0.969 which indicated that total satisfaction of consumer was influenced due to all independent variables as 96.90 per cent. Minimum and maximum satisfaction derived from a single product was 1 and 5. It was clear that total products was eleven and hence total satisfaction of consumer lied between 11 to 55 scores. The results revealed that in general total satisfaction of consumer was found to be 28.90 scores. In regard to individual product, the regression coefficient with respect to *banana ice-cream* was the highest as 1.267 which was highly significant. It implied that one score with respect to ice-cream increased over its mean value, it would lead to increase total satisfaction by 1.267 score. Similarly, regression coefficient with respect to *banana powder* was 1.254 which was positive and highly significant. It inferred that if one score with respect to consumption of *banana powder* increased, it would lead to increase total satisfaction by 1.254 scores over its arithmetic mean (28.98 scores). In the next order, regression coefficient with respect to *banana salad* was 1.212 which was also highly significant. If one score with respect to *banana salad* increased over its arithmetic mean, it would lead to increase total satisfaction of consumer by 1.212 scores. Similarly, regression coefficient with respect to *banana chips* was 1.157 which was also highly significant. It inferred that when one score with respect to consumption of chips increased, it would lead to increase total satisfaction of consumer by 1.157 score.

It was clear that regression coefficient with respect to remaining variables except *banana barfi* were found significant with regression values less than one.

Similar type of work was also done by Patil (2006) in bajra products and by Murty (2000) in cereals.

Authors' affiliations

B.R. PAWAR, Department of Agricultural Economics and Statistics, College of Agriculture, LATUR (M.S.) INDIA

P.P. YEWARE AND D.S.DESHMUKH, Department of Agricultural Economics and Statistics, College of Agriculture, PARBHANI (M.S.) INDIA

REFERENCES

Murty, K.N. (2000). Changes in taste, demand pattern and consumer preferences for cereals. *Agric. Econ. Res. Rev.*, **13** (1):25.51.

Patil, T.S. (2006). Economics of value added bajara products for sustainable consumption. M.Sc. (Ag.) Thesis, Marathwada Agricultural University, Parbhani, 87 pp.

Tawale, J.B. (2007). Economics of production and marketing of rainfed and irrigated *Rabi* jowar in Osmanabad district of Maharashtra. M.Sc. (Ag.) Thesis, Marathwada Agricultural University, Parbhani, 99 pp.

