



A Study on Consumers Preference and Satisfaction towards Ready-to-eat Fish Products in West Bengal, India

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Abstract

National average annual consumption of fish and fish products in India is 2.85 kg/person and West Bengal, one of the most fishery resourceful states of India, ranks sixth in monthly per-capita fish consumption in both rural and urban areas. The concept of Ready-To-Eat fish products have been getting popularised globally as well as in Indian states, especially in West Bengal. The West Bengal State Fishermen's Cooperative Federation Ltd. (BENFISH) has been playing a crucial role in producing and selling these products but the aspects of consumers' preference and satisfaction are least known. For this, the present research was conducted to study the consumers' preference and satisfaction towards such products. A total of 120 consumers were randomly selected from outlets at Howrah Railway Station, Sealdah Railway Station and Kolkata International Book Fair. For measuring the consumers' perception of satisfaction, the qualitative variables were rated on a five point Likert scale and weighted average scores were calculated. It was found that majority of the consumers were young (48.34%), graduate (45.84%) and Hindus (97.50%). A total of 60% of them had an annual income in the range of Rs. 1-5 lakh and Lorenz curve revealed mild distributional inequality in income of consumers. Maximum numbers of consumers were extremely or very satisfied with the 'Speed of Delivery', 'Courtesy of Sales person', 'Responsiveness of Enquiries', 'Reputation' and 'Redressal of Grievances'. They expressed their lower level of satisfaction towards 'Nutritional Value' and 'Healthiness' of Ready-To-Eat fish products. Average satisfaction score of

frequently consumed Ready-To-Eat fish products was 3.8 ± 0.1 , indicating moderate level of satisfaction. 'Fish Fry' ranked first in terms of its preference and among the food categories, 'Bengalese Cuisine' preferred most. An inventory of suggestive measures for improving the product quality and services was prepared.

Keywords: Ready-to-eat, fish products, consumer satisfaction, preference

Introduction

Fish is extremely nutritious and a rich source of proteins and essential nutrients for many backward and poorer sections of the global community. Among the animal proteins, fish proteins are easily digestible (Ayyappan et al., 2011). Fish and fishery products play a crucial role in global food security and nutritional requirements of people in developing and developed countries. Global fish production has grown steadily in the last five decades, with an average increment of 3.2% in food fish supply, outpacing world population growth at 1.6%. The proportion of fisheries production used for direct human consumption increased from about 71% in the 1980s to more than 86% (136 million tonnes) in 2012, where, 46% (63 million tonnes) of fish marketed for edible purposes was in live, fresh or chilled forms. It is worthwhile to mention that a portion of 150 g of fish can provide about 50–60% of an adult's daily protein requirements (FAO, 2014). In India, national average annual consumption of fish and fish products is 2.85 kg/capita (2010) (Needham & Funge-Smith, 2014). This accounts for 2.2% of total protein consumption. It can be mentioned here that per capita consumption of fish in rural areas was slightly higher (266 g/person/month) than in urban (252 g). Also, the percentage age of households reporting consumption during a 7-day period in case of fish was higher in rural India

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(over 26%) than in urban India (21%). In this regards, the one of the most fishery potent states of India, West Bengal, ranks sixth in monthly per-capita fish consumption in both rural and urban areas (NSSO, 2014). With the changing life style, demands and consumer preferences, the conventional forms of food fishes have been moulded into processed fishery products across the time, where, raw food fishes are being processed into a wide array of products in many forms. It is quite obvious to mention that ready-to-eat fish products not only lessen the time constraint but also reduce the gender bias in household food purchase by ensuring an equal access to both men and women for getting these products across different locations, especially, in urban and semi-urban areas and which indeed facilitated by the open market economy and trend of consumerism in the new era of marketing.

The technological changes in production, processing and distribution dictate today's food market (Geethalakshmi et al., 2013). Great technological development in food processing and packaging is on-going in many countries, with increment in efficient, effective and lucrative utilization of raw materials and innovation in product differentiation for human consumption as well as for production of fishmeal, fish oil. Ready-To-Eat fish products are the latest edition in this category. The food processing industry is one of the largest sectors in India presently, growing at an average rate of 10% per annum (Ali et al., 2009). Many processing industries as well as private companies have been pursuing their business in India and abroad in this field but direct involvement of Government organizations are very few in this venture. In this background, the West Bengal State Fishermen's Cooperative Federation Ltd. (BENFISH), India has been playing a pivotal role since 1992 from their fish processing plant at Salt Lake, West Bengal. BENFISH is an apex body of Fishermen's Cooperative societies in West Bengal, established and registered under the West Bengal Cooperative Acts & Rules in the year 1978 (Anon, 2015). As per the discussion with different experts and officials of BENFISH, apart from the popularity of Ready-To-Eat fish products of different private companies and restaurants in West Bengal, the products of BENFISH are of greater consumer acceptance and demand but the only thing where BENFISH lags behind is the absence of any suitable mechanism for assessing the Consumers' satisfaction towards these Ready-To-Eat fish products, sold from different outlets.

National Business Research Institute defines customer satisfaction as "The Company's ability to fulfil the business, emotional, and psychological needs of its customers" and indeed it is a vital component of quality of any product or services (Louis & David, 1995). The first attempt into the measurement of customer satisfaction was come into practice in the early 1980s and gradually, the empirical methodology has been moulded into an improved one. In this perspective, the present research was conducted for studying the Socio-economic profile of consumers of ready-to-eat fish products of BENFISH, consumers' preference and satisfaction towards Ready-To-Eat fish products and soliciting suggestive measures towards betterment of fish products and services provided by BENFISH.

Materials and Methods

As per the information collected through Focussed Group Discussion with the concerned officials, presently, BENFISH has 5 Mobile outlets and 10 Franchise outlets for selling out Ready-to-eat Fish Products. Out of these, three distantly located places namely, Howrah Railway Station, Sealdah Railway Station and *Milan Mela* premise (Kolkata International Book Fair) were selected for the present study as these places are having mostly heterogeneous and diversified population, which could ensure a true representation of preferences/satisfaction of every class/section of consumers without any bias. A total of 120 Consumers were randomly selected and proportionally allocated out of which 60 Consumers were from Kolkata international Book Fair-2015 and 30 Consumers were each from Sealdah and Howrah Railway Station. The span of data collection was three months, i.e. December 2014 to February 2015 as that season was congenial for getting maximum numbers of consumers. Primary Data on Socio-economic profile and consumer's preferences as well as their suggestions were collected by using pre-tested structured interview schedule. Consumer preferences are the subjective (individual) tastes, as measured by utility of various products. For understanding the distributional inequality in income of consumers, the Lorenz curve has been presented in Fig. 1.

For measuring the consumers' perception of satisfaction, scoring method was used as explained by Sveinsdottir et al. (2009) and Geethalakshmi et al. (2013). In addition, qualitative variables were rated on a five point Likert scale with the points 1 (Not

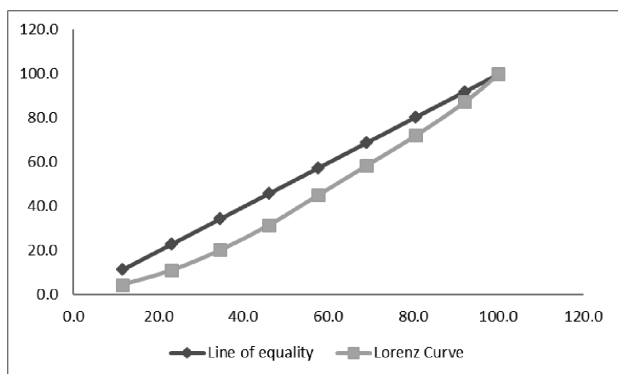


Fig. 1. Lorenz Curve showing the Income Inequality

at all satisfied) to 5 (Extremely satisfied) and weighted average scores were calculated for each variable for a meaningful interpretation. The variables were Taste, Quality, Quantity, Ingredients, Nutritional value, Healthiness, Appearance, Price, and BENFISH Outlet Services like Speed of Delivery, Courtesy of Sales person, Responsiveness of Enquiries, Reputation, Redressal of Grievances and Hygienic Measures.

As part of this study, consumers were asked to rank the top five products and top four food categories in order of perception of the mostly preferred followed by the next. This was calculated as per Rank Based Quotient (RBQ) method (Sabarathnam & Vennila, 1996) and these are presented in Table 3 and 4 respectively.

$$R.B.Q. = \frac{\sum fi(n+1-i)}{(N \times n \times 100)}$$

Where,

- f_i = Number of consumers giving the particular point at i^{th} rank.
- i = i^{th} rank.
- N = Total number of consumers
- n = Number of items

Based on the perceptions of consumers, a suggestive model has been developed for enhancing consumers' satisfaction towards Ready-to-eat Fish Products of BENFISH and different suggestive aspects were listed out by using Snowball technique (Denzin & Lincoln, 2000).

Results and Discussion

The results of the study showed that average satisfaction score of frequently consumed Ready-To-

Eat fish products was 3.8 ± 0.1 , indicating moderate level of satisfaction. Consumers were satisfied on the attributes 'Speed of Delivery', 'Courtesy of Sales person', 'Responsiveness of Enquiries', 'Reputation' and 'Redressal of Grievances'. But consumers expressed their lower level of satisfaction on the attributes 'Nutritional Value' and 'Healthiness'. The study also revealed that 'Fish Fry' ranked first in terms of its preference and among the food categories, 'Bengalese Cuisine' was not preferred.

It is discernable from the table 1 that younger generation were more fascinated towards Ready-to-eat Fish Products as majority of the consumers were in the age group of 15-30 years (48.34%) followed by 31-45 years (36.67%) and 46-60 years (13.34%), only 1.65% of them were under the age group of above 60 years.

Again, male consumers preceded in consuming these products as out of the total consumers, 82.50 % were male, this finding was in contrast with the finding of Geethalakshmi et al. (2013), where they reported that women were the key players for performing food purchase at household level but the kind of result found in this study may be due to less number of outlets which were inaccessible to the women. As far as the educational qualification was concerned, majority of them were graduate (45.84%) followed by post-graduate (30.84%) and intermediate level (15%). Majority of the consumers were Hindus (97.50%) and belonged to Nuclear family (71.66%). With regard to occupation, 35.83% of consumers reported that they were salaried people from Government sectors followed by business (29.17%). It was evident from the study that majority of consumers were having an annual income in the range of Rs. 1-5 lakh (60%) followed by Rs. 5-10 lakh (10.83%) and only 1.6% were in the range of Rs. 50,000 - 1 lakh. Lorenz curve, presented in the figure 1, reveals mild distributional inequality in income of consumers in the study area. Which interprets that the consumers had a medium level of variation in terms of their level of income as they had varied occupation and they belonged to diversified classes.

Therefore, it is conspicuous that educational status, income, job security play major factor for inclination towards Ready-to-eat Fish Products.

Table 2 depicts that quality indices like 'Taste', 'Quality', 'Quantity', 'Ingredients', 'Nutritional Value', 'Healthiness', 'Appearance' and 'Price' were

Table 1. Profile of Consumers of BENFISH's Ready-to-eat Fish Products

S. No.	Aspects	Percentage	S. No.	Aspects	Percentage
1	Age Group (years)		5	Educational Qualification	30.84
	15-30	48.34		Post-Graduate	45.84
	31-45	36.67		Graduate	0.84
	46-60	13.34		Diploma	15.00
	Above 60	1.65		Intermediate	1.67
				Matriculation	5.81
				Primary	
2	Gender		6	Marital Status	55.00
	Male	82.50		Married	45.00
	Female	17.50		Unmarried	
3	Caste		7	Primary Occupation	
	Hindu	97.50		Service	35.83
	Muslim	2.50		Business	29.17
				Agriculture	0
				Others	35.00
4	Family type		8	Annual Income	
	Joint	28.34		50,000 - 1 lakh	1.60
	Nuclear	71.66		1-5 lakh	60.00
				5-10 lakh	10.83
				More than 10 lakh	0
				No Income Category	27.57
				<i>Average Annual Income</i>	Rs. 1,72,414

scored under 'Very Satisfied' category, which was in line with the study by Debnath et al. (2012), where they found that among the five selected attributes (price, taste, availability, freshness and source), price was the most important attribute for rural and urban consumers. However, consumers expressed their lower level of satisfaction towards 'Nutritional Value' and 'Healthiness' as they thought that these products may have some adverse effects on human health. Further investigation reveals that changing life style and rising income level have set a new trend in the demand for quality food among the consumers and they are conscious about ensuring good quality of the products (Geethalakshmi et al., 2013).

Whereas, on the services provided from BENFISH outlets like, 'Speed of Delivery', 'Courtesy of Sales person', 'Responsiveness of Enquiries', 'Reputation' and 'Redressal of Grievances', maximum numbers

of consumers were extremely or very satisfied. This is because BENFISH's outlets are very efficient in quick delivery of products and the staff members usually satisfy all the queries posed by consumers in a very decent manner which sustain the reputation of BENFISH itself and reflect the courtesy towards the consumers.

As a whole, the average satisfaction score for Ready-to-eat Fish Products was 3.8 ± 0.1 and the range was 3.35 to 4.46, indicating the moderate level of satisfaction, which implies that there is a need to improve the quality of these products so as to ensure the higher level of consumer satisfaction.

It is evident from the Table 3 that Fish Fry ranked first in terms of its preference followed by Fish Batter Fry, Fish Finger, Fish Singara, and Fish Chop and out of all the products available at BENFISH outlets, these five products were mostly preferred

Table 2. Consumers' Perception of Satisfaction

Parameters	Weighted average score
Taste	3.76
Quality	3.58
Quantity	3.78
Ingredients	3.55
Nutritional value	3.35
Healthiness	3.35
Appearance	3.74
Price	3.84
Speed of Delivery	4.46
Curtsey of Sales person	4.32
Responsiveness of Enquiries	4.40
Reputation	4.22
Redressal of Grievances	4.12
Hygienic Measures	3.26

Table 3. Preferred Ready-to-eat Fish Products of BENFISH

Products	RBQ value	Ranks
Fish Fry	74.83	1
Fish Batter Fry	49.67	2
Fish Finger	48.50	3
Fish Singara	35.34	4
Fish Chop	24.17	5

Table 4. Preferred food categories

Food categories	RBQ value	Ranks
Bengalese Items	91.46	1
Chinese Items	24.58	2
Continental Items	4.58	3
Other Items	2.29	4

for consuming as fried snack items are highly preferred in terms of its taste.

With regards to the preferred food categories, consumers mostly relied on 'Bengalese cuisines' (Table 4) and indeed it was quite expected too. Among the food categories, Chinese cuisines ranked second followed by Continental and others food items.

An inventory of suggestive measures as pertinent to this study have been prepared by using personal interview of the consumers included in this study, backed by experts'/officials' opinion as well as snow ball technique, which are as follows-

- A marketing survey among different classes/sections of people in rural and urban areas is suggested to be conducted to cater the ready-to-eat fish products of BENFISH as per the demands of consumers along with preferred time, price range, distribution points, ingredients etc. Accordingly, numbers of outlet may be increased and the services may be provided at villages too by the BENFISH authority.
- Properly trained human resources (both in processing plants/outlets) should be deputed into services those who have the adequate knowledge on operation/hygienic measures as per Hazard Analysis Critical Control Point (HACCP) standards as BENFISH is certified by the International Organization for Standardization (ISO).
- Parcel/home delivery services (Mobile app and online delivery system based) should be introduced with standard packaging facilities and Oil-absorbing napkins should be provided along with good quality plates as many of the ready-to-eat fish products are oil-fried.
- Unsold product should not be recycled and re-used as it poses severe health threats.
- Size grading for each product should be mechanically done with precision to get uniform size and advanced marketing and promotion strategies should be adopted for ensuring greater consumer acceptance.

Innovations in forms of conventional fish products especially, offering ready-to-eat products to the consumers are considered as favourite in the present time when people have less time and more engagements. In this regard, ready to eat fish products present convenience to consumers' and are preferred. The study has revealed that consumers are satisfied with the 'Speed of Delivery', 'Courtesy of Sales person', 'Responsiveness of Enquiries', 'Reputation' and 'Redressal of Grievances'. As they expressed their lower level of satisfaction towards 'Nutritional Value' and 'Healthiness', steps can be taken to improve these quality indices. 'Fish Fry' is the most preferred item due to its delicacy and quality of raw material used. Study shows that there

is a greater demand for ready-to-eat food segment and the major attraction for these products are convenience, availability and less time consumption to cook. Due to changes in life style and long working hours, people are choosing these products and ready to go with it. Availability at door step and convenience buying are the major expectations from consumers. Instead of just increasing the numbers of mobile outlets, BENFISH can come up with an online delivery system or an advanced/user-friendly mobile app for greater convenience and reach to the consumers.

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