



Assessment of Online Fish Marketing in Ernakulam District, Kerala

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Authors' contributions

This work was carried out in collaboration between all authors. Author SSS planned, designed and implemented the study, performed the statistical analysis and developed the draft manuscript. Authors HEJ, NRA, RXS, AMS and MM were involved in the data collection, tabulation, literature searches and assistance in the analysis managed the analyses of the study. All authors read and approved the final manuscript.

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ABSTRACT

The growth of fish production and development of fishery sector is highly dependent on an efficient fish marketing system. Fish marketing strategies developed and evolved along with the changing time and has now reached the digital era where the possibilities of incorporating technology in the marketing system is being explored. Online fish marketing is the new innovative approach in the field, trying to cater to the ever-increasing demand of high quality fresh and affordable fish among the consumers delivered within the shortest time period. On one hand, it helps the producers get a deserving legitimate share in the consumer's rupee and on the other hand, it safeguards consumer's rights against excessive prices. This study is an attempt to assess the online fish trade existing in Ernakulam district of Kerala. Seventeen firms/outlets were selected to analyse various aspects related to the online firms including species traded, mode of sales, customer profile, storage facilities, constraints faced etc.

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Results reveal that all the online fish trading firms were of recent origin and their average monthly turnover was 10 lakhs. Firms with wider outreach or strong backward and forward linkages were found to realize much higher returns when compared to others. Around 31 percent of the online fish trading firms opined that customers opt their service because of the reason that they can save their time. Twenty-four percent of them reported that readiness of the product traded online attracted their customers to choose their services. Many of the firms were found to have closed their outlets due to many constraints faced by them. Huge overheads/advertisement costs were mentioned as the major constraint faced by the online trading firms. When considering fish marketing in the Ernakulam district, only 0.52% of the total fish marketed is being delivered by the online firms.

Keywords: Marketing; online trading firms/outlets; time.

1. INTRODUCTION

Efficient and effective fish marketing ensures fish availability to consumers at the right time and in the right place. About 70 per cent of the fish catch is marketed fresh and the remaining is utilized in the form of processed, dried, smoked, reduced to fishmeal, etc. It's been estimated that around 60 per cent of the Indian populace consumes fish and the consumption pattern varies spatiotemporally and across the different social fabric Shyam, et al. [1]. The annual per capita consumption of fish for the entire population is estimated at 5-6 kg whereas for the fish eating population it is found to be 8 -9 kilogram. Average annual per capita fish consumption in Kerala, 30 kg, is very high compared to that of other parts of India [2].

Fish marketing system in India is rapidly changing in recent years due to the vast improvement in handling technology, transportation and consequent market penetration. In the new era, technology has spread across the length and breadth of every existing system, increasing competition and efficiency at every level of the chain. There exists considerable geographical spread between the fish production and consumption centres thereby, creating ample opportunities of time, space and utilities. Online trading of commodities and services has captured considerable market space and share in India and world over targeting this opportunity. Online marketing is the marketing of products or services using digital technologies, mainly on the Internet, but also including mobile phones, display advertising, and any other digital medium [3]. Online fish trade is gaining traction in this digital age where people prefer everything delivered at their doorstep. Online marketplace for fresh fish sources products directly from farmers and supplies them to customers.

The online fish marketing attempts to improve the existing lacunas in the present marketing system. The primary concern of the fish marketing system is the existence of a large number of middlemen. With the expansion in transport and communication network, changes in demands and development of markets, marketing channels for fish products in India have undergone considerable change, both in terms of quality and strength. The most common fish marketing channels are as follows [4].

With time marketing strategies changed and the length of marketing channels increased with more and more agent middlemen getting involved in the process of marketing, sidelining the fishermen. The marketing middlemen are mostly interested in realizing huge marketing margins with minimal value addition and do not transfer their title deeds to fishermen. This leaves the real fish producers and consumers in the lurch, leading to considerable price spread with low marketing efficiency (producer's share of the consumer's rupee). Entry into the market is in itself difficult for fishermen for many reasons, mainly because of strong non-cooperation and resistance from the retailers/ cartel's. The quality of fish also gets deteriorated as it turns more hands, resulting in poor quality fish reaching the consumers.

Online marketing, besides benefiting the consumers in terms of quality and time, will also help in eliminating these middlemen ensuring the fishermen their due share. On one hand, it helps the producers get a deserving legitimate share in the consumer's rupee and on the other hand, it safeguards consumer's rights against excessive prices.

Ensuring quality and hygiene has been a grave concern for fish marketing in the state, often leading to huge criticism and need for

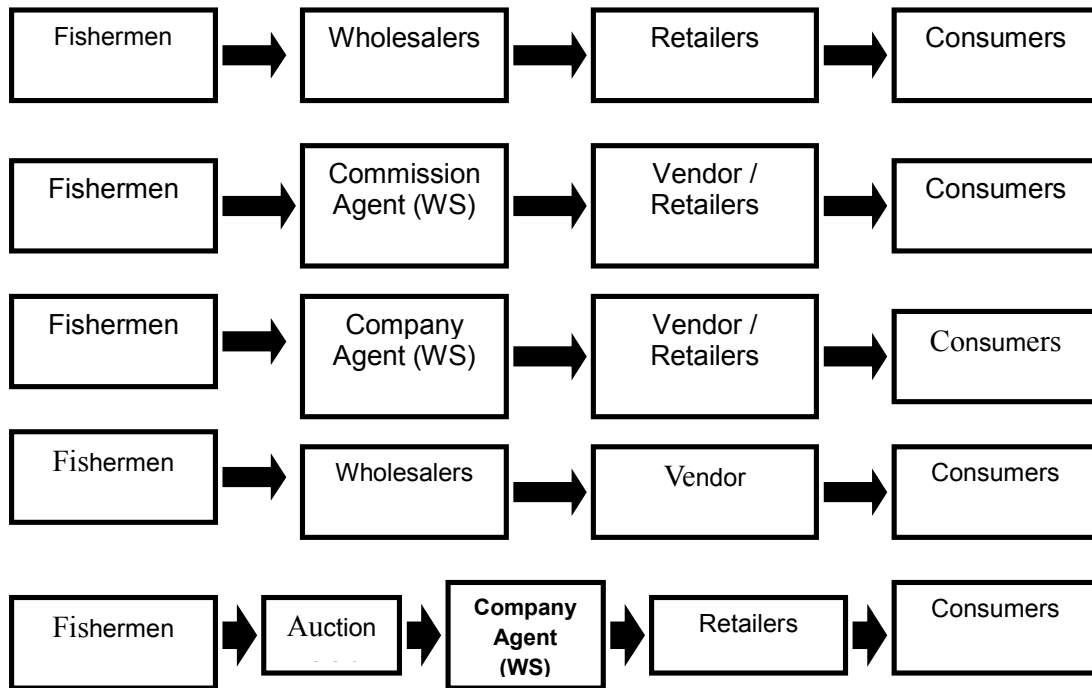


Fig.1. Different fish marketing channels

governmental interventions. In general, the supply chain follows a four-day cycle, wherein all parties don't necessarily conform to scientific food safety norms. Without a proper cold chain, bacterial contamination typically starts within 30 minutes. Poor quality ice and preservatives like sodium benzoate and formalin are used to keep the fish from deteriorating, which are potentially harmful and carcinogenic for humans [5]. Online fish marketing claims to provide fresh and chemical/pesticide free fishes, which gives them an edge over other fish retail sources. There is a steady rise of e-commerce fish marketplace that has gained momentum with the rise of e-grocery and advent of new cost-effective freezing technology [6].

Time and accessibility are the other two factors that affect the consumers. The freedom to choose the fish they want at affordable rate sitting home and getting it delivered fresh without spending much time for it is definitely going to create a new market space in this new digital era. Besides consumers, this will definitely help the hapless fishermen who are struggling to enter the market or deliver their produce to the consumer, with minimal middlemen interference.

Another advantage of online fish trade when compared to other marketing channels is that the

consumers will get fish in the preferred form i.e. fillet, steak, skinless, cleaned, Ready To Cook (RTC), Ready To Serve (RTS) etc, which could very well help the working populace strike a balance between work and quality of life.

Online marketing giants such as Amazon, Flipkart etc are well known and have been showing tremendous growth over the years. But fish being perishable, adhering to quality standards makes its sales, marketing and promotion cumbersome. Sustenance of online fish marketing depends on providing fresh and affordable fish to the consumers on time. This distinguishing factor makes online fish marketing firms an interesting subject of study. The present study attempts to analyse the factors that affect online fish trading firms and the constraints faced by them. More than 50 online fish markets are in operation in Ernakulam district engaged in fish marketing through phone, short messaging services, whatsapp and website transaction. The objectives of the study are to:

1. Analyse the general profile of the online fish marketing firms/outlets in Ernakulam district.
2. Deduce factors contributing to online fish purchase by the consumers as perceived by the traders

3. Identify the constraints faced by online traders in marketing fish.
4. Assess the share of online fish marketing in the district.

2. MATERIALS AND METHODS

Location: Ernakulam district, known as the commercial capital of Kerala was selected as the study area. It is the highest revenue yielding district and includes the largest metropolitan region of the state Greater Cochin. Ernakulam is one of the most connected districts in the state owing to the presence of international airport, waterways, railways, and roadways. The sea along the entire coast of the district and the backwaters is abounded in fish and the demographic features show huge potential for fish consumption through different traditional and non-traditional marketing system approaches. Existence of online fish market outlets, in the large metropolitan city, makes it an ideal location to carry out the study. The study was carried out during April 2018.

2.1 Data Collection

A pre-tested interview schedule was used for the collection of information directly from the online fish marketing outlets through personal discussions/interviews and telephonic interviews regarding the various aspects of the e-venture. Seventeen outlets in Ernakulam district were selected for the purpose through random sampling method. The purpose of the study is to collect information about the firm, species traded, mode of sales, customer profile, storage facilities, constraints faced etc. The data collected was analysed using various statistical tools such as percentage analysis and Garrette ranking method.

3. RESULTS AND DISCUSSION

Digital marketing is a new and developing concept in India which has huge potential. All the online fish trading firms /outlets were recently established between 2012 -2016. The average monthly turnover of the firms is found to be 10 lakhs, ranging from 5-15 lakhs. Firms with wider outreach or strong backward and forward linkages were found to realize much higher returns when compared to others.

The major species traded and average quantity traded are given below in Table 1.

All the seventeen outlets selected for the study was found to trade fish species in Table 1.

The average sphere of trade influence .i.e. the distance up to which the firm will sell its product is found to be 25 km. Considering the fact that fish being a perishable product will easily get spoiled, the distance upto which delivery can be made is limited. Cost and time are other factors which plays important role in determining the sphere of influence. Fish arrival sources in most of the cases were found to be individual fishermen or fish farmers. This was to ensure that the products supplied were fresh and devoid of any chemical or pesticides. Some firms collected fishes from harbours/landing centres like Munambam, Thoppumpady, Vypin, and Kumbalam. Even when their sources were fish harbours/landing centres, they ensure that all the fishes are of good quality. For this they have offsite storage facilities close to the fish sources, which ensure that the customers are served only fresh and high quality fish with minimum handling. Live, cleaned and skinless were the most preferred forms of fish ordered by the customers. Other preferred forms of delivery includes fillet, steak etc. Minimal quantities of high value fishes were found to be sourced from neighboring district / states.

Table 1. Major species traded and average quantity

Major species	Quantity (kg)/month
Seer fish	156.75
Sea bass	150
Pearl spot	110
Sardine	102
Mackerel	102
Clam meat	100
Yellow pomfret	85
Thread fin bream	51
Silver belly	41
Rohu	40

The customer profiling indicated that fifty per cent of the customers belonged to the middle age group (36-55 yrs) followed by 30 per cent belonging to young (≤ 35 yrs) and 20 percent to old age group (> 55 yrs). Most of the working middle and young age population in metro cities like Ernakulam are constrained with time and space. Online services offer them a great opportunity to overcome both these constraints by delivering clean / high quality fish in the shortest time possible. When considering the monthly income class of the customers, majority (85%) of them belonged to high income class ($\geq 50,000$) followed by 14 per cent belonging to

middle (20001 – 50000) and only one per cent to low (≤ 20000) income class.

High value fishes were reported to be in high demand as 70 per cent of the respondents preferred them when compared to only 30 per cent of the respondents who preferred low value fishes. The peak period /season of sale was reported to be the holidays / festive seasons.

The firms reported that they have regular customers in the range of 20-40 per day, who repeatedly purchase their products. This indicates that a lot of people are interested in online purchase of fish and these firms are meeting their expectations in terms of quality, affordability and timeliness. Most of the firms reported that they use insulated/refrigerated vans for transport of fish from their storage centre to the delivery point. The mode of sale used by customers to contact the firms/outlets is represented in the Fig. 2.

Fifty per cent of the respondents reported phone call as the main mode of sale whereas 25 per cent reported whatsapp, 15 per cent online and 10 per cent SMS as the mode of sale.

Fifty per cent of the maintenance cost of the firms was constituted by the website/

advertisement costs. This was followed by wages constituting 20 per cent, rent 12 per cent, transportation 10 per cent, equipments 5 per cent and others 3 per cent of the total maintenance cost. There are various channels of digital marketing; by sending promotional information to customers or prospective customers through emails, spreading awareness through blogging, podcasting, video streaming, search engine marketing, social media, sms marketing, application based mobile marketing, etc. Companies typically devote 1/4th of their online marketing budget to their website development.

Sixty five per cent reported that online marketing is a profitable business and 55 per cent opined that competition is increasing on a daily basis and is expected to rise in the future.

The major reasons why people prefer online fish marketing over other marketing strategies was found to time saving (31 per cent) followed by readiness of the product traded online (24 per cent). Other reasons mentioned by the firms include product quality (16.02 per cent), availability (11.86 per cent), accessibility (10.37 per cent) and affordability (7.65 per cent).

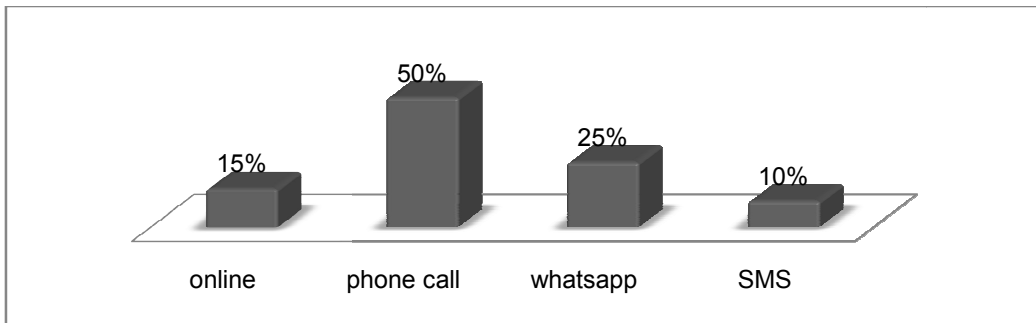


Fig. 2. Mode of sale

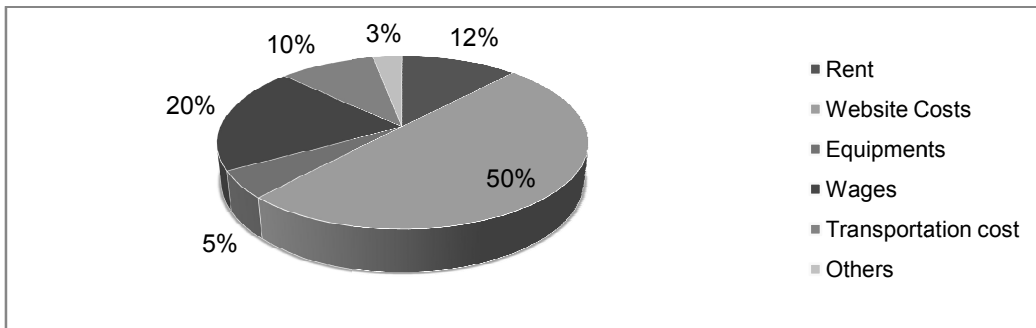


Fig. 3. Maintenance cost – Share of different components

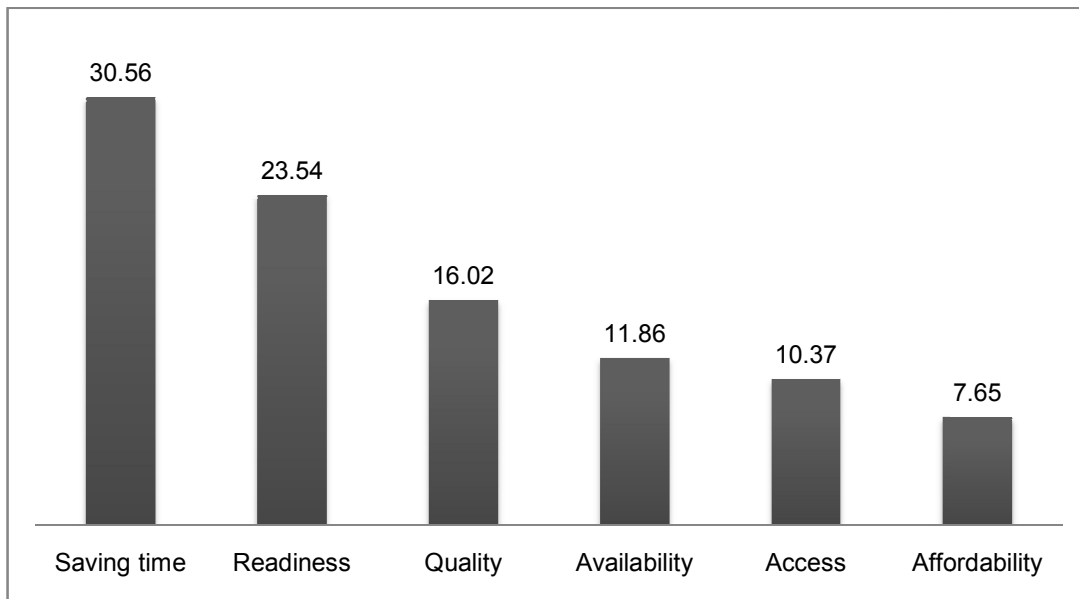


Fig. 4. Major reasons for choosing online marketing

Online trading firms/outlets face many challenges even leading to closure of their outlets [7]. The constraint analysis of the outlets indicated that huge overheads/advertisement costs were the major constraints experienced by the online trading firms. Transportation difficulties, lack of storage facilities, lack of fresh fish, unknown customers, high landing prices, unavailability of preferred fishes, irregular supply and lack of awareness were reported as the other major constraints that the online trading firms/outlets have to deal with regularly (Table 2).

Table 2. Challenges faced by online fish marketing firms/outlets

Parameters	Score	Rank
Irregular supply	21.51	VIII
Lack of fresh fish	55.80	IV
High landing prices	41.59	VI
Unknown customers	47.56	V
Unavailability of preferred fishes	34.73	VII
Lack of awareness	18.56	IX
Lack of storage facilities	62.20	III
Transportation constraints	67.41	II
Huge overheads / advertisement	73.30	I
Any others specify	12.33	X

Some inputs, such as advertising, landing cost from the storage site to the customer, managerial expertise and skilled labour are expensive, but because of the possibility of increased efficiency with such inputs, they can lead to a decrease in the average cost of production and selling. If a company can spread the cost of such inputs over an increase in its production units, economies of scale can be realized. Thus, if the online firms choose to spend more money on efficient backward (boat) and forward (export/ consumption) integration, it will eventually result in increased efficiency by lowering the average cost of production. It would also have to increase the number of fish products it sells a year in order to cover the increased expenditure.

Going digital does not translate into completely doing away with brick and mortar stores. While customers may make buying decision online, ensuring that they stick on to buying perishable products like fish online will entirely depend on the quality of the product delivered. For this, they need to maintain both the traditional and digital channels of marketing and sales and this is additional cost. Thus digital marketing cost is over and above the usual costs incurred and do not act as substitute. So they have to structure their marketing campaigns to reap the maximum benefits. With the rise of social media, changing business landscapes, and introduction of more educated customers, the businesses need to

rethink about their marketing strategies and lay out a multi-channel marketing plan that carefully lays out an optimal mix of both the modern and traditional techniques best suited for the business [8].

When considering fish marketing in the Ernakulam district, only 0.52% of the total fish marketed is being delivered by the online firms/outlets. This shows low penetration of online marketing strategy among the fish consumers and huge prospect of further development and integration of such innovative and efficient systems into the marketing space of India. Studies indicate that the number of consumers who shop online in India is likely to cross 100 million by the end 2017, and the e-retail market is expected to increase to 65% in the year 2018. Such figures are clear indication that the digital marketing services will continue to experience tremendous growth and changes [9].

4. CONCLUSION

Online fish trade is gaining traction in this digital age where people prefer everything delivered at their doorstep. Online marketplace for fresh fish sources products directly from farmers and supplies them to customers. On one hand, it helps the producers get a deserving legitimate share in the consumer's rupee and on the other hand, it safeguards consumer's rights against excessive prices. All the online fish trading firms /outlets were of recent origin and firms with wider outreach or strong backward and forward linkages were found to realize much higher returns when compared to others Online trading firms/outlets face many challenges which included huge overheads/advertisement costs, transportation difficulties, lack of storage facilities, lack of fresh fish, unknown customers, high landing prices, unavailability of preferred fishes, irregular supply and lack of awareness. The current market share of the online fish marketing in Ernakulam was found to be 0.52 % of the total fish marketed. This shows low penetration of online marketing strategy among the fish consumers and huge prospect of further development and integration of such innovative and efficient systems into the marketing space of India.

Online fish marketing is definitely going to target more market share in future considering the push that digital technology is given by the government and private organizations. As new

entrepreneurs the online fish trading firms face a lot of challenges as mentioned, which should be taken into consideration by the government in providing support. Policy in promoting digital marketing of fish in the lines of e-NAM (National Agricultural Market) can be contemplated by government to help the poor fishermen exploited by middlemen. This will add transparency and accountability in the fish marketing system, benefiting both producers and consumers.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Shyam S. Salim, Sathiadhas R, Narayana kumar R, Katiha, Pradeep K, Krishnan M, Biradar RS, Gopal Nikita, Barik N, Ganesh Kumar B. Rural livelihood security: Assessment of fishers' social status in India. *Agricultural Economics Research Review*. 2013;26:21-30.
2. Shyam S Salim, Safeena PK, Athira NR. Does india really need to export fish: Reflections and upshots. *Agricultural Economics Research Review*. 2015;28: 117-125.
3. Anonymous. Digital marketing; 2017. (Accessed 10 May 2018) Available:https://en.wikipedia.org/wiki/Digital_marketing
4. Shyam S Salim, Biradar RS, Pandey SK. Market and marketing structure. *Fisheries Economics and Marketing - An introduction*. Central Institute of Fisheries Education, Mumbai; 2005.
5. Ranganna Akhila. A start-up is changing the way fish has been sold and bought in India for centuries; 2017. (Accessed 13 May 2018) Available:<https://scroll.in/magazine/841904/a-start-up-is-changing-the-way-fish-has-been-sold-and-bought-in-india-for-centuries>
6. Vishal Dutta. After grocery, now, fish markets go online; 2015. (Accessed 6 May 2018) Available:<https://economictimes.indiatimes.com/small-biz/startups/after-grocery-now-fish-markets-go-online/articleshow/48739236.cms>
7. Niharika, Satinder. A study of internet marketing in India: Challenges and

- opportunities. International Journal of Science Technology and Management. 2015;4(11):267.
8. Kaushik, Rajiv. Digital marketing in Indian context. International Journal of Computational Engineering and Management. 2016;19:2230-7893.
9. Rajat Tyagi. Growth of digital marketing industry in India 2018; 2017. (Accessed 6 May 2018) Available:<https://medium.com/@rajat.tyagi/growth-of-digital-marketing-industry-in-india-2018-df6390d37e2b>

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