

# E-POS IN PUBLIC DISTRIBUTION SYSTEM: A STUDY ON THE CONSUMER PERCEPTION

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## Abstract

The introduction of E-PoS machine in the ration shops of Kerala was a bold move to put curb on the unethical practices of diverting the ration articles by ration shop owners and operators. The machine is expected to bring in transparency in operation and ensure effective distribution of articles to the ration card holders. The operational efficiency of the system is expected to improve the PDS in Kerala. A study on the perception of consumers, ie, the ration card holders on the operation of the system and its effectiveness becomes important in this context. The present study has revealed that the consumers are satisfied with the E-Pos System; but the system has to address the operational issues faced so that the satisfaction rating of the consumers improves.

Key Words : E-PoS, Public Distribution System, Ration Card,

## 1. Introduction

The Civil Supplies Department manages the pivotal responsibilities of Public Distribution, enforcement of market discipline, promotion of consumer awareness and protection of their interest. It is renowned for the pioneering achievements in the implementation of Universal Rationing System during the 60s and 70s. The Department of Food, Civil Supplies and Consumer Affairs of the Government of Kerala.

Kerala state has the privilege of organising best system of Public Distribution in the whole country. The system is evenly spread across the entire state irrespective of rural or urban boundaries in ensuring equitable distribution of food grains at a fairly low cost among the people, especially to the weaker demographic. An advanced network of wholesale and retail outlets for the distribution of rationed articles is a remarkable feature of the Public Distribution System.

The government of Kerala implemented E-POS machine in Ration Shops to make the Rationing System high-tech. Under this system, ration goods will be distributed to beneficiaries after validation of biometric identification. This will be a great provision for the public distribution mechanism in the state to transit into the Aadhaar – enabled PDS(AePDS) mode. As a part of enforcing the National Food Security Act (NFSA), the E-POS machines are expected to bring in the transparency in the distribution of the food grain quota and check the corruption that has been rampant in PDS. The ration cards can be categorised on four as per the colour the Yellow colour card for most economically backward section of the society, Pink Card for priority or Below Poverty Line (BPL) members, Blue Card for non- priority subsidy or Above Poverty Line beneficiaries (APL), White card for non-priority beneficiaries. At present the biometric enabled E-POS system is introduced by the government to ensure zero pilferages.

## 2. Statement of the Problem

The study attempts to draw light on the impact of E-PoS Machine introduced in ration shops in Kerala from the view point of beneficiaries. The introduction of the machine has been on account of preventing the ration shops from denying the ration items to reach the genuine people. It is imperative to find out whether E-Pos machine run rationing has actually brought out transparency in dealings and whether it has been able to deliver goods to the genuine ration card holders. The problem is thus stated as finding out the impact of E-Pos machines on the PDS as viewed from the perception of beneficiaries.

### 3. Objectives of the Study

The major objectives of the study are:

- To examine the satisfaction level of the respondents regarding the rationing system after the implementation of E-PoS Machine.
- To examine the major problems associated with the implementation of E-PoS Machine.

### 4. Research Methodology

The study has adopted a descriptive and exploratory research design by incorporating both primary and secondary data. The primary data is collected from 75 respondents from Kottayam Town chosen conveniently by distributing questionnaires structured for the study through google forms. The secondary data are gathered from various professional journals, project reports and websites. The collected data is analysed using SPSS software by adopting simple analysis tools like percentage and the hypotheses are tested using Kruskal Wallis H test and Friedman test.

### 5. Limitations of the study

- The study is confined to Kottayam town area only. It cannot be generalised to other places.
- Perceptions of respondents can change over time.
- Inherent limitations of sampling may have affected the study.

### 6. Review of Literature

Previous studies on E-PoS or similar system and their findings are discussed here:

- **Neetu Abey George and Fiona H Micky (2019)** conducted a study on the topic 'The Public Distribution System and Food Security in India'. They researched on the public distribution system in a bird's eye view. They provided some details on existing corruptions and drawbacks, the majority of their study focussed on some guidelines to overcome the key barriers.
- **Swapna Shaji and Annie John (2018)** conducted a study on the topic "The impact of E-POS machines in ration shops. They examined about Post digitalisation satisfaction level of beneficiaries. The outcomes of their study are that the satisfaction level of the beneficiaries haven't changed after the implementation of E-PoS system
- **Dipthi Paridhi Kindo (2017)** conducted a study on the Aadhaar Enabled Public Distribution System. They mentioned some procedures, benefits and challenges in digitalization.
- **B. Mahalingam and Akash Raj D P (2016)** conducted a study on the topic "Major draw backs of public distribution system in India". The key aspect of the study is to analyse major drawbacks of public distribution in the country. The working of system varies regionally with regard to various state governments and union territories, as the study give some crystal-clear image of various demerits and problems associated with the public distribution system.

### 7. Analysis and Discussion

After presenting a profile of the respondents with regard to the colour of the ration card, the discussion centres on the awareness level of the functioning of E-PoS machine as viewed by the users, the satisfaction of the respondents on the various advantages of the E-PoS machine and the problems associated with the same. It has also been attempted to find out whether the satisfaction level differs on account of the difference in category of consumers as revealed by the colour of the card.

**Table 1 -Colour of The Ration Card**

Card Colour	Frequency	Percentage
Pink	17	22.7
Blue	33	44.0
White	24	32.0
Yellow	1	1.3
Total	75	100.0

Source: Primary Data

Out of the total respondents, 44 per cent have blue coloured card, 32 per cent have white cards whereas 22.7 per cent respondents have pink card and only 1 respondent has yellow coloured card.

**Table 2 - Awareness on various advantages of E-PoS System**

Awareness Level Claimed	Frequency	Percentage
Aware	65	86.7
Not Aware	10	13.3
Total	75	100.0

Source: Primary Data

Most of respondents opine that they are aware about the various advantages offered by the E-PoS system and only 13 percent say that they are not aware about the full implication of the system.

**Table 3- Satisfaction on the functioning of E-Pos Machine**

Various Aspects	N	Mean	Std. deviation
Working of the EPOS machine is satisfactory	75	3.9467	.76923
Less time taken for purchase	75	3.4800	.96366
Satisfied with SMS service	75	3.6400	.92474
Aadhar linking is beneficial	75	3.4933	.90604
Complaint filing is easy	75	3.0933	1.04200
Ration items are easily available	75	4.0000	.73521
Monthly allocation is proper	75	3.6800	.75624
Monthly distribution is proper	75	3.6933	.85382
No scope for black marketing and hoarding	75	3.1200	1.11452
Can know about the available monthly balance	75	3.4267	1.09265
Misuse of ration card is not possible	75	3.5733	.96104
Overall Satisfaction	75	3.5588	.54025

Source: Primary Data

It is observed that the card holders in general have satisfaction of the operational effectiveness of E-PoS machines as revealed by an overall score of 3.5588. It can be noted that there is a strong level of agreement on the availability of ration articles whereas the level of agreement on the avoidance of black marketing is comparatively low.

To find out whether there is category-wise (as revealed by the card colour) difference in the satisfaction of the cardholders, Kruskal-Wallis Test was performed and the results are as under:

H<sub>0</sub>: There is no category-wise difference in the satisfaction of cardholders on the functioning of E-Pos System.

H<sub>1</sub>: There is category-wise difference in the satisfaction of cardholders on the functioning of E-Pos System.

**Table 4 Test Statistics- Kruskal Wallis H test-**

	Colour of the ration card	N	Mean Rank
Level of Satisfaction of EPOS System	Pink	17	36.68
	Blue	33	39.29
	White	24	38.58
	Yellow	1	4.00
	Total	75	

Table 4a- Test Result- Kruskal Wallis H Test

	Level of Satisfaction of E-PoS System
Chi – Square	2.988
Df	3
Asymp. Sig.	0.393

As the sig value of 0.393 is greater than 0.05, the null hypothesis is accepted. There is no category-wise difference in the satisfaction on E-Pos System.

Table 5- Problems with E-PoS System

	N	Mean
Weak redressal system	75	2.2933
Risk of identity theft	75	2.5467
Barcode detection	75	2.7600
Delay in processing	75	2.3867

It is found out that the weak redressal system is ranked as the major problem associated with E-PoS system followed by delay in processing the request.

## 8. Concluding Remarks

E-PoS machines have been a major breakthrough in the enhancing the effectiveness of Public Distribution System in Kerala. The responses of the consumers reveal that there is satisfaction on the introduction of the same, but the level of satisfaction can be rated as moderate. The system has to perform more in order to ensure a fair, easy and quick delivery of items and ensuring overall justice. The redressal mechanisms have to be strengthened and the technical issues have to be addressed so that the system becomes more fool proof, effective and transparent.

## References

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