

A THEORITICAL STUDY ON - DIGITIZATION OF PUBLIC DISTRIBUTION SYSTEMS IN INDIA

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Abstract

India is in the path of digitalisation. Each aspect of the economy is transmitting to digital. The Indian customers are fast going digital- snapping smart phones and tablets. Government at the Centre and in States are also being doing their bit by building digital infrastructure to bridge the mile network gap. Digitization of PDS is one among them. Public Distribution System is recognized as a permanent feature of the Indian economy and evolved for distribution of essential commodities at reasonable prices and management of emergency situations. The PDS in India is the largest distribution machinery in the world. But there are numerous problems associated with the Public Distribution System in terms of quality, quantity, storage, management etc. Those problems create a hindrance in the effective and efficient working of the system. To overcome the problems the Government of India made major reforms in PDS in 2015, digitisation of ration cards. The prime focus of Digitization reform is to make PDS more transparent and leak free. The paper makes an attempt to study the significance of Digitization in PDS and the different types of reforms in the Digitization process.

Keywords: PDS, Digitization, Leakage, Diversion

I. INTRODUCTION

The history behind the introduction of PDS in India is rooted because of the famine and food scarcity during the colonial period. In India, availability of food grains is ensured through a network of fair price shops. Public distribution system is a structure that is sponsored by a government and includes chain of shops trusted with the work of distributing basic food and non-food commodities to the disadvantaged group of the society at very low prices. The central and state governments shared the accountability of regulating the Public distribution system. While the central government is responsible for procurement, storage, transportation, and bulk allocation of food grains, state governments hold the responsibility for distributing the same to the consumers through the established system of Fair Price Shops. State

governments are also responsible for operational responsibilities including allocation and identification of families below poverty line, issue of ration cards, supervision and monitoring the functioning of FPSs system (PDS) is an Indian food security system. The **Public distribution system** (PDS) is an Indian food Security System established under the Ministry of Consumer Affairs, Food, and Public Distribution. PDS evolved as a system of management of scarcity through distribution of food grains at affordable prices. The major objectives of government of India behind the establishment of PDS are ensuring adequacy or sufficiency in supply of food grains, and distributing food grains at an affordable price. The digitization of PDS that, at every step from field to beneficiary, the government would track the movement of food grain. A key factor in this reform is the digitization of the beneficiary database and linking ration card to Aadhar numbers, automation of supply chain, SMS alert to beneficiaries, etc. the prime aim of digitization of PDS is to bring efficiency and transparency in the public distribution supply that is prone to leakage and misuse. Digitization is a mile stone in the history of public distribution system.

Significance of Study

One of the prime focuses of every state is to ensure food security to its people. In India, the government is trying to achieve it by the Public Distribution Systems. Through this system the government provide essential goods include both food and non-food items to the people at a reasonable

and affordable price. Since the last 50 years PDS play an important role to eradicate the poverty. But there are many problems in the PDS and services are denied to large major deserving sections of economy. Digitization helps to make an end to this sort of problems. So, it is necessary to make a research on

the digitisation of Public Distribution System.

II. OBJECTIVES OF THE STUDY

- To study process of Digitization of PDS in India.
- To find the advantages in the digitization of PDS

III. REVIEW OF LITERATURE

Several studies were conducted to evaluate the PDS. Here there is a resume of various studies in the area undertaken

Sl .no	Researcher	Objectives of the study	Variables studied	Findings
1	Heikki korhonen 'Enterprise Architecture in public sector Digitization'	To study the impact of Digitization on Public sector organisation.	E-Governance Public sectors Enterprise Architecture	The adoption of digitization in PSU can either reinforcing or transformational. The transformational requires major effort throughout the organisation to enable the integration.
2	Ursula plessner, Cecilie glerup, Lise justesen 'The transformation of work in digitized public-sector organisation'	To critically evaluate the reviews and discuss the existing literature on the digitization in organisation.	Review of literature and discussion on digitization of public sector organisation.	It would provide an insight into how digitization reconfigures bureaucracy, profession and control and accountability in public sector organisation.
3.	Shailendra Singh 'Food security – effectiveness of the PDS in India'	To identify the food insecure population in the country To analyse the system of procurement and the effectiveness of PDS.	Population Income Chain of management Issues in PDS	Diversion and leakage of food grains. Non-availability of adequate products. In correct identification of BPL families.
4.	Govind Ballabh pant Social Science Institute	To evaluate the extent to which the PDS protect the poor.	Supply Price Quality and quantity Subsidies	Most of the BPL and ANT households did not receive any item from FPS regularly. 16Inadequate and irr17egular supply of food grains.

by different researchers from time to time in India and abroad.

IV. RESEARCH METHODOLOGY

This is a descriptive research and the data used in the study are primarily from secondary sources like websites, journals, articles etc.

V. DIGITIZATION

Digitization is the process of converting information in to a digital format i.e., computer readable format. In this the information is organised as bits. Digitization is of crucial importance to data processing, storage and transmission because it allows information of all kinds in all formats to be carried with the same efficiency and intermingled.

Public Distribution System

Public Distribution System (PDS) is a food security network established by the government of India. In India PDS are managed and controlled under the Ministry of Consumer Affairs, Food, and Public Distribution. The system distributes subsidized food and non - food items to India's poor. The PDS scheme was first introduced in February 1944, during the Second World War. The major commodities supplied through

PDS include staple food grains, such as wheat, rice, sugar and kerosene. A Public Distribution Shops also known as Fair Price Shops and locally it is termed as Ration Shops. Food Corporation of India (FCI), a government owned corporation, procures and maintains the PDS in India. FCI was established in 194 to handle the shortage of food grains. It is the most important food security network. To buy items from ration shops one must have a ration card. India's Public Distribution System is based on the ration cards, which is used to establish identity, eligibility and entitlement. The Fair Price Shops are operated throughout the nation by joint assistance of central and state government.

Need for Digitization of PDS

Public Distribution System is prime system through which the government ensure food security to the public. The PDS has a vital role in poverty eradication in India. As a government system it has responsibility to serve the entire nation. But the system denied services to several persons and hence face several threats like

leakage, black marketing etc. these create inefficiency in the system (Sakhi Balani '*Functioning of the PDS an analytical*', 2013). To overcome these problems and provide a transparent and efficient distribution system the Government establish digitization of PDS. The factors which contributing to the establishment of digitization reform in PDS includes;

- PDS has suffered exclusion and inclusion errors.
- Leakage, hoarding and illegal sale of food grains in open market.
- Lack of grievance redressal mechanism and transparency.
- Children aged 5 die every day due to their inefficient diet. Hence it is necessary to ensure that whether the food reaches the beneficiary or not.
- Accessibility and availability of food constitute vital part in poverty eradication.
- Efficient allocation of resources will minimise the deficit balance of government to a good extent.

Digitization of Public Distribution System

The digitization of the system can be tooled to prevent leakage and diversion of food grains and bring transparency in the whole process. Kerala has achieved significant milestones in the reform of the public distribution system through the implementation of the e-PDS project and the model pilot scheme of computerised ration shops. The different types of reforms undertaken by different state are:

- **Aadhaar linked and digitized ration cards:** By linking the Aadhaar card with ration card enable online tracking of monthly entitlement and off-take of food grain by the households. It also allows online entry and verification of beneficiary data.
- **Use of web based citizen portal:** Grievance redressal portal, toll free help line numbers to register complaints or suggestion also a part of digitization.

- **SMS -based monitoring:** in the digitization process all the information's of citizen is stored as a database. The system sends SMS alert during the despatch and arrival of PDS commodities. This provides the items and quantity that the individual get from the PDS.
- **Use of GPS technology:** This is a part of supply chain management. Global Positioning System is used to track the movement of food grain from the state deposits to fair price shops. This will help to prevent the diversion.
- **Computerised Fair Price Shops:** computerised FPS means the installation of Point of Sale device to swap the ration cards. It automatically authenticates the beneficiaries and records their purchase and subsidy details.
- **Direct Benefit Transfer scheme (DBT):** Under this scheme, cash is transferred to the beneficiary account instead of food grain subsidy. They will be free to purchase food grain from anywhere in the market with that cash. Digitization of beneficiary data and seed Aadhar and account details of beneficiary are the pre-requisites for this model.

Benefits of Digitization of PDS

Digitization is not a mere process of converting physical data into digital format. It includes a lot of supporting functions which altogether constitute the digitization process. It is a diversified process beneficial to both the government and common public. The major benefits of digitization of PDS include:

- **Prevent leakage and diversion:** Large leakage and diversion of food grain are major challenges of PDS. In digitization all the transactions are followed in a specific manner and they all are recorded properly. So, by adopting digitization the government can reduce leakage and diversion.
- **Savings in food subsidy bill:** Once the leakage and diversion problems are solved it automatically reduces the government expenditure. Because if the food grains are

reaches the eligible beneficiaries there is no need for further expense. So, it helps the government to save the food subsidy bill.

- **Deletion of ghost beneficiaries:** In digitization process, the Aadhar card is linked with the ration card. So it helps the officials to identify the eligible beneficiaries and delete the ghost beneficiaries.
- **Grievances redressal portal:** Digitization provides a well efficient grievances redressal system to its beneficiaries. It also provided with toll free help line number. Those who have complaint or suggestion can easily register through the portal.
- **Educate beneficiaries:** Lack information also make the system inefficient, the beneficiary has no idea about their right. After the digitization every citizen get a SMS about the arrival of food grains and its quantity and prices.

END-TO-END COMPUTERISATION OF PDS- A STEP TOWARDS GOOD GOVERNANCE

Ministry of Consumer Affair, Food and Public Distribution is implementing a Plan Scheme on End-to-end Computerisation of TPDS Operations on cost sharing basis with the States/UTs. The scheme has been declared as a Mission Mode Project (MMP) by the Government.

The Scheme comprises following activities and expected outcomes:

Digitization of TPDS (Targeted Public Distribution System) related data- Correct identification of beneficiaries: removal of bogus cards: better targeting of food subsidy.

Computerisation of Supply Chain- Timely availability of food grains at FPS (Fair Price Shop): check leakages/ diversion.

Grievance Redressal Mechanism and Transparency Portal- Bring transparency & Public accountability.

FPS automation- Ensuring that correct beneficiary receives the entitled quantity of foodgrains.

On fully implemented, the Scheme will provide various citizen centric services as given below:

- Ration card related requests such as application for new ration card, change of address, name change, deletion of member, etc. can be dealt online through the system. This will provide beneficiaries a convenient facility and minimise their visit to Food & Civil Supplies offices.
- The digitalized list of beneficiaries shall be made available in the public domain on State Governments' TPDS portals. This will introduce transparency in the identification of beneficiaries, allow beneficiaries to check their status, encourage social audit etc.
- Through the State TPDS portal, beneficiaries can also check status of foodgrains allocated for their respective Fair Price Shop (FPS) each month including quantity delivered at the FPS, when delivered etc. Beneficiaries can also enrol for SMS alert facility, so that they are informed on mobile phones through SMS about despatch of vehicle carrying food grains, receipt at the FPS, etc. Timely access to information relating to availability of food grains will prevent denial of entitlement to beneficiaries; reduce their trips to FPSs etc.
- The facility for registration of grievances and tracking their status is also available through the State TPDS portal, toll-free helpline numbers, etc. If the complaints are not responded in time, the same would be escalated to senior officers for timely redressal. Under the integrated module for grievance handling, if beneficiaries provide mobile numbers while filing their grievances, through SMS they can receive its acknowledgement and once the grievance is settled, they can again be informed.

- Computerisation of last mile activities i.e. distribution of food grains at the FPS level is also being taken up. Once automation of FPS is implemented, the genuine beneficiaries can be authenticated through point of sale device at FPS, the sale transaction captured online etc. so as to ensure that the entitled quantities of food grains reach the actual beneficiaries.

The present scenario of digitization process of public distribution system is given below. The table show the status of computerisation of PDS in terms of digitization of ration cards, online allocation and computerised supply chain, Aadhar seeding in ration cards.

STATUS OF END -TO-END COMPUTERISZATION OF PDS OPERATION (As on 27/12/2016)

Sl no	State/ UT	Digitization of ration cards	Aadhaar seeding in RCs	Online allocation of food grains	Online grievances redressal	Computerisation of supply chain management	Toll free help line no	Optimum E-PoS
1	Andhra Pradesh	100%	100%	Implemented	Yes	Implemented	Yes	29082
2	Andaman & Nico bar	100%	97%	Implemented	Yes	Implemented	Yes	290
3	Arunachal Pradesh	100%	44.5%	-	-	-	Yes	0
4	Assam	100%	0%	Implemented	Yes	-	Yes	0
5	Bihar	100%	.13%	Implemented	Yes	Implemented	Yes	0
6	Chandigarh	100%	100%	NA	Yes	NA	Yes	DBT (cash)
7	Chhattisgarh	100%	100%	Implemented	Yes	Implemented	Yes	12128
8	Dadra&nagar haveli	100%	94%	Implemented	Yes	Implemented	Yes	62
9	Daman&Diu	100%	100%	Implemented	Yes	Implemented	Yes	51
10	Delhi	100%	100%	Implemented	Yes	Implemented	Yes	28
11	Goa	100%	88%	Implemented	Yes	Implemented	Yes	42
12	Gujarat	100%	91%	Implemented	Yes	Implemented	Yes	17052
13	Haryana	100%	91%	Implemented	Yes	-	Yes	8969
14	Himachal Pradesh	100%	96%	Implemented	Yes	Implemented	Yes	0
15	Jammu 7 Kashmir	100%	62%	Up to TSO	-	-	Yes	0
16	Jharkhand	100%	95%	Implemented	Yes	Implemented	Yes	20361
17	Karnataka	100%	98%	Implemented	Yes	Implemented	Yes	3877
18	Kerala	100%	98%	Implemented	Yes	-	Yes	0
19	Lakshadweep	100%	98%	-	Yes	NA	Yes	0
20	Madhya Pradesh	100%	85%	Implemented	Yes	Implemented	Yes	0
21	Maharashtra	100%	87%	Implemented	Yes	Implemented	Yes	20361
22	Manipur	100%	1.28%	Partial	Yes	-	Yes	3877
23	Meghalaya	100%	0%	-	Yes	-	Yes	0
24	Mizoram		11.9%9	-	Yes	-	Yes	0
25	Nagaland	100%	6.5%	-	Yes	-	Yes	22409
26	Odisha	100%	85%	Implemented	Yes	Implemented	Yes	93
27	Puducherry	100%	97%	NA	Yes	NA	Yes	0
28	Punjab	100%	99.5%	Implemented	Yes	-	Yes	0
29	Rajasthan	100%	99%	Implemented	Yes	-	Yes	0
30	Sikkim	100%	71%	Implemented	Yes	-	Yes	0
31	Tamil nadu	100%	88%	Implemented	Yes	Implemented	Yes	32
32	Telangana	100%	100%	Implemented	Yes	Implemented	Yes	DBT(Cash)
33	Tripura	100%	92.55%	Implemented	-	Implemented	Yes	25
34	Uttar Pradesh	100%	72%	Implemented	Yes	-	Yes	750
35	Uttarakhand	100%	66%	Implemented	Yes	-	Yes	8
36	West Bengal	100%	61%	Implemented	Yes	Implemented	Yes	0
	TOTAL	100%	71.96%	29	33	19	36	177391

Source: Annual Report 2016-17, Department of Food and Public Distribution of India

Interpretation

It is evident from the table that all the state and union territories have cent percent digitization of ration cards. Majority of the state provide online allocation of food grains, Arunachala Pradesh, Mizoram, Meghalaya, Nagaland are some exception to this. In case of online grievances redressal majority of state implement it. Like digitization of ration cards toll free help line numbers are provides with all state and union territories. Among the thirty-six state and union territories twenty-one have E- PoS system. Nagaland have the top position, in Nagaland nearly 22300 PDS have E-PoS.

VI. FINDINGS

- Digitization is a significant mile stone in the history of Indian Public Distribution System.
- Digitization process is beneficial to both public and Government.
- Challenges like ghost beneficiary, leakage, diversion of food grain etc. can be reduced through digitization.
- 100% ration cards have been digitized across India, includes twenty-nine states and seven union territories.
- It is evident that majority of the state have computerised supply chain management and online allocation of food grains.
- All the states and union territories provide online grievance redressal and toll-free help line number to make the PDS more transparent and efficient.
- In terms of E- PoS Nagaland have the first position. It has nearly 22300 E-PoS. Ten states have a good track record of E -PoS, But fifteen states still don't have E-PoS system.

VII. CONCLUSION

An efficient Public Distribution System is a vital part of every economy to manage its food security. In India the PDS work for last five decades. It is one of the largest distribution machinery in the world. But it has affected by a lot of issues relating to procurement, storage, allocation, transportation etc. Digitization of PDS was a great attempt made by the government to make the system more transparent and efficient. All the states and union territories actively take part in the reform. Majority of the PDS are effectively working in digitization mode. Now the reforms are moving in the right direction and we can expect that the inefficiency in the distribution system would remove soon and it ensure food security for millions of people in the country.

VIII. REFERENCE

1. Annual Report of Department of Food and Public Distribution of India 2016-17
2. Case Studies on E-Governance in India (2013-14) "Transparent Targeted Public Distribution System, Uttar Pradesh"
3. Dr. Sujata (2000) "Management of Public Distribution System in India with special reference to Haryana"
4. Heikki Korhonen , "Impact of Digitization on Public sector organisation".
5. Shailendra Singh (2005) "Food security – Effectiveness of the PDS in India"
6. <http://en.m.wikipedia.org>
7. <http://m.economictimes.com>
8. www.thehindu.com
9. www.insightsoindia.com