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METERING, BILLING, AND COLLECTION: IMPROVING DISCOM PERFORMANCE ACROSS NORTH INDIA

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This brief discusses step-by-step measures to be adopted by state-owned electricity distribution companies (discoms) for better metering, billing, and collection to improve their financial performance across states in North India. It further suggests policy measures for increasing accountability, monitoring and auditing at the consumer level to assure transparency and reduce discrepancy.



INTRODUCTION

The financial struggle of the state-owned electricity distribution companies (discoms) in India is not unknown. For many years, the government has tried various policies and programs to address these challenges. Due to poor payment record of distribution companies, there has been an equal adverse effect on power generation companies. In addition, it has also caused a stress in the banking sector. During the first nine months of 2018-19, discoms registered a loss of INR

240 billion (USD 3.4 billion) (Economic Times, 2019). Although there are various factors contributing to these mounting losses, in this brief, we address the issue of metering, billing, and collection systems which form the major component of the financial burden. By targeting these issues, discoms can not only improve their operational efficiency, but can re-gain their customers' trust in them through efficient management systems.

THE RURAL ELECTRICITY ACCESS CHALLENGE ACROSS NORTH INDIA

Government of India has been actively implementing plans to provide last mile electricity access across the country. However, even with 85% of the country's population having access to electricity in 2018 (Jha, 2018), the financial performance of the distribution companies appears dismal. The average technical and commercial (AT&C) losses, which are measured to depict billing and collection efficiency, currently stand at 18% in the country (UDAY Dashboard, 2019). While transmission and distribution losses account for losses that are inherent in a system and can be only reduced to a certain level, there is another component of losses, which form the commercial, non-recovered part of the billed amount and is then reflected under the technical and commercial losses (CEA, 2017). UDAY scheme (Ujwal Discom Assurance Yojana) launched in November 2015, had set a 15% AT&C losses target for the state discoms to be achieved by March, 2019. Surprisingly, performance of certain discoms worsened during this period. Jharkhand counts amongst the worst performer in the country with 31.9% technical and commercial losses, followed by Bihar (27.4%), and Uttar Pradesh (24.7%) (UDAY Dashboard, 2019).

Metering has been a major hurdle for discoms for households with both new and existing electricity connections. During the launch of the Saubhagya scheme or Pradhan Mantri Sahaj Bijli Har Ghar Yojana in 2017, discoms were responsible for providing electricity connections, but the meters were installed by a contracted private agency. Even though discoms' downward spiral in their financial situation started long ago, yet many officials complained of increased losses since these third-party agencies were hired. Notably, these companies are usually hired to increase the competency of the operations, as many discoms are not trusted to buy or acquire the most reliable products, especially technology intensive products.

Several households with an existing electricity connection and the new ones electrified under the Saubhagya scheme still lack a formal meter connection. As per Ministry of Power report, in Uttar Pradesh a massive 40% (i.e. 6.8 million) of the roughly 1.7 billion registered domestic households were still unmetered in 2016-17. In addition, a substantial 8.4 million connections that already had access to electricity were yet to be formalized and metered. Numerous cases of illegal connections and defective meters have also been reported. Although the government has already announced to make all electricity meters smart prepaid by April 2022, there is a clear gap in government policy, and implementation targets. This gap mostly pertains to rural consumers, as substantial progress in smart meter installation has been made in urban areas.

Discoms have been consistently struggling with inefficient billing and collection systems. The situation has been exacerbated due to loss of revenue accountability through bad billing techniques. Many consumers with installed meters do not get timely bills. A compounded bill puts an unaccounted and sudden financial burden on the customer. There also has been a rise in complaints regarding inflated or incorrect billed amounts. These operational issues can be traced to serious lack of manpower. Due to inefficient budget management and already existing financial problems, many states have been facing issues of staff shortage, especially regarding junior engineers and linemen. Unavailability of suitably trained staff combined with lag in payments from customers, subsequently leads to low collection efficiency.

Additionally, heavy complaints of electricity theft, inconsistent power cuts, lengthy process of bill rectification and increase in payment defaulters have made it worse for discoms. As per Orissa Electricity Regulatory Commission report, around 40% of single phase consumers defaulted in paying their regular energy bills in 2016-17. Thus, inefficient and ineffective measures for liquidity and operations management eventually results in lower revenue realization and a broader loss margin for these companies.

HARNESSING METERING, BILLING, AND COLLECTION POTENTIAL

State discoms in India hold an immense potential to reduce their financial losses through a better and more targeted approach to metering, billing, and collection efficiency. Under the UDAY scheme, only 7 states were able to meet their AT&C targets in 2016-17. Himachal Pradesh stands out as an outperformer. The state in 2016-17 had 88% billing efficiency and recorded 100% collection efficiency. It currently has the lowest technical and commercial losses of 8% in the country (UDAY Dashboard, 2019).

An initial inertia regarding adoption of meters has been observed in discoms as well as consumers. On one hand, discoms have a vested interest in unmetered connections and on the other, behavior change in consumers acts as a barrier, especially where smart meters are being installed. This behavior is not uncommon, particularly in rural areas with low education levels and lack of technological advancement. There is a need to create awareness amongst the consumers as an unmetered connection typically costs more than a metered connection.

Low billing efficiency can be narrowed down to three major reasons, notably, shortage of manpower, lack of tariff knowledge in consumers, and inconsistent billing cycles. Inability to hire appropriately trained staff acts as a key constraint. Discoms perceive this one-time cost as a substantial financial burden and thus, fail to invest in improving systemic weaknesses and addressing them with new engineering standards and staff training. However, it is important to recognize that the long term benefits of having adequately trained staff will outweigh the associated costs and will subsequently ease the liquidity constraints of the discoms. Consumers' lack of knowledge about tariff slabs has led to incorrect notions on electricity consumption and

their associated billed amounts. Particularly for the domestic consumers with low education levels, it is needed that discoms provide clearer and more structured tariffs. A limited understanding of the tariff structure combined with inconsistent and lagged billing cycles (ranging from 3 to 9 months) adds to the obstacles of achieving perfect billing efficiency (Ganesan, Bharadwaj, & Balani, 2019).

Through maintaining stable metering, billing and collection systems, many discoms have achieved financial sustainability. State discoms in Gujarat and Maharashtra are considered among the top performers in the country and present diverse viewpoints to the same issue. Gujarat holds the highest rank of quarterly performance and has long been considered as the benchmark for reduced AT&C losses. Amongst the four discoms in the state, DGVCL (Dakshin Gujarat Vij Company Ltd) has been the best performer and recorded technical and commercial losses of 7.3% and a surplus of INR 0.11 per unit of revenue over cost (UDAY Dashboard, 2019). Similarly in Maharashtra, the revenue exceeds cost by INR 0.04 per unit (UDAY Dashboard, 2019). MSEDCL or Maharashtra State Electricity Distribution Company Ltd being the largest electricity distribution utility in the country serves electricity to the entire state of Maharashtra (excluding some part of Mumbai). In 2015-16, the discom demonstrated 100% collection efficiency (Gill, Saluja, & Palit, 2017).

POLICY RECOMMENDATIONS

To reduce AT&C losses and improve operational efficiencies, the state of Gujarat has consistently maintained a low dependence on subsidy and borrowings, and high collection efficiency, especially with the domestic consumers. Higher tariff realization has further led to improved revenue over cost of supply. Similarly, Maharashtra discom with only 30 per cent more consumers spends nearly three times as much as Uttar Pradesh discoms on its employees, thereby depicting improved operational efficiencies (Ganesan, Bharadwaj, & Balani, 2019). Further, MSEDCL with a simplified tariff structure and least number of slabs appears to provide the most targeted and inclusive structure (Gill, Saluja, & Palit, 2017).

Hence, to improve the performance of discoms, we further recommend the following measures:

- **Ensure universal meter coverage**

Universal meter coverage is the primary component to further ensure effective billing and collection systems. Compared to their urban counterparts, consumers in many rural areas pay a higher flat rate for electricity consumption due to lack of a metered connection. As the household income in these rural areas is comparatively lower, an unmetered connection puts an additional income burden on the user. Universal metering is also crucial to keep a tab on consumers with unusually low or high electricity consumption and will further help in accurate electricity demand growth projections across the states.

- **Increase in billing and collection efficiency**

Even though the government has tried to introduce spot billing with hand held devices, the implementation is slow and has missed its actual targets. To suggest corrective measures, we propose the following measures to increase the billing and collection efficiency, especially for the domestic consumers:

1. **Appropriate Staffing** – Discoms must strive to have the right mix of human resources and thus, should move to resource planning rather than just resource adequacy. There is a need to make systemic changes in the distribution companies. A quantum jump is needed in the capabilities of discom staff involved in various operations. Thus, there needs to be nationwide training programs to rapidly fill the gaps in the expertise of staff.
2. **Transparent meter reading** – Following the installation of meters, there is a need for precise and reliable meter reading. Numerous complaints regarding incorrect meter reading and subsequently, wrong billed amounts have been raised by the consumers. The long bureaucratic process for re-assessment or correction of electricity bill further demotivates the consumers to clear their dues. Thus, to ensure accuracy and quality checks, and encourage timely payments, an on-the-spot meter reading should be done. The linemen should be equipped with a quality smart phone and proof (in the form of a digital picture) of the meter should be recorded in the discom's database.
3. **Verifying location of household** – An accurate location of households is necessary for timely and accurate delivery of electricity bills. By developing a database for households' GPS location, discoms can also carry out aggressive vigilance work for electricity theft and illegal connections. It can further help officials to take timely corrective actions on consumer service initiatives such as defective meters and bill rectification.
4. **Receipt confirmation** – It is crucial that the consumers should also be held responsible for receipt of the correct bill. Thus, to improve bill cycle and customer accountability, a member of the household should be asked to provide a digital signature to approve immediate confirmation of the bill.

- **Up-to-date contact information of all customers**

Prompts or regular text messages from companies has been proven to increase the frequency of timely payments, especially near the due dates (Ganesan, Bharadwaj, & Balani, 2019). Thus, to have effective and targeted prompts, discoms need to have updated contact information of each metered and registered household. An alternate contact number should also be made mandatory and this information should be updated on a quarterly basis.

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