CHAPTER 6

PAYMENT

Abstract

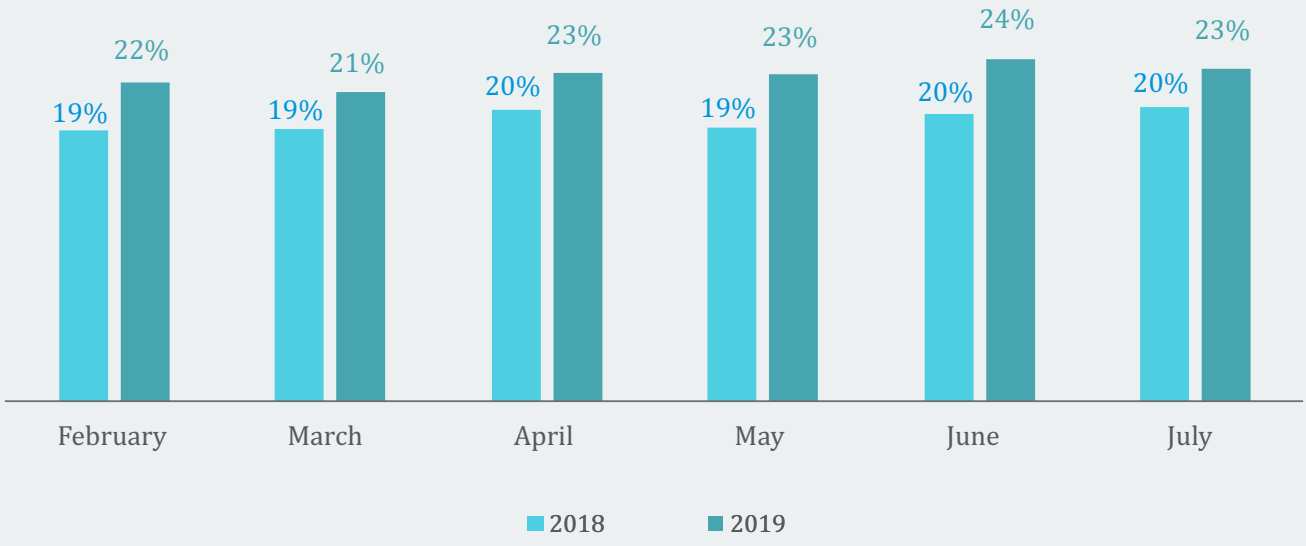
Payment of electricity bills is a crucial interaction between the customer and the utility. Technological developments and progressive regulatory policies have accelerated innovation across payment methods impacting the customer's experiences with the utility. While this has enhanced the ease of payment for the customer, there are few concerns in the process such as limited options for financing, customer's preference towards cash-based payment, lack of 24x7 payment collection centers, etc. This section provides a brief snapshot of payment processes in India, stakeholders' expectations and interventions required to enhance customer experience. This includes interventions like (i) introducing multiple financing options for customers; (ii) multiple avenues for bill payment and (iii) energy assistance programs to support the vulnerable groups.

The collection of the electricity bill directly impacts the financial health of any utility. For the customer, bill payment is an indispensable interaction with the utility. Therefore, utilities may provide flexible and user-friendly bill payment facilities to ensure prompt payments and enhance overall customer satisfaction.

Companies in other sectors such as banking, e-commerce, etc. are constantly innovating to provide best payment services to their customers. Some banks are providing interest-free emergency loans to their customers for a period of nearly 90 days up to the cash limit available in their credit card[55]. These days, all major e-commerce companies provide the facility to pay by cash or card at the time of delivery. Further, online grocery delivery companies are also accepting meal coupons as a payment mode at the time of delivery.

Bill payments in India have witnessed accelerated innovation over the years due to technological developments and progressive regulatory policies. For instance, the GOI has set digital payments target to the tune of INR 4,000 crores (~USD 560 million) in FY 2019-20. In the power sector, the promotion of digital payments has been adopted as one of the key resolutions across all states. Digital payments are witnessing steady growth and acceptance amongst customers. This is evident from month-on-month growth in 2019 against 2018 as demonstrated in Figure 14. However, despite this growth, the total number of consumers making e-payments is not substantial. Further, limited uptake of digital payment options has also substantially affected the utility's collection during the lockdown imposed by the government to contain spread of COVID-19. In some states, the reduction in revenue collection was as high as 80% in April, 2020[56].

Figure 14: Percentage of customers making e-payments out of the total consumers in urban IT enabled towns covered under IPDS/R-APDRP



[55]Mahttps://www.bajajfinserv.in/rbl-bank-platinum-plus-fyf-supercard, last accessed on 21st January 2020
[56]https://economictimes.indiatimes.com/industry/energy/power/blackout-threat-looms-as-discom-collections-peter-out/articleshow/75523491.cms?from=mdr, last accessed on 05th January 2020

6.1 Existing processes

Utilities across India use a range of payment channels and modes for bill payments to enhance customer satisfaction. For instance, customers can pay through online channels such as website, mobile app, etc. and offline bill payment channels such as local office, payment service center, collection camps, etc. Similarly, they can opt for different payment modes. The key channels and modes for payments include:

Payment channels

Apart from the traditional channels, DISCOMs are providing novel and multiple payment channels to reach all potential customers and offer flexibility. For instance, ATM machines, Point of Sale, third-party service providers, etc. (Figure 15 and Figure 16). Few utilities such as MSEDCL and TPDDL are promoting digital payments through various measures such as cash incentives, waiving convenience fee, consumer-friendly online payments and raising awareness through various media.

Figure 15: Online payment channels

Online Channels

- Internet (through DISCOM website/mobile app)
  - Scanning a QR code on the bill using mobile app (such as MSEDCL, Maharashtra)
- Point of Sale (POS) and mobile POS (mPOS) (such as Gujarat)
- Third party service providers (i.e. Paytm, PhonePe, etc.) (such as BSES, Delhi, Odisha DISCOM etc.)
- Mobile banking and Mobile wallets (such as TPDDL, Delhi)
- ATM machines (such as TPDDL, Delhi)
- Payments bank/Bharat Bill payments scheme (such as Andhra Pradesh, Uttrakhand)

Figure 16: Offline payment channels

Offline Channels

- Local office of the DISCOM or authorized payment centers
- A 24-hour bill payment service in some urban areas (Arunachal Pradesh, Jharkhand, etc.)
- Collection camps to improve collection from rural areas (Bihar, Jharkhand, etc.)
- On-spot collection from unpaid customers (such as Karnataka)
- Post office (such as Tamil Nadu)
- Third party agencies (such as Uttar Pradesh)
- Drop boxes at various locations (such as TPDDL, Delhi)

Payment modes

Electric utilities offer various payment modes for payment of electricity bills. These include payment through cash, cheque, demand draft, credit card, debit card, net banking, account transfer, e-wallet, Unified Payment Interface (UPI), Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT)/Real Time Gross Settlement (RTGS) and Aadhaar-based payments.

6.2 Stakeholder expectations

The majority of customers in India pay their electricity bill post-consumption. However, a large number of utilities are not able to recover the amount billed leading to low collection efficiencies. The collection efficiency at the national level[57] for the year 2018-19 was 97%[58]. Few utilities[59] have reported collection efficiency as low as ~82% for the same year. Some of these utilities continue to incur financial losses.

The growing internet and smartphone penetration and entry of third-party players such as UPI, RuPay, Bharat Interface for Money (BHIM), Paytm and PhonePe has provided the necessary thrust to digital payments. While this has increased the ease of payment to the customer, there are few concerns in the process such as limited options for financing, customer's disposition towards cash-based payments, etc. The key expectations of the customers include:

Figure 17: Bill payment illustration

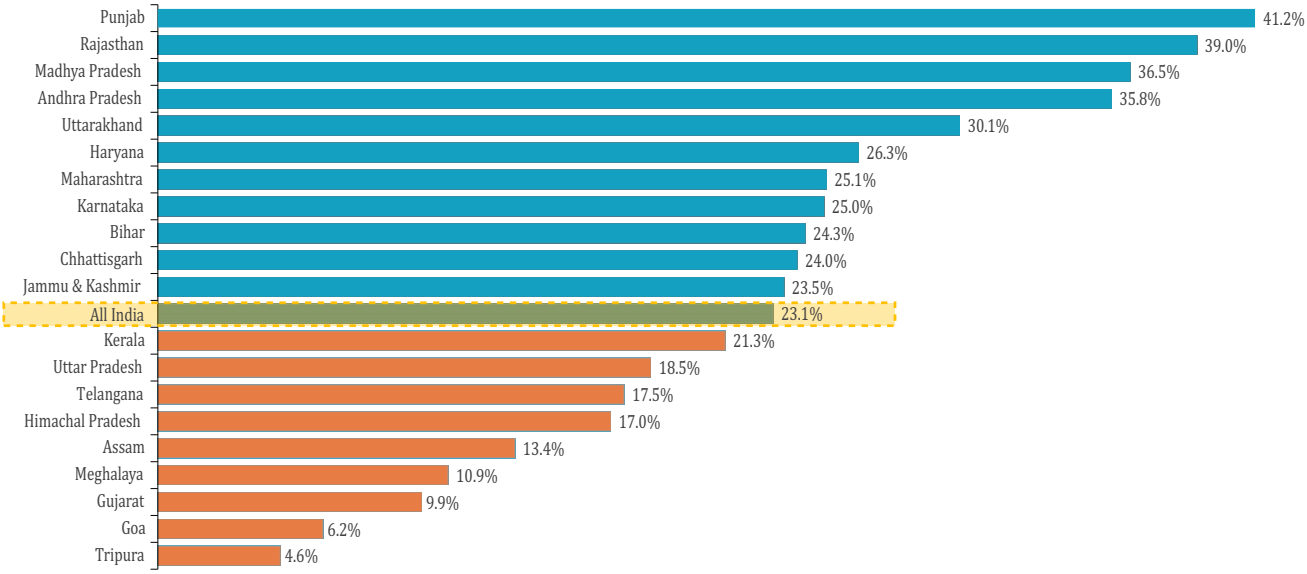
a. Accessibility of offline payment facilities

One of the key areas of concern among customers is the accessibility of offline payment facilities[60] which is often limited to working days. In some remote areas (e.g. hilly terrain, remote villages) customers need to travel long distances for payment of electricity bills. Further, most of these payment collection centers were closed due to the lockdown imposed by the government to contain transmission of COVID-19.

b. Digital payment service charges

Another key area of concern is processing charges for digital payment. For example, in Tamil Nadu these charges may range from INR 5-10/transaction (USD 0.06-USD 0.12), in Kerala it ranges from 0.78-0.84% of the transaction value[61]. Also, certain payment gateways and issuer banks levy processing fees for payments above a certain amount such as INR 5,000[62] (~USD 66). These charges often restrict users to opt for digital modes of payment. At the all-India level, e-payment constitutes nearly 23% of total bill payments (July 2019). Consequently, there exists significant potential for increasing digital payments. State-wise progress for July 2019[63] is highlighted in Figure 18.

Figure 18: Percentage of customers making e-payments out of the total consumers in urban IT enabled towns covered under IPDS/R-APDRP for July 2019[64]



[57] UDAY states and UTs
[58] UDAY portal
[59] Jammu and Kashmir
[60] These facilities include payment centers, utility offices, third party agencies, etc.
[61] https://digitalindia.gov.in/writereaddata/files/4.Digital_Payments.pdf, last accessed on 3rd March 2020
[62] https://www.tatapower-ddl.com/billpay/paybillonline.aspx, last accessed on 15th March 2020
[63] https://urjaindia.co.in/, last accessed on 10th April 2020
[64] Source: https://urjaindia.co.in/, last accessed on 9th November, 2019

c. **Financing options**
Customers often receive high bills in select months as compared to other months due to seasonality in consumption. In electricity sector, there are very limited financing mechanisms (most of which are offered by third party service providers).

6.3.Key interventions to enhance customer satisfaction

Based on the review of the current processes and stakeholder consultations, a set of interventions have been identified to enhance customer experience. These include:

1. **Multiple financing options for bill payment**
As per the prevailing norms, customers must pay their full electricity bill before the due date to avoid disconnection. They do not have any options for part payment or financing of electricity bills. Whereas in other sectors, such as banking (credit cards), customers have an option to pay a minimum amount due (which is 10-20% of the total bill) to avoid disconnection of services. The remaining amount is generally financed by the service providers and is added to the next billing cycle. Similarly, electricity utilities may also provide financing options to customers, in collaboration with financing institutions or banks. Customers may be required to pay the minimum due to avoid disconnection and the remaining amount can be financed at appropriate interest rates.

Credit Card exclusively for bill payment
TPDDL in collaboration with the HDFC Bank offers a utility card exclusively for bill payments. This facility is available to consumers in certain categories, wherein the card is issued without any joining or annual fee and an interest-free credit period up to 40 days is provided for bill payment[65].

Financing options on Air Conditioners
Bajaj Finance Ltd. recently introduced a unique proposition—#BijliOnEMI— wherein customers buying ACs on EMI can avail an Insta Credit loan in their 'wallet' which can be used to pay electricity bills on EMI. This facility is available only for those who have purchased their ACs on EMI from Bajaj Finance.[66]

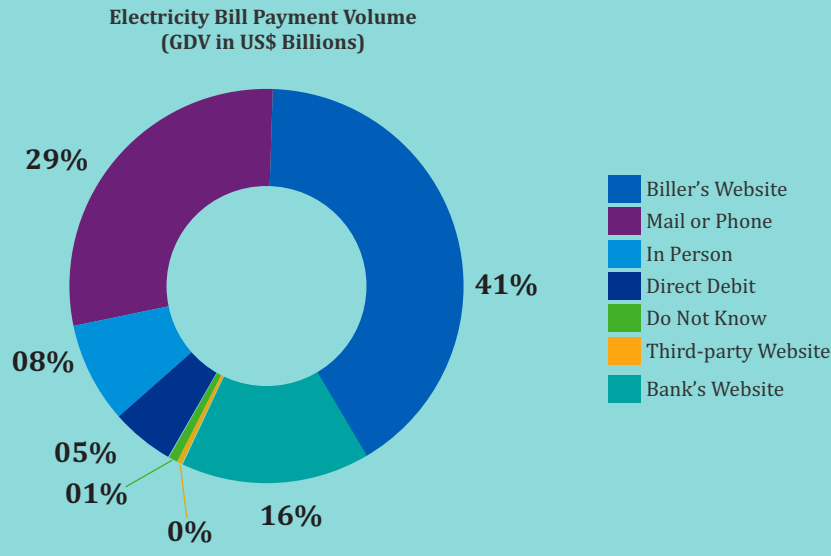
2. **Multiple avenues of payment**
Utilities across the globe provide multiple payment options to increase the ease and convenience for the consumer. This includes omnichannel presence across the digital modes of payment (through the mobile application, websites, net banking, third-party service providers, etc.), 24x7 payment facilities, payment through ATM machines, direct debit facilities, door-step payment collection (on customer's request), among others. While some of the utilities in India provide multiple avenues for bill payment, there is still considerable scope for improvement, for e.g., 24x7 facilities for bill payment, direct debit facility, payment through ATM machines, etc. Further, few electric utilities do not support digital payment through third-party service providers. For instance, payment through Paytm is possible only in 34 states/UTs. It is imperative to ensure that multiple avenues and choices are provided to the customers for bill payment. This should include digital payment channels such as e-wallets and payment banks, website, net banking, mobile applications, AePS, etc.). Utilities can also leverage the experience from banking sector where door-step financial services are being provided through postmen.

Door-step financial services provided by postman in rural India
The lockdown has unleashed a revolution in the banking sector. During the COVID-19 lockdown, between 24th March to 23rd April 2020, post offices across the country delivered INR 412 crore (USD 54.5. million), mostly in rural and unbanked areas through a network of 1.36 post offices. This was made possible through AePS of the India Post Payments Bank (IPPB). This system enabled customers to withdraw money at their door-step even if they had an account with any other bank. It requires authentication of transaction through biometrics if the bank account is Aadhar linked.

[65] https://www.tatapower-ddl.com/Editor_UploadedDocuments/Content/Terms%20and%20Conditions%20-%20HDFC%20Credit%20Card%20offer%20for%20HRB%20&%20KCG%20consumers.pdf, last accessed on 3rd March 2020
[66] https://timesofindia.indiatimes.com/india/postmen-turn-into-bankers-for-doorstep-financial-services/articleshow/75360334.cms, last accessed on 11th March 2020

Direct Debit Facility
Utilities across the globe—Duke Energy, Oklahoma Gas & Electric (OG&E), and Baltimore Gas and Electric (BGE) in the U.S.; British Gas, OVO Energy, and Spark Energy in the UK; and Horizon Power and Energex in Australia—provide direct debit options to customers for payment of electricity bills. In some cases, utilities also incentivize customers, e.g. Pulse Power (an electric utility in the U.S.) provides a USD 1 credit on every bill when customers sign up for Autopay from their bank account.

Payment channels preferences of U.S. citizens
A study conducted by the Aite Group in 2017[67] showed that a large number of bills in the U.S. were paid through digital modes of payment (91%) in 2016. This included payment through biller's website, bank's website, third-party portals, e-mails or phone banking, etc.



3. **Energy assistance programs**
In certain circumstances (i.e. pandemic, flood, earthquake, and other natural calamities), affected customers may not be able to pay electricity bills. In such a scenario, utilities may establish targeted assistance programs in collaboration with NGOs or corporate organizations (under their CSR initiatives) wherein financial assistance can be provided to affected customers.

Grants and Benefits to pay energy bills
Utilities in the UK have set up charitable trusts (such British Gas Energy Trust, npower Energy Fund, Scottish Power Hardship Fund, etc.) which offer grants to customers who are unable to pay their bills. Apart from trusts, certain targeted schemes by the government and energy suppliers such as winter fuel payments, cold weather payments, warm home discount scheme, etc. are offered to help low-income customers and pensioners pay during extreme weather conditions.

6.4 Nudge techniques

Among the suggested interventions above, multiple financing options and assistance programs for bill payment focus more towards realignment of institutional mechanisms. However, encouraging timely bill payment and promoting digital avenues of payment requires sensitization of consumers for effective implementation. Utilities may adopt the following nudge techniques to increase the share of digital payments:

[67] https://aitegroup.com/report/how-americans-pay-their-bills-sizing-bill-pay-channels-and-methods, last accessed on 10th June 2020

- **Disclosing outcomes**
  Reciprocity appeal[68] is highly effective among customers and also increases acceptance (Schumann et al, 2014).[69] In the UK, to increase tax compliance, people were sent variations of text messages on how their taxes make a difference to public services. People who owed most tax were most responsive to the messages asking them to pay. Compliance increased without increase in tax surveillance costs (UK Cabinet Office, Behavioral Insights Team, 2012). Similarly, to boost payment morale, utilities can inform customers that in return of timely bill payment they can avail improved quality of supply and service (reciprocity appeal). To accelerate adoption of digital payments, utilities may encourage customers by sending text messages on how digital payments will help in reducing transaction cost of the utilities, thereby reducing the overall cost of service.

- **Reminders during suitable period**
  Customer choices are influenced by the way these choices are framed through different wordings, settings, and situations, which is referred to as the framing effect. Leveraging this bias, utilities can send payment reminders to customers to pay for their electricity bills during suitable periods. For instance, a favorable time to get people to pay for electricity bill is at the time when their salary credits. At such times, people are less likely to consider bill payment as a loss compared with other times of the month.

- **Collaborate with trustworthy members of the society to increase collection**
  Moral principles govern a person's actions and reflect different beliefs in terms of human behavior. These morals are shaped by social and cultural norms and religious practices[70]. Leveraging this fact, utilities could collaborate with trusted and prominent members of society to spread awareness about importance of timely payments, recover pending electricity bills, and promote digital avenues of payment.

Religious leaders help DISCOM recover INR 8 crore (USD 1 million) dues
Paschimanchal Vidyut Vitran Nigam Limited (PVVNL), a DISCOM in U.P., India sought help from religious leaders to recover dues from defaulters, especially those in rural areas. Different religious entities were requested to 'inspire' defaulters to clear their pending dues. After the appeal by the religious leaders, ~18,000 customers registered under the DISCOM's easy installment scheme helping the DISCOM recover its pending dues of nearly INR 8 crore (USD 1 million).

- **Financial incentives for digital payments**
  Even a small financial incentive has a considerable effect on customer behavior (Thorton, 2008)[71]. Utilities may also provide financial incentives for customers to promote digital modes of payment or to encourage customers to pay well before the last date of payment. These incentives can be recovered from cost reduction owing on-time payments, reduced man-power cost and efficiency improvements.

Smart Rewards
The Life Insurance Corporation of India offers a rebate of 2% on select insurance schemes to accelerate online payments.

- **Enabling social comparison**
  People tend to pay attention to others' conducts and search for social proof. Periodic reminders with customized messages like "90% of customers in your area pay electricity bills through online modes of payment" may encourage customers to opt for digital modes of payment. Utilities may consider sending such customized messages to a targeted group of customers.

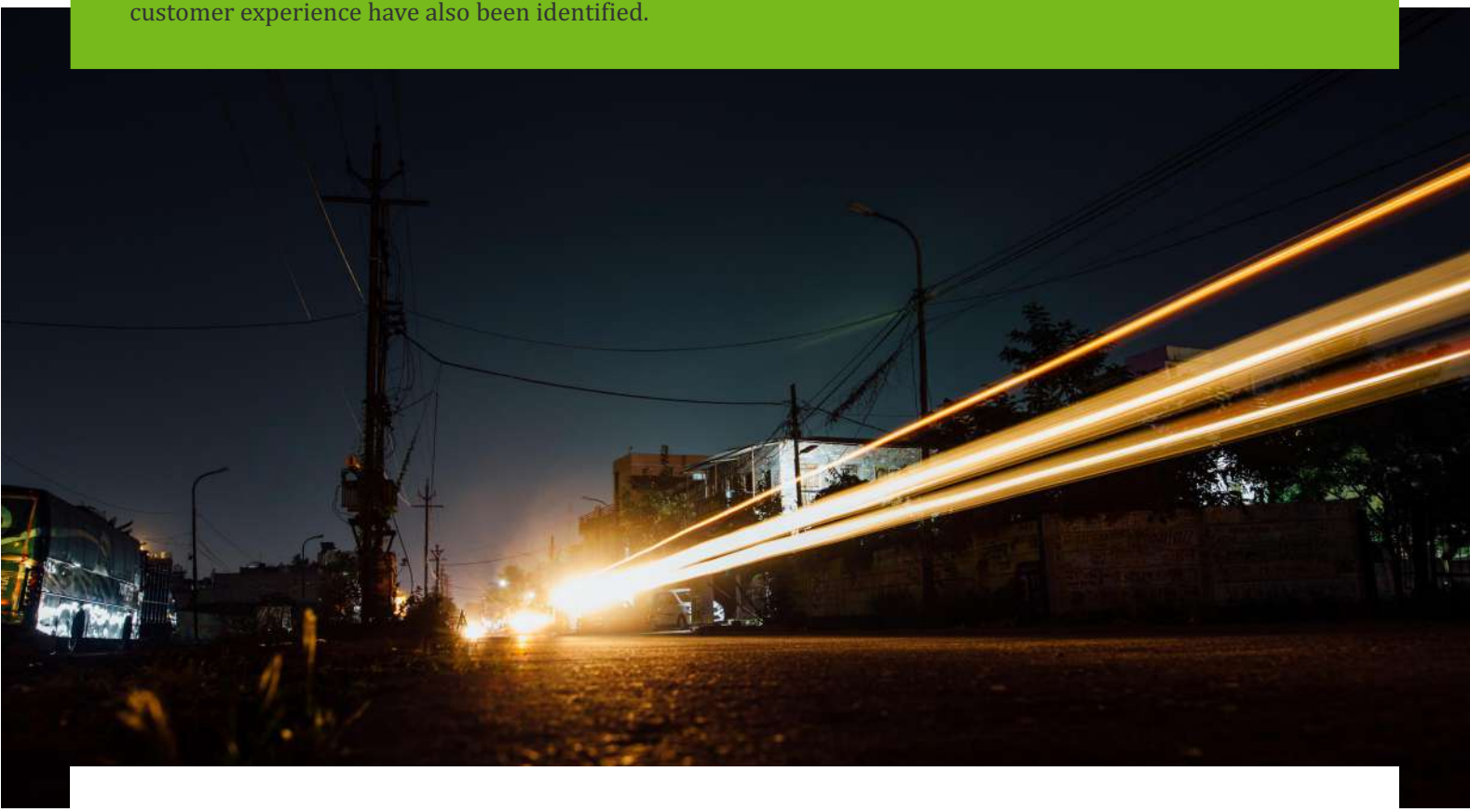
[68]A strategy for social exchange e.g. a website highlights its free service provision to elicit users' need to reciprocate by providing personal data for targeting purposes that help the provider finance its free offer.
[69]Schumann et al. (2014), Targeted Online Advertising: Using Reciprocity Appeals to Increase Acceptance Among Users of Free Web Services
[70]Policy for Homo Sapiens, Not Homo Economicus; Leveraging the Behavioural Economics of "Nudge", Chapter-2, Economic Survey of India, 2018-19, Volume 1
[71]Thorton (2008), The Demand for, and Impact of, Learning HIV Status, The American Economic Review

CHAPTER 7

QUALITY AND RELIABILITY

Abstract

Quality of supply and services significantly impact the customer's perception and satisfaction. With increasing digitization and customer-focused business practices in other sectors, customer expectations from electric utilities have also increased. This section provides a snapshot of existing standards related to quality and reliability of supply and service, stakeholder's expectation and interventions required to enhance customer experience. This includes interventions to minimize impact of planned outages, proactive approach to inform customers about planned/un-planned outages and communicating compensation information. Further, nudge techniques (like sharing information related to comparison and compensation, frequent power restoration messages, prompts to the customer on the waitlist, etc.) which can be adopted to enhance customer experience have also been identified.



Quality of supply and services significantly impact the customer's perception and satisfaction. While quality and reliability of supply relates to the continuity of supply, voltage and frequency variations, harmonics distortion and power factor variations; quality of service relates to overall customer experience. With increasing digitization and customer-focused business practices in other sectors, customer expectations from electric utilities have also increased. For instance, e-commerce companies in India are leading the way in adoption of customer-centric practices to drive online sales while ensuring high quality of customer service. A company dealing in sale/rent of used customer goods online, offers a "No Questions Asked On-the-Spot Return" policy at the time of delivery across all of its products[72]. In case the delivered product does not match the customer's expectation, the company will take the product back at no extra charge and refund the full amount in the stipulated time. Similarly, a major company in food and beverages sector has created a viable market for home delivery of food through its "30 minutes or Free" guarantee[73]. This promise of timely food delivery has been such a success that many other companies have adopted the same policy to build their customer base.

Customers are now increasingly becoming sensitive to the quality of supply and services. Even a small interruption in supply or voltage fluctuation is not acceptable and 24x7 supply is becoming a norm in most of the states.

[72] https://www.gozefo.com/, last accessed on 12th November 2019
[73] https://www.dominos.co.in/hot-pizza-30-minutes-delivery-guarantee-at-dominos-get-pizza-hot, last accessed on 2nd December 2019

A pioneer in faceless banking – First Direct bank, UK
First Direct bank was launched as the UK's first telephone bank in 1989 and over the past 30 years, it has transformed itself to one of the leading banks of UK by launching a whole gamut of customer services. It is the first faceless bank of UK, with no physical branches and remains open 24 hours a day. The bank offers services through online channels (website, messages, etc.) and phone calls.

Further, the current account service offered by First Direct bank has leading features which includes a welcome credit of £100 (USD 125) for new accounts and parting gift of £100 (USD 125), should a customer decide to close their account. The customer churn rate of the bank is one of the lowest in the industry. This is due to a host of features offered by the bank including (i) seamless switching process from another bank to First Direct bank where the transition steps of closing the old account are handled by First Direct bank itself; (ii) customer convenience to manage the account remotely; (iii) 24x7 call center services; and (iv) additional services for e.g. with minimal charges of ~£15 (~USD 20) per month, customers can avail benefits of worldwide travel insurance, motor breakdown assistance, mobile phone insurance, and many other leisure discounts and offers.

Revolutionizing the way people buy a car – Tesla
Founded in 2003, Tesla produced its first electric sports car in 2008. In 2012, it launched its electric luxury sedan—the Model S. This became the world's best-selling plug-in electric car in 2015 and 2016. Tesla's global sales hit 150,000 units in late 2016.

The differentiating factor for Tesla is its innovative sales process—an online experience rather than the traditional dealership model. This model finds its roots in the research study conducted on trends in car buying patterns of consumers in the U.S. The study found that nearly 25% of the customers who visited car dealers were not happy with the experience and almost 33% would consider buying a car online.
For purchasing a Tesla, the customer simply needs to visit the company website to make an order and customize the car. When the car is ready, it is delivered to the customer's address and any kind of software updates are sent wirelessly. This wireless connection of the car with the centralized office helps Tesla to identify several technical problems before they lead to much bigger problems and tarnish the brand image.
Tesla has also set up a few showrooms. However, the aim of these showrooms is to educate customers rather than drive sales. The showrooms offer a host of features for a great customer experience such as coffee bars, internet stations with Wi-Fi access, free international calls, and an open service bay technician can be seen working on Tesla cars.

7.1 Existing processes

At present, few parameters related to power quality and reliability are specified under the regulations notified by the Central Electricity Authority (CEA) and SERCs—Grid Code and Supply/Grid Code and SOP regulations respectively. These regulations prescribe limits for various quality and reliability related parameters i.e., time duration within which utilities need to inform customers about scheduled outages, amount of compensation to be paid by utilities for un-scheduled outages, limits for voltage variations, limits for indices like System Average Interruption Duration Index (SAIDI) and System Average Interruption Frequency Index (SAIFI) among others.

The regulations specified by SERCs for power quality and reliability are not congruous across different states. There are several variations in similar power quality parameters specified by different SERCs. Also, the penalties prescribed in case of non-compliance are low and there is general lack of information (in the public domain) pertaining to the amount of compensation actually paid by the utilities to customers on account of such deficient services. Table 3 lists the comparative assessment of specific limits (of selected quality and reliability parameters) prescribed by SERCs of six states.

Table 3: Limits[74] of key parameters related to quality and reliability of supply

Parameters	Limit prescribed in the regulations					
	Gujarat	Haryana	Jharkhand	M.P.	Andhra Pradesh	U.P.
LT Voltage Variation	± 6%	+10% / -15%	± 6%	± 6%	± 6%	± 6%
HT Voltage Variation	+6% / -9%	NA	+6% / -9%	+6% / -9%	+6% / -9%	+6% / -9%
EHT Voltage Variation	+10% / -12.5%	NA	+10% / -12.5%	+10% / -10%; +5% / -10% (for 400kV line)	+10% / -12.5%	+10% / -12.5%
Reliability Indices	SAIFI, SAIDI and MAIFI	SAIFI and SAIDI	SAIFI, SAIDI and MAIFI	SAIFI, SAIDI and MAIFI	SAIFI, SAIDI and MAIFI	SAIFI, SAIDI and MAIFI
Information about scheduled outage	Notify by a minimum of 48 hours in advance	Notify by a minimum of 24 hours in advance	Notify by a minimum of 24 hours in advance	Provide advance notice	Provide advance notice	Notify by a minimum of 24 hours in advance
Compensation for power outage	INR 25 (USD 0.33) for LT and INR 50 (USD 0.7) for HT consumers for each six hours (or part thereof) of delay in restoration of supply subject to a maximum of INR 500 (USD 6.6) (INR 1000 (USD 13.2) for HT) for LT connection	INR 100 (USD 1.3) per day or part thereof in case of delay to each affected consumer	INR 25 (USD 0.33) to each affected consumer for each case of default	INR 100 (USD 1.3) for each day (or part thereof) of delay	INR 50 to INR100 (USD 0.7 - USD 1.3) for each case of default	INR 50 to INR 150 (USD 0.7 - USD 2) per day

In absence of suitable metering infrastructure, electric utilities are currently not able to capture the quality and reliability of supply related information at the customer's end.

[74]Report on Power Quality of Electricity Supply to the Consumers, FOR; SoP documents released by the regulatory commissions of the state of Haryana, Jharkhand and U.P.

Table 4: Time limits[75] of key parameters related to quality of service

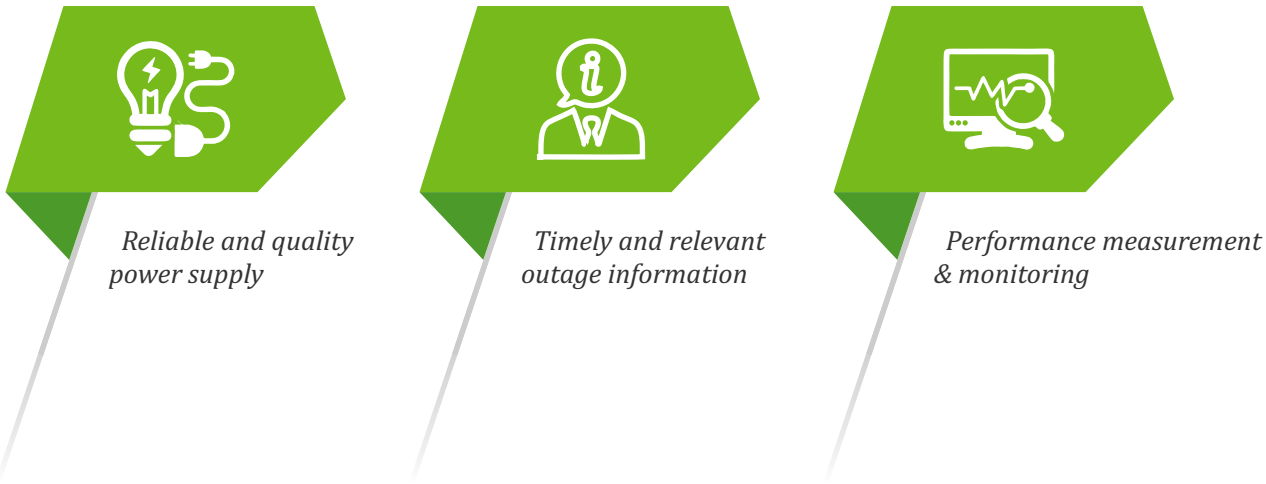
Nature of Service	Category	Time limit for Restoration of Supply					
		Gujarat	Haryana	Jharkhand	M.P.	Andhra Pradesh	U.P.
Normal Fuse Off	Urban	Within 4 hours of receiving the complaint	Within 4 hours	Within 8 hours of receiving the complaint	Within 4 hours (5 hours on non- working days)	Within 4 working hours	Within 4 hours of receiving the complaint
	Rural	Within 24 hours of receiving the complaint	Within 8 hours	Within 12 hours of receiving the complaint	Within 24 hours	Within 12 working hours	Within 6 hours of receiving the complaint
Line Breakdowns	Urban	Within 8 hours of receiving the complaint	Within 8 hours (12 hours if pole gets broken)	Within 12 hours of occurrence of breakdown	Within 12 hours	Within 6 hours (12 hours in case of underground cable)	Within 3 hours of occurrence of breakdown (12 hours in case of underground cable)
	Rural	Within 24 hours of receiving the complaint	Within 16 hours (24 hours if pole gets broken)	Within 24 hours of occurrence of breakdown	Within 3 days	Within 24 hours (48 hours in case of underground cable)	Within 24 hours of occurrence of breakdown (48 hours in case of underground cable)
Distribution Transformer Failure	Urban	Within 1 day of receiving the complaint	Within 24 hours	Within 36 hours of receiving the complaint	Within 24 hours	Within 24 hours	Within 8 hours of receiving the complaint
	Rural	Within 3 days of receiving the complaint	Within 48 hours	Within 48 hours of receiving the complaint	Within 72 hours	Within 48 hours	Within 48 hours of receiving the complaint
Period of Scheduled outages	Urban	Not to exceed 10 hours on any day	Not to exceed 8 hours on any day	Not to exceed 12 hours in a day	Not to exceed 12 hours	Not to exceed 12 hours	Not to exceed more than 12 hours
	Rural						Not to exceed 24 hours in a month

[75] SOP Regulations notified by the SERCs of the state of Gujarat, Haryana, Jharkhand, M.P., Andhra Pradesh and U.P.

7.2 Stakeholder expectations

Utilities and customers are both affected by the quality and reliability issues of power supply. While utilities suffer from additional expenses due to frequent maintenance, repair of damaged equipment, loss of revenue, etc., customers suffer from increased repair cost of consumer electronics, unscheduled power cuts etc. leading to a high degree of inconvenience. Some of the key expectations of utilities and customers are highlighted in Figure 19.

Figure 19: Key expectations of utilities and customers



a. Reliable and constant power supply

Unreliable power supply often leads to economic losses for customers and impacts the quality of life. For industrial customers, the economic losses are due to plant shutdown, lost work in process, additional labor cost, etc. For residential customers it influences the daily routine and results in increased adoption of alternate energy supply sources (i.e. batteries, diesel generators, etc.). Further, in many instances, though customers are eligible to receive compensation for unreliable power supply (as per the provisions of regulations notified by various SERCs), it is not provided by the utilities or customers are not aware about the same.

Compensation and penalties in the Indian Aviation industry

The Directorate General of Civil Aviation of India has revised compensation/penalty guidelines for air carriers during instances of flight delays and cancellations, oversold flights, and denied boarding cases to the end-customer.

- In a case where an airline carrier cancels flights without informing passengers, they must pay a compensation of up to INR 10,000 (~ USD 160) or disburse the amount to the tune of a one-way ticket[76], whichever is less, in addition to a refund of the ticket price.
- If a passenger is denied boarding against his or her will, the airline carrier must arrange an alternate flight for the passenger within one hour of the scheduled departure, failing which it may have to refund the ticket and pay compensation of up to 400% of the fare to a maximum of INR 20,000 (~USD 300).

b. Timely and relevant outage information

Timely communication in the form of notices through e-mails, SMS, social media, etc. is important to ensure that customers are least impacted. These communications may include information such as the cause of the outage, estimated time of supply restoration, the progress of work, etc.

[76]Including basic fare plus fuel charge

Role of communication during outages
Ameren, an Illinois-based power utility (U.S.), adopted a communication strategy[77] to improve its customer outage experience. In 2016, following a series of severe winter storms and widespread outages, the utility received significant negative customer feedback regarding inconsistent outage notifications and changing estimated restoration times. Post implementation, almost 94% of Ameren's customers stated that they found the communication strategy "valuable" and 68% reported that receiving the notification increased their satisfaction with the utility.

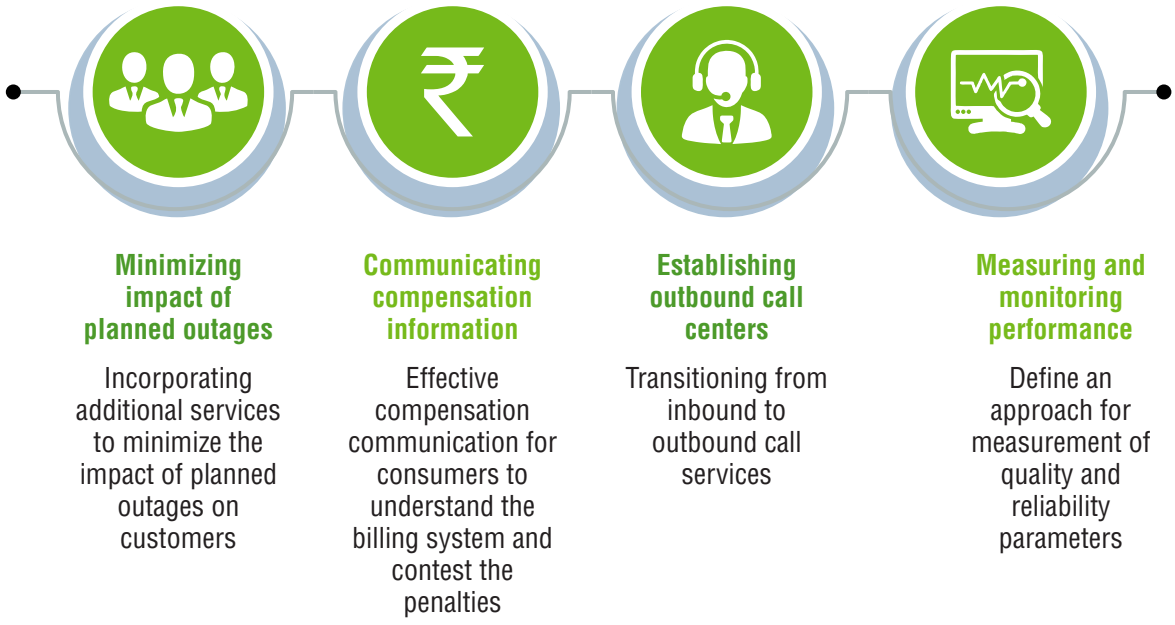
c. Performance measurement and monitoring

As mentioned in the previous sections of this report, the SOP regulations across states specifies limits for quality and reliability related parameters. It is imperative to ensure that these are adequately measured and monitored, especially at the customer end.

7.3 Key interventions to enhance customer satisfaction

Based on the review of the current processes and stakeholder consultations, a set of interventions (Figure 20) have been identified to enhance customer experience. These include:

Figure 20: Key recommendations



1. Minimize the impact of planned outages

As per existing regulations, utilities need to inform customers about planned outages in advance (the time duration varies from state to state). Additionally, utilities might endeavor to minimize the impact of planned outages on customers by: (i) avoiding outages during weekends and holidays and planning it during off-peak time/season; (ii) scheduling maintenance activities in industrial areas during weekly shutdown; (iii) informing customers through personalized messages (through SMS, WhatsApp, phone calls, etc.) about planned outages; (iv) planning operational maintenance activities in consultation with the customers; (v) maintaining a dedicated page for customers to access real-time information about outages and estimated restoration time along with contact information for customer service staff; and (vi) conducting a survey regarding the utility responsiveness to the outage.

[77] https://www.esource.com/system/files/consultingcasestudy-amerenoutages-web.pdf, last accessed on 23rd March 2020

Rethinking power outages from customer's perspective

Pacific Gas and Electric Company, a U.S.-based utility, is rethinking the way it handles power outages. As an experiment, the utility is issuing field crews with equipment such as wilderness blankets, water bottles, flashlights, charging stations, and even a Wi-Fi hotspot to help customers with no power. The idea was inspired by primary research and a look outside the industry to see how exemplary companies go to great lengths to recover from disappointing customer experiences.

2. Proactive approach

Utilities may transition from inbound to outbound services i.e. instead of customers approaching the utilities, utilities may reach out to customers in the events of planned/unplanned outages. In this regard, utilities in several Indian states (such as Tamil Nadu, Andhra Pradesh, Karnataka, Delhi, etc.) have established inbound call centers[78] where customer complaints are registered and forwarded to the field personnel for timely action and rectification. The services at these call centers may be extended to reach out to the customers proactively. In the case of unplanned outages (including during floods, earthquake, landslides, and other natural calamities), utilities may properly manage communications sent to customers to minimize the impact. For empathizing with the customers, the communications might include statements such as "We regret the inconvenience caused…", "We apologize….", etc. In addition, utilities may inform customers about the compensation that will be paid to them due to the power outage. This compensation will be applicable in case the power supply restoration time exceeds the prescribed duration.

Proactive outage communication

DTE Energy, located in Michigan, U.S., began handling power outages in a proactive way. During forecasts of severe weather, including high winds, the company sent e-mails to customers to provide a weather advisory and provide tips for preparing for possible outages. It also provided a real time update during outages.

IT-enabled Outage Management System

Till 2017, MSEDCL had a manual Outage Management System (OMS) on which data was updated manually on a post facto basis. Customers did not receive advance outage notifications and only 10% of the outages were reported leading to faulty computation of indices. The DISCOM shifted to automated feeding of planned outages in advance via the Employee Mobile APP. The outage information is now available on website and SMS notifications. The Employee Mitra App's share of outage data capture grew from 44% in FY 2017 to 96% in FY 2019-20. To improve O&M costs, the DISCOM is planning to apply advance analytics on past data.

[78] https://powermin.nic.in/en/content/electricity-call-center, last accessed on 8th March 2020

3. Communicate compensation information

Currently in India, the regulator provides compensation to the customers in case of unscheduled outages due to range of activities including normal fuse off, overhead line/cable breakdowns, underground cable breakdown, DT failures, among others. Even though outage handling forms a major component of customer satisfaction, utilities provide compensation details in a limited fashion. Compensation to be paid to the customer in lieu of unplanned outages must be transparently communicated. They can be communicated to consumers through e-mail/SMS/App notification, through printed media, brochures in the utility's office, or through electricity bills amongst others. This information is important for consumers to be able to better understand the utility billing system as well as to be able to contest the penalties.

Compensation trends across the globe

Many economies have established a robust independent regulatory framework with the right oversight and incentives to improve the reliability of supply. Regulators in some economies adopt a strategy to reduce outages by setting a limit on the frequency and duration of outages and then requiring utilities to pay a fine or a compensation to customers if they exceed that limit.

- In Spain, utilities are obliged to compensate their clients if unplanned outages last over three minutes. Alternatively, regulators may impose a fine on utilities.
- In Georgia, the regulator imposes a penalty on the utility if the frequency and duration of outages are worse in the current year than in the previous one, and/or if the utility fails to warn customers on upcoming planned outages less than two days in advance.
- UK customers get £70 (~USD 90) in compensation if the power outage duration was 24 hours followed by £70 (~USD 90) for each following 12 hours, up to a maximum of £700 (USD 880) - which would be a maximum of 10 days. The regulator provides an extra £75 (~USD 95) compensation if the power goes off more than four times in one year, for more than three hours.
- Vector group (New Zealand's largest electricity and gas distributor) endeavors to pay USD 200 in case of network failure and the power doesn't restore within the timeframes outlined in the service standards. To make a claim, customers need to call on the national helpline within six months of the eligible power outage.

4. Measure and monitor performance

SOP regulations across states prescribe limits for various quality and reliability related parameters. It is imperative to measure and report the utility's performance on these parameters on a periodic basis to ensure compliance. The SERCs may revisit these regulations and define an approach for measurement (on the basis of physical infrastructure at the utility), reporting formats and reporting periods to ensure compliance.

7.4 Nudge techniques

Among the suggested interventions above, minimizing the impact of planned outages requires sensitization of consumers for effective implementation. Utilities may adopt the following nudge techniques to build customer confidence while communicating about outages:

- **Performance comparison and compensation information**
  Disclosure plays an important role in ensuring that consumers are aware of product performance and their opportunities to act at certain points in the product lifecycle (FSA, 2006). Utilities may provide outage information in advance through SMS/e-mail/ web notifications. Customer communications could be supplemented with information such as (i) comparison of power cut duration in the past week to the average duration of power cuts in the past month; (ii) total compensation provided to the customer as bill credits during last month in lieu of delay in power supply restoration; (iii) accuracy (last month average) of power supply restoration time estimations, etc. By providing such information, utilities can create a positive outlook of its services and pacify annoyed customers to some extent.

- **Frequent power restoration messages**
  'Hot' and 'cold' states refer to contrasting conditions that underpin decision making. In a 'hot state' an individual will decide based on an emotional, visceral, impulse-driven reaction (Loewenstein, 2005). The 'cold state' is an exact opposite of 'hot state', wherein people tend to relax and do not appreciate their own feeling during 'hot state'. The majority of customers facing power outage are likely to be in a 'hot state'. Therefore, certain triggers, for example power restoration messages can help to overcome this state. In addition to performance and compensation information, utility can increase the frequency of messages related to information about power restoration. This strategy will aid in instilling the belief among customers that the utility is undertaking all possible steps to ensure minimum inconvenience to its customers.

- **Automate follow-up with customers**
  The Office of Gas and Electricity Markets (Ofgem), a government regulator for the electricity in Great Britain, conducts an annual customer survey to track quality and reliability of the existing suppliers. Currently, utilities in India do not follow-up with the customer regarding power quality. To provide sustained support to customers during outages, utilities could send automated messages by SMS/e-mail/App after resolution of the complaint for their feedback on the service and the probable development areas. These messages could be automated and would only require utility officials to actively follow-up with the customers if they report any subsequent incidence of outages.

- **Prompts to customers on the waitlist**
  'Goal gradient hypothesis' mentions that motivation of people increases as they approach their desired goal (Hull, 1932), while 'endowed progress effect' refers to the greater persistence on a task when people perceive progress towards it (Nunes & Drèze, 2006). Customers in India approach the utilities to register power outages. The waiting time to register power outages complaints can be long due to lack of capacity. This might increase customer exasperation and customers may drop-out while waiting to submit complaints. Goal gradient hypothesis and endowed progress effect could be used to motivate customers to stay on waitlist, by conveying how close they are to their goal and how much progress they have already made by joining and progressing in the queue (e.g., "Congratulations on moving in the queue. Your complaint will be attended within x minutes.").

CHAPTER 8

COMPLAINT

RESOLUTION

Abstract

Customer complaint redressal system is an important function of electric utilities which helps in improving performance and building trust. The basic purpose of complaint redressal system is to provide a platform wherein customers can register complaints, voice their opinion and provide feedback. This section provides a brief snapshot of complaint redressal mechanisms, key issues faced and expectations of utilities and customers and interventions to ensure better complaint redressal and enhance customer satisfaction. This includes multiple avenues for complaint registration and simplification of internal grievance redressal process. Nudge techniques (like sending periodic messages highlighting number of customers using digital medium for grievance redressal and managing customer communication during complaint registration) which can be used to enhance uptake of redressal services have also been elaborated.

Customer complaint redressal system is an important function of electric utilities which helps in improving performance and building trust. The basic purpose of complaint redressal system is to provide a platform wherein customers can register complaints, voice their opinion and provide feedback. It also serves as a means to measure the efficiency and efficacy of the services provided by the utilities. An effective complaint redressal system provides for two-way communication (customer to utility and utility to customer) which can be used by utilities for improving service quality. Figure 21 provides an overview of key benefits of an effective customer complaint redressal mechanism for electric utilities.

Figure 21: Benefits of complaint redressal system

Key benefits of an effective customer complaint redressal mechanism for DISCOMs

Direct feedback from customers on services provided by the utilities	Identification of recurring problems faced by the customers	Building accountability and ensuring transparency among customers	Building confidence among customers & encouraging public participation

Additionally, with increased focus on customer services and personalized experience provided by many organizations in other sectors, customer expectations from electric utilities have also increased. One such example is services provided by the 'Bonobos' – a leading online men clothing provider in the U.S.

Customer service team offers legal services to aggrieved customers

Bonobos is known for its liberal customer service strategy. The company has a dedicated customer service team (also called 'Ninjas') who is provided with a free hand to take care of the customer. This means that if the customer care representative thinks that the customer needs to be compensated, they can take the decision immediately. They can even offer legal services to customers if the aggrieved customer desires to take a legal course of action.

With Bonobos' desire to provide great customer service, they closed a USD 16.4 million strategic minority investment round in 2012 followed by a USD 30 million round in 2013. In June 2017, Walmart purchased the brand for USD 310 million in cash.

8.1 Existing processes

The Electricity Act, 2003 recognized the need for a grievance redressal system to ensure service quality. It specified establishment of a three-tier customer grievance redressal mechanism: (i) electric utilities are mandated to set-up CGRFs at the local level; (ii) if unaddressed at this level, customers can reach out to ombudsman at SERCs, and (iii) if customers are not satisfied with the decision, they may also reach out to the Appellate Tribunal for Electricity (APTEL) at the national level. In addition, most electric utilities in India have set-up their internal complaint redressal mechanism which can be used by customers before reaching out to the CGRFs. (Figure 22)

Figure 22: Tiered grievances redressal system

Customer grievance redressal mechanism tiers

Appellate Tribunal for Electricity (APTEL)

Appeals against orders of the regulatory commission can be filed before the APTEL

Ombudsman

The electricity ombudsman is majorly appointed by the state regulatory commission. Only customers and not the DISCOMs can appeal to ombudsman against the decision of CGRF

Consumer Grievance Redressal Forums (CGRF)

A typical CGRF reviews complaint in case the customer is not satisfied with the solution provided by the internal cell

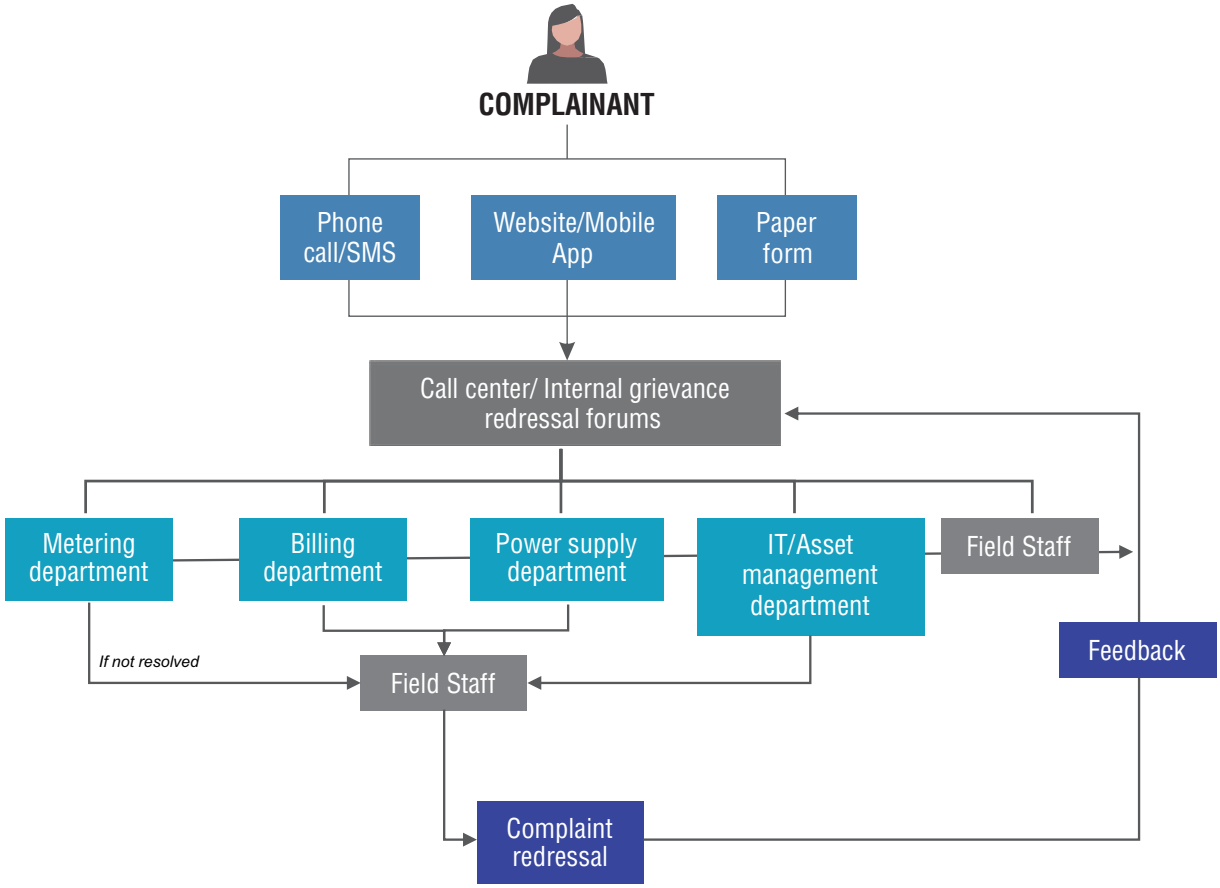
Internal grievance redressal cell

DISCOM has constituted internal cells as a first touchpoint for grievance redressal

The USAID SPARC Program team reviewed the complaint redressal system of select utilities to understand their existing processes. The broad approach of most utilities is highlighted in Figure 23.

- Customers can register complaints or provide feedback through various modes such as phone call, through utility website/mobile app or by submitting a written complaint.
- Utility's customer care center officials transfer the complaint to the concerned department (metering, billing, asset management, safety, etc.) for resolution. The concerned department transfers the complaint to the field staff, if needed.
- Depending on the type and severity of complaint, field staff is allocated to address the customer complaints.
- Once the complaint is resolved, the details are updated in the utility's system for complaint mangement. The customers are also notified of the complaint status.

Figure 23: Workflow of customer complaint redressal



Various initiatives have been taken up by the central government, SERCs, state governments and utilities to strengthen the grievance redressal system. Some of the initiatives include:

- **Dedicated number for electricity call centers:** The Ministry of Power, GOI has allotted a single telephone number '1912' to the Electricity Call Centers for handling power supply related complaints. The number is operational in many states including Andhra Pradesh, Karnataka, M.P., Rajasthan, U.P.,and Tamil Nadu. Few states have also made it a toll-free number such as U.P., M.P. and Tamil Nadu[79].

- **Customer interaction meetings:** For timely disposal of consumer complaints, Bengaluru Electricity Supply Company Limited (BESCOM) organizes monthly customer interaction meetings in all of its sub-divisions.

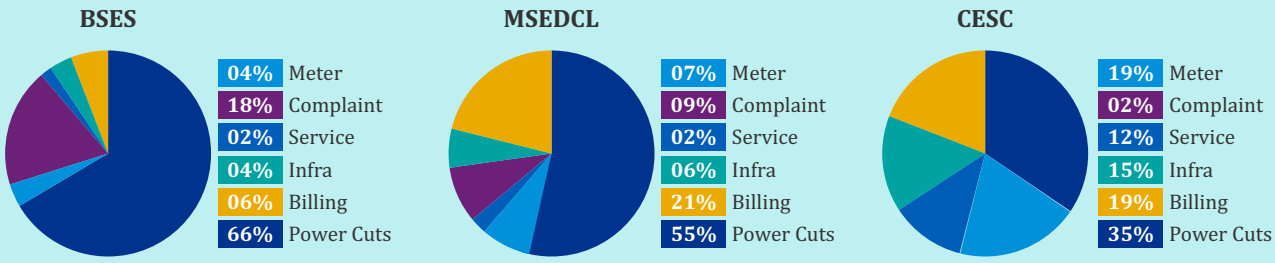
- **Involvement of local communities:** Feedback Energy Distribution Company Ltd. (FEDCO), Odisha is taking assistance from Women Self-Help Groups in grievance redressal activities under its incentive-led SEFALI (Society's Empowerment for Assuring Livelihood) program[80].

- **Consumer satisfaction survey:** DERC, Delhi conducted a survey across the distribution areas served by the three private distribution companies to get a first-hand assessment of consumer satisfaction levels against the services provided by the DISCOMs.

[79] http://pibarchive.nic.in/ndagov/Comprehensive-Materials/compr22.pdf, last accessed on 07th December 2019
[80] https://orissadiary.com/fedco-aims-widen-women-shg-network-puri-sefali-programme/, last accessed on 12th November 2019

Complaints registered by customers on Twitter

An analysis of customer complaints registered through Twitter was carried out on sample basis by the project team to understand the user perspective of five different electric utilities–BSES (Delhi), MSEDCL (Maharashtra), DHBVN (Haryana), BESCOM (Karnataka), and CESC Limited (West Bengal).



The issues were divided into several different groups. The tweets to the electric companies during a period of ten days were extracted and analyzed according to these groups. The analysis for three major utilities revealed that BSES had a majority of issues related to power cuts while MSEDCL was suffering from billing issues along with power cuts. CESC was suffering from power cuts, infrastructure and billing issues.

Further analysis was also conducted to ascertain the causes behind the major issues. These causes included certain transformer issues, heavy rainfall, and erratic bill delivery schedules, among others.

8.2 Stakeholder expectations

The customer grievance redressal mechanism in the power sector was established to increase accountability and transparency in the performance of utilities. Despite proper regulations in place, these mechanisms have not reached their potential in terms of effectiveness. The key expectations of customers are:

a. Convenience process

Many DISCOMs in India register complaints received through phone calls, SMSes or physical application. While some DISCOMs (like TPDDL, BSES, Torrent Power, DISCOMs in U.P. etc.) have also started accepting complaints through other communication channels (like WhatsApp messages, mobile application, etc.), it is imperative to provide flexibility to customers to register grievances through their own preferred mode of communication.

b. Transparency

Customers expect complete transparency in complaint resolution process with an option to track the status of the complaint through a convenient medium such as an online portal. However, most utilities lack the online facility for tracking complaint status. Thus, setting up of complaint tracking systems by utilities will increase transparency in the complaint resolution process.

c. Effective and efficient process

The existing internal grievance redressal mechanism of DISCOMs comprises of multiple steps, making the resolution of a grievance a monotonous experience for the customers. An effective and efficient complaint handling mechanism internally will reduce manpower cost for the utility and enhance the overall customer experience at these stages.

Setting new benchmarks of customer service in e-commerce
Amazon is constantly innovating customer service with new customer solutions, including no-questions-asked return policy, zero mailing charges for returned items, multi-lingual customer support system, call-back scheduling system, etc. These solutions enable customers to do online shopping without worrying about a traditionally complicated process of filing complaints for wrong/defective items.

8.3 Key suggested interventions to enhance customer satisfaction

Based on the review of the current processes and stakeholder consultations, a set of interventions have been identified to enhance customer experience. These include:

1. **Multiple communication channels for complaint registration**
Utilities can enhance customer satisfaction by facilitating multiple channels for registration of their grievances. To start with, utilities may consider implementing a centralized customer care call center equipped with modern facilities such as IVRS, CTI, and automatic call distributor implemented for optimum routing of consumer calls. Eventually, multiple options for complaint registration – e.g. through website, chatbot, social media, mobile application, etc. may also be provided to the customers. With increasing popularity and usage of social media platforms such as Facebook, Twitter, LinkedIn and WhatsApp, utilities may also incorporate social media as part of their broader customer engagement programs.

   Further, additional information may also be provided to the customer during complaint registration such as expected time of complaint resolution, applicable compensation (if any), etc. In addition, continuous update may also be provided to customers using online (website, app) and offline channels until the complaint is resolved. Post resolution, the utility may endeavor to receive feedback from customers. This information can be analyzed periodically to identify areas of improvement. Such initiatives will help DISCOMs to enhance transparency in complaint resolution process.

Dedicated WhatsApp channel to provide customer service
Endesa, a leading electricity provider in Spain, launched a customer service channel via WhatsApp in May 2016, becoming the first energy company to offer this service. This channel was launched in addition to the traditional channels such as hotline number, customer website, mobile app and social media. Customers could check their bills and receive advice and information about products through Endesa's WhatsApp service. In just two months of the rollout, the WhatsApp channel established 1,000 conversations, of which 50% were related to billing and contract issues.

2. **Simplification of internal grievance redressal process**
The internal complaint application process in the majority of DISCOMs has multiple steps and can lead to withdrawal of application in the middle of process by customers[81]. To address this concern, utilities may consider having a single step internal complaint handling process. Several DISCOMs in Karnataka and Haryana are already in the course of improving their grievance redressal process and consumer experience. A simplified system will be economical for utility and highly satisfactory for customers defining clear steps with conclusive timelines.

[81]Study on "Transforming Electricity Governance in India, Has India's Power Sector Regulation Enabled Consumers' Power?" conducted by the World Bank (2015)

8.4 Nudge techniques

Among the suggested interventions, multiple channels for complaint registration and simplification of grievance redressal process rely on digitalization of underlying processes to gain efficiency. Utilities may adopt the following nudge techniques for promoting digital avenues of complaint registration and managing customer communication:

- **Periodic messages highlighting number of customers using digital medium for grievance redressal**
  As discussed in the previous sections, the herd instinct bias refers to our tendency to replicate others' actions, even if this implies overriding own beliefs. In order to increase adoption of digital medium (i.e. website, mobile application, etc.) for grievance redressal, utilities may send periodic messages to customers highlighting number of customers using digital medium. This will help leverage the herd bias and encourage people to follow their own beliefs.

- **Social norm feedback**
  While responding to grievances, utilities could further leverage the fact that people are heavily influenced by social norms–following the way individuals perceive people around them to behave. In this regard, utility can attempt to reinforce particular behavior and provide a soothing experience to customers. When a customer reaches out to the utility, he/she may be informed that similar complaints are being received from many other customers and the utility is already making efforts to solve the issue at the earliest.

- **Manage customer communication during complaint registration**
  Representativeness bias refers to the notion of interpreting the likelihood of an event based on its similarity to other events, rather than relying on more objective criteria (Tversky & Kahneman, 1974). In case the customer registers a complaint using a helpline, they are likely to face representativeness bias. Customers may overestimate the likelihood of a long waiting time until their call is answered, or even presume that their call will not be handled professionally. To overcome the bias, utilities could insert a message while customers are waiting for their call to be answered - the message could include expected waiting time and what to expect once their call is answered.

CHAPTER 9

NEW AND EMERGING

SERVICES