The main objective of this chapter is to identify and study the various blocks and supporters in existing information system.
CHAPTER 8

The main objective of this chapter is to identify the blocks and supporters in the present set up.

8.1 Introduction

Now after identifying various critical activities that are performed by the distribution network and the various important sub systems to retrieve the strategic information the next step is to identify the blocks and supporters in the present set up.

8.2 Blocks and Supporters

The biggest block in the present set up is that there is no concrete structure for any type of information system. Also the acceptance from the employees is a concern. Especially the operational level is very much against the implementation of the information system. There is also tremendous pressure from the unions to nullify any move towards the implementation of the information systems. But on the hindsight, there are also some supporters in present set up. The prime most supporters in present setup is the proper hierarchical structure of PSPCL as discussed in Chapter1. The hierarchical step of PSPCL as already discussed in detail in Chapter1 is as follow:

- Zone.
- Circle.
- Division.
- Sub- Division.
Zone is headed by Chief Engineer (CE).
Circle is headed by Superintending Engineer (SE).
Division is headed by Senior Executive Engineer (XEN).
Sub-Division is headed by Assistant Executive Engineers and Sub-Divisional Officers (SDO).

The Director Distribution is at the top of hierarchy, then comes the CE’s who head the zones and then followed by SE as shown in the figure 8.1.

Figure 8.1 Physical Hierarchy

The Director (Distribution) is in constant with Chief Engineer of North (Jallandhar), Chief Engineer of Central (Ludhiana), Chief Engineer of South (Patiala), Chief Engineer Border (Amritsar), Chief Engineer West (Bathinda). The Chief Engineer of North (Jallandhar) has four Superintendent Engineers i.e. SE (Kapurthala), SE (Nawanshahar), SE (Jalandhar), SE (Hoshiarpur). These four Superintendent Engineers report directly to Chief Engineer. These Superintendent Engineers have in turn XEN’s and SDO’s under them. These SDO’s and XEN’s report to the Superintendent Engineers. Similarly Chief
Engineer Central (Ludhiana) has four Superintendent Engineers i.e. SE (Khanna), SE (Ludhiana-West), SE (Ludhiana East), SE (Ludhiana Suburban). The Chief Engineer South Patiala has four Superintendent Engineers i.e. SE (Patiala), SE (Ropar), SE (Sangrur), SE (Mohali). The Chief Engineer Border (Amritsar) has four Superintendent Engineers i.e. SE (Gurdaspur), SE (Amritsar Suburban), SE (Amritsar City), SE (Tarn Tarn). The Chief Engineer West (Bathinda) has four Superintendent Engineers i.e. SE (Bathinda), SE (Ferozpur), SE (Faridkot), SE (Mukatsar). The CE’s are in constant touch with the head office and with the CE (metering), CE (MM), CE (S&D) and CE (RE and APDRP). As shown in the figure 8.2
Figure 8.2 INFORMATION FLOW

- MOP
- Head Quarter
- Director
- Regulatory Bodies
- CE-South Patiala
- CE-North Jallandhar
- CE-Metering
- CE-Border Amritsar
- CE-West Bhatinda
- CE-S&D
- CE-APDRP
- CE-MM Patiala
- CE-Central
The proper hierarchical set up and information flow set up are the biggest supporters which conveys important message that proper information should be made available to the strategic level, but the absence of any concrete type of information system in PSPCL is the biggest stumbling block. Yet another supporter for the information system is the various reports that are made at different levels of PSPCL.

Some of the reports are:

- Installed distribution type transformers.
- Damaged distribution transformers.
- Estimate of damaged distribution transformers.
- Register of damaged distribution transformers received
- Replacement against damaged distribution transformers.
- Pending against damaged distribution transformers.
- Installed Power transformers.
- Damaged Power transformers.
- Replacement against Damaged Power transformers.
- Pending for replacement against Damaged Power transformers.
- Final report for distribution transformers.
- Final report for Power transformers.
- Replacement of damaged transformers at the end of the month.
- Inspection of the substation.
- Overloading of primary and secondary transformers.
- Work progress for the Sanctioned packages.
- Final Report for the state tube well due to Electrical fault.
- Theft of conductor for month.
- Final report for the theft for conductor.
- 11 KV and lower voltage work progress under extension and improvement work plan.
- Status of defective electronic meters on 11 KV I/O feeders at secondary sub stations.
- Progress of installation of electronic meter on 11 KV I/O feeders at secondary sub stations.
- Final report for the progress of installation of electronic meter on 11 KV I/O feeders at secondary sub stations.
- Report of 11 KV feeder details at secondary sub stations.
- Final report for 11 KV details at secondary sub stations.
- Rural electrification work progress.
- New 11 KV capacitor installations.
- Damaged and repaired capacitor.
- New 33 KV substation work progress.
- Augmentation of 33 KV sub stations progress.
- New link Line work progress.
- Work program under APDRP and other scheme.
- Sample meter installation for un metered consumers.
- Major equipment make list for secondary sub stations.
- Report for tripping of 33 KV and 11 KV lines.
- Daily log sheets.
• Register format for battery inspection.
• Max/Min load register.
• Inspection and testing register.
• Stoppage register.
• Tripping and testing register.
• Breakdown and shutdown register.
• Damage of distribution transformers (Location, feeders wise).

All levels of the management do agree that these reports are very critical for the smooth functioning for the distribution network of PSPCL. These reports are just basic automation of the present manual work but these reports do convey the meaning if some type of advanced type of information system is implemented so that the critical information is revealed. But without the proper implementation of the information systems there is always delay in the generation of the reports. When asked about the reason for the delay in the generation of the reports the reasons are:

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of proper Channel for communication</td>
<td>70%</td>
</tr>
<tr>
<td>Information loss</td>
<td>72%</td>
</tr>
<tr>
<td>Lack of co-ordination</td>
<td>66%</td>
</tr>
<tr>
<td>Ambiguity regarding the roles &amp; responsibility</td>
<td>62%</td>
</tr>
<tr>
<td>Importance of reports is not clear</td>
<td>19%</td>
</tr>
<tr>
<td>Lack of time</td>
<td>23%</td>
</tr>
<tr>
<td>Lack of involvement of top management</td>
<td>28%</td>
</tr>
</tbody>
</table>

*Table 8.1 Reasons for Delay in Reporting*
The majority of the respondents told that there is information loss in the present set which causes the delay in formation of these reports. Other important reason for the delay is the lack of proper channel for communication. These are major hindrance factors in the present set up. But these blocks also convey a message that employee do feel that there should be proper channel for the flow of the information at various levels. When questioned about the role of IT in current set up then the consolidated results are as:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Automated</th>
<th>Partially Automated</th>
<th>Manual</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Connections</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Billing &amp; Revenue collection</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Material Management</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Operations &amp; Maintenance</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Energy accounting &amp; auditing</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Load flow analysis</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Complaining</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Accounts</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Establishment</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

*Table 8.2 Extent of Automation*

It is clear that there is not a single activity that is fully automated. The results show that there are various stumbling blocks in the present set up as most critical activities are not automated leave apart the application of some of the advanced type of information system. But the silver lining is that of late management has realized the need of the IS in present set up especially after the unbundling of the PSEB. After the formation of the corporations there is more pressure on the distribution network to deliver the results and considering this fact, the PSPCL is trying to implement the concept of Information
Systems at various levels. The most visible is billing and even complaints but still these are at preliminary stage. These facts which include the timely generation if reports, focus on the critical activities reinstate that there are various supporters of Information systems in the present system which weigh more against the odds. The odds are stacked but with the recruitment of young offices and change in thinking of the employees the acceptance level is also changing in the positive direction. Also when viewed from the global perspective there is dire need of SIS in PSPCL to overcome the losses and to align the thinking of all employees in the one direction which is still missing in the present set up of distribution network of PSPCL.