EMPLOYEE OPINION ON INTERCONNECT CAPACITY AUGMENTATION OF TELECOM SERVICE PROVIDERS IN KERALA

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Abstract

There is a huge competition in the telecom sector of the country. As it is a highly technology intense industry, the innovations are common and that innovation can easily become an industry standard in a very small period of time. The calls generated by each customer are successfully completed through a sequence of steps which is carried out at the technical support system of the Telecom Service Provider. A major activity is called Point of Interconnection, which means the commercial and technical arrangements under which TSPs connect their equipment, networks and services to enable their customers to have access to the customers, services and networks of other Telecom Service Providers. At the Point of Interconnection, calls are connected between TSPs using switches and the traffic is carried over by transport mechanisms like optical fibre cable medium. The customers are unaware about this and it is the employees who carry out this process efficiently to provide a quality service to the customer. The Telecom Service Provider needs to understand the opinions of its employees on the effectiveness of this process. The employees’ opinions are critical to provide better service to the customers. This study aims at analysing the opinions of employees to provide suggestions to the Telecom Service Providers.

Key word: Point of Interconnectivity (POI), Telecom Service Provider (TSP), Telecom regulatory Authority of India (TRAI), Cellular Operators Association of India (COAI), International Telecommunication Union (ITU)

Introduction

It is so far a basic necessity of the common man who feels the need to be connected wherever the person is and whenever needed to. Slowly evolving from a voice exchanging interface the mobile phone has now become the platform for a wide variety of services from money transaction to entertainment. The revenue related to telecom mainly comes from use of data on 4G and voiceon 2G and 3G technologies. As the market share of subscribers increase for a Telecom Service Provider (hereafter referred as TSP) more calls would flow among service providers thus creating the need for setting up new Point of Interconnections (hereafter referred as POI).

Interconnection means the commercial and technical arrangements under which TSPs connect their equipment, networks and services to enable their customers to have access to the customers, services and networks of other TSPs. Calls are connected between TSPs using switches and the traffic is carried over by transport mechanisms like optical fibre cable medium. This is popularly called Point of Interconnection (POI). Subscriber bases keeps increasing since the price of handset have come down. Technological advancement also helps for such drastic increase in mobile subscribers when compared to fixed wire line service.
subscribers. The trends like shopping, banking and communication using data on mobile devices have ever increased the demand for more data consumption plans. However, basic first line communication is still intensely dependant on the voice trunks established between TSP’s. Therefore study of traffic patterns is highly essential in a dynamically changing customer environment. The traffic profiles of voice calls explains the nature of calls that are terminated within own network and the share of traffic flowing out of the network. The Traffic profile gives a fair insight into how much planning of POI is actually required for a particular operator who operates as a leader in market share. Thus, for TSPs, POI planning and strategic considerations are very critical business decisions. It is the need of the customer to get connected and for which 50% of the facility is dependent on the partner exchange. Decisions on POI addition is more often related to the business strategy of the TSP. So, the guidelines followed vary with TSP.

In the last 2 decades there has been exponential growth in the telecommunication industry in terms of revenue and customer base. The surging traffic and low cost of mobile calls have recently put pressure on TSP’s to increase their capacity. The industry is regulated by the Telecom Regulatory Authority of India (TRAI). The TSPs are associated by COAI (Cellular Operators Association of India).

Even though Data services are gaining immense popularity, voice services are still favourite choice among customers. The main reason is that voice calls through dedicated circuit switched path offer no delay in voice and hence are more reliable than data services. Thus, the research on POI which is a part of voice traffic is critical to revenue decision in short and long term. The study aims at evaluating the employee opinions on efficiency of POI augmentations of TSPs in Kerala circle.

**Problem**

There are number of activities happen behind to provide proper service to the customers. As the efficiency of the system depends on how each call is handled in the system. This issue can be traced back to the POI augmentation process and its efficiency. There is a need for a study on employee opinions to understand the key aspects of the POI augmentation process and to improve customer and stake holder experience.
Objectives

The objectives of the study are,

- To evaluate employee opinion on the efficiency of the POI augmentation in different TSPs in Kerala.
- Study the issues in the process of POI augmentation in different TSPs in Kerala.

Research Methodology

The Study follows descriptive research design. Primary data was collected from surveys among employees of TSP in Kerala operating the process of POI augmentation and customers of TSPs. Secondary data would be from the reports available in the company like offline reports, equipment readings and trend line data. The population includes employees of all TSPs. Sampling unit is 1 employee of any TSP. The sampling method used is Judgement sampling. Sample size for employees is 23. Data is collected through survey using a structured questionnaire. The tools for analysis used are Percentages, Likert scale and Ranking.

The scope of study covers efficiency of POI augmentation process of TSPs in Kerala. It covers the opinions of employees of TSPs in Kerala in the interconnect capacity enhancement problem. The limitations include the limited time available for the data collection and study. There is possible bias in the opinions of respondents.

Data Analysis, Discussions and Findings

The data collected is analysed and interpretations are presented.

Descriptive Statistics
The following is the descriptive statistics as per the data.

1) When compared to the rising demand in customer traffic capacity augmentation is done in a regular and frequent manner.

**Figure 1: Customer traffic capacity augmentation at high demand**

Employees of TSP agree that capacity augmentations are done regularly. But this does not match with customer expectations and needs. Understandably there is a gap which needs to be understood that customer point of view is not just reports of traffic. Deep dive analysis of customer trends, Partner TSP tariffs and rising demand of calls are to be included in POI augmentation decisions.

2) I feel the frequency of augmentation followed by Telecom Service Provider is currently adequate.

**Figure 2: Complaints on congestion of calls**

Employees agree that frequency of augmentation currently in place is adequate. The Frequency of augmentation denotes efficiency of the POI augmentation...
process interval starting from initiating the augmentation by POI coordinator to final release of traffic. Even through employees agree on this point the actual customer responses are not fairly in agreement.

3) **POI augmentations requests that are initiated gets approval very fast.**

**Figure 3: Speed of approvals**

![Graph showing speed of approvals](source: Primary data)

Employees of TSP agree that POI related approvals are obtained very fast. This shows that the business is giving enough importance to POI augmentation. All operator employees are aligned to the common goals.

4) **Do you think is it more customer friendly approach if the capacity is augmented well before the other operator raises a congestion issue**

**Figure 4: Customer friendliness**

![Graph showing customer friendliness](source: Primary data)

Employees of TSP strongly agree positively that Customer centricity and customer delight is important for survival. The study thus is useful as it provides a fair report to operators regarding customer views which are considered very
important by all TSP employees alike. The common understanding will also help in providing direction and bridging gaps in problems related to POI.

5) Do you feel that adequate resources are not budgeted to meet the rising demand of customer calls to other operators

![Figure 5: Adequate resources to meet rising demand](source: Primary data)

Some of the employees agree and a majority disagrees. This indicates that adequate resources were not budgeted to meet the rising demand of calls.

6) I feel lesser steps can speed up the POI channel release process benefiting the organisation and customers.

![Figure 6: Lesser steps are needed](source: Primary data)

Employees of TSP firmly agree on the opinion that lesser steps are better in ever rising competitive telecom sector. It means lesser the control and faster augmentation. But it may lead to other strategic and resource management issues like under utilisation and over capacity due to lack of proper planning before approval.
7) In this era of high competition I think that POI augmentation is stuck in red tapes. 

Figure 7: POI augmentation is stuck in red tapes

Redtapeis excessive bureaucracy or adherence to official rules and formalities. Employees are neutral to the opinion of excessive bureaucracy. In other words, Employees strongly believe there is less red tape in the POI augmentation while some are neutral to this opinion.

8) Do you feel the current benchmark of 85 % is sufficient for initiating augmentation

Figure 10: Current benchmark is sufficient

The standard practise of choosing a busy hour of 08:00 pm traffic is common among all TSP’s. The utilisation at busy hour is calculated and if it cross 85 % augmentation is initiated. This practise is however considered good but is not 100 % perfect. Employees feel that the current practice is sufficient, even TRAI proposes this benchmark. However does the POI problem get solved is a real question. But fixing at a 70 % may also lead to budgeting over capacity. Thus 85 % benchmarking means strict monitoring is required from Employee side.
9) Do you think that the effective involvement of governing body like TRAI can solve the POI augmentation process inefficiencies?

Figure 12: TRAI can solve the POI augmentation process inefficiencies

![Graph showing opinion distribution](image)

Source: Primary data

The necessity for an effective involvement of TRAI is absolutely agreed by all employees. Both the Customer population and the employee population agree to the fact that TRAI can make a big difference in call connectivity issues faced by customers.

10) I agree that inspection of Telecom Service provider for timelines of POI augmentation and imposing penalty for violations would be a right move by TRAI.

Figure 13: Inspection and penalty by TRAI

![Graph showing opinion distribution](image)

Source: Primary data

TRAI can officially impose penalty on defaulters. When it comes to inter-operator connectivity the issue becomes more severe. TRAI can act based on reports provided by the operators. Customers and employees feel TRAI needs to action more control on POI augmentation. Effective inspection is one area where focus needs to be given. Imposing fine and affecting TSP revenue may
call for resistance from various bodies like COAI. But TRAI has to give an answer to the subscribers who want services in a prompt and efficient manner.

11) I agree that if TRAI issues an ordinance “POI augmentation not done on 85% utilization within 15 days would attract cancellation/suspension of license for the non-agreeing party” then POI augmentation problem would come down to a great extent

Figure 14: Agreement to TRAI’s ordinance

![Bar chart showing agreement to TRAI's ordinance](image)

Source: Primary data

Employees show mixed feeling towards such a move by TRAI. Employees of all four TSP have a neutral to negative opinion on TRAI benchmarking and fining on 85% utilization. Restoring to such a practise would but the TSP in danger. A strong attitude by TRAI to suspend operations will surely be a bad repute to any operator. However most of them agree to some extend this can solve the untimely POI augmentation issues

12) If there were less disputes in settling of previous dues then do you think the augmentation would have taken lesser time

Figure 8: Less disputes leads to faster augmentation

![Bar chart showing less disputes](image)

Source: Primary data
Even if POI agreement are in place many time defaulting the payments can lead to holding of further augmentation. This is strictly against the health of any TSP which wishes for them to survive in a competitive environment. All employees unanimously agree or in fact strongly agree that POI agreement should be honoured and disputes destroys customer satisfaction.

13) Settlement of IUC disputes in your organisation are taken up very fast manner such that augmentations are not held up

Figure 9: Faster settlement of IUC disputes

Employees fairly agree to this point but some of them say IUC settlement has no impact.Settlement of IUC disputes involves tactical and higher management approvals if we need to proceed with augmentation due to competitive pressures. Business does not want to incur loss, but at the same time the customers are also not to suffer. To create a win-win situation it is always good to settle disputes on time.

14) I feel that the organisation has a strong process to address media constraints while proposing augmentation.

Figure 11: Organisation has a strong process to address media constraints
There is positive opinion among the TSP employees relating to their process on media constraints. Addressing media constraint is one of the important phases when proposing augmentation. A most significant reason for this is attributed to the present sufficiency of fibre network infrastructure of operators.

15) Do you feel that corporate go-ahead should be avoided when circle related POI augmentation is proposed

Figure 15: Complaints on congestion of calls

Employees agree to the opinion that corporate interventions should be kept at minimum and rights need to be transferred to the particular circle as decentralized decisions help in better POI augmentations. Centralized Corporate decisions on POI related matters would come under Pan India consideration. For any augmentation that is to be done on strategic considerations corporate decisions are required. The impact of such decisions is huge on customers and employees alike.

Ranking Analysis

In ranking analysis, the various factors on the services a TSP should provide are asked to be ranked by the employees.
Table 2: Scores for each TSP by Ranking analysis

<table>
<thead>
<tr>
<th>Factors considered</th>
<th>Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call connectivity</td>
<td>134</td>
</tr>
<tr>
<td>Data connectivity and speed</td>
<td>108</td>
</tr>
<tr>
<td>Tariff</td>
<td>79</td>
</tr>
<tr>
<td>Complaint redressal</td>
<td>53</td>
</tr>
<tr>
<td>Better Coverage</td>
<td>62</td>
</tr>
<tr>
<td>Customer Care - touch point access</td>
<td>47</td>
</tr>
</tbody>
</table>

Source: Primary data

For the employees, call connectivity is the most important service to be provided by a TSP. The second important factor is data connectivity and speed. Customer care is the least preferred factor.

Likert Scale Data

The responses were asked on a 5-Point scale, which were consolidated into points out of 5.

Table 3: Likert Scale based responses

<table>
<thead>
<tr>
<th>Statement</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>When compared to the rising demand in customer traffic capacity augmentation is done in a regular and frequent manner.</td>
<td>4.5</td>
</tr>
<tr>
<td>I feel that the frequency of augmentation followed by Telecom Service Provider is currently adequate.</td>
<td>3.6</td>
</tr>
<tr>
<td>POI augmentations requests that are initiated gets approval very fast.</td>
<td>3.4</td>
</tr>
<tr>
<td>I think that it is more customer friendly approach if the capacity is augmented well before the other operator raises a congestion issue</td>
<td>4.4</td>
</tr>
<tr>
<td>I feel that adequate resources are not budgeted to meet the rising</td>
<td>3.2</td>
</tr>
<tr>
<td>Statement</td>
<td>Score</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>demand of customer calls to other operators</td>
<td></td>
</tr>
<tr>
<td>I feel that lesser steps can speed up the POI channel release process</td>
<td>4.0</td>
</tr>
<tr>
<td>benefiting the organisation and customers.</td>
<td></td>
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<tr>
<td>In this era of high competition I think that POI augmentation is stuck</td>
<td>3.2</td>
</tr>
<tr>
<td>in red tapes</td>
<td></td>
</tr>
<tr>
<td>If there were less disputes in settling of previous dues then do you</td>
<td>3.9</td>
</tr>
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<td>think the augmentation would have taken lesser time</td>
<td></td>
</tr>
<tr>
<td>Settlement of IUC disputes in your organisation are taken up very fast</td>
<td>3.8</td>
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<td>manner such that augmentations are not held up</td>
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The employees’ priorities are on regular and frequent augmentation as the demands keep increasing. They also prefer to augment capacity well before the other operator raises a congestion issue and reducing the steps to speed up the POI channel release process benefiting the organisation and customers. They feel that budgeting adequate resources is not a priority. Also corporate go-ahead should be avoided.

**Suggestions**

The suggestions derived from the analysis of employees opinions are given below:

- It is strictly recommended to TSP Employees that waiting to cross 85% utilization benchmark to initiate augmentation is a risky affair. At 75 to 80% itself the proposal for addition of trunks should be given.
- It is suggested to constantly re-visit the POI planning and augmentation process to meet customer expectations
- Customer complaints on congestion to other operators should be tagged to POI coordinator. The statistics should be published to all operators. This way the TSP are sensitized by customer issues while proposing POI trunk augmentation
- TSP’s should look forward in establishing IP back bones among themselves and handover calls to partners using IP NGN technologies instead of TDM.
- Even though the TSP feels that the current process is good enough and meets requirement it is not so with the actual customer using the service.
- Deliberate efforts should be taken from TSP side to understand customer voice. Only then can POI inefficiencies be removed permanently.
Conclusion

There are various technical processes happening while customer makes a call. The TSPs need to know about their employees’ opinion on these processes. Employees are usually the first to know of a traffic trend. Employees can forecast customer’s wants and needs in a better way. But many a times there is not much an employee can do if there is slow response in the augmentation plans of the partner TSP. The employees’ comments help TSPs to be more competitive and more efficient when the services are rendered to the customer. This study was aimed at understanding the employees view on these technical processes.

Bibliography


- Kalavani. (2006). *To study the gap between service promised and service offered by service provider.*


