6. OBJECTIVES & RESEARCH METHODOLOGY

6.1 Objectives

The Focus of research has been formulated in context with IMD with the National and State IT policy in place, the basic IT infrastructure framework available, the presence of required IT policies in terms of h/w, s/w, web development/content creation, and training. The departments with one-year plan and three years perspective have prepared the IT action plan.

IMD is responsible for attracting investments in all industrial sectors including IT industry.

This is the most appropriate period to go for the internal processes improvement and establishment of integrated information system within the departments' offices considering all the HoDs and district offices taking the advantage of state IT infrastructure. GOG has also undertaken the project of E-databank. The pre feasibility study of this project has identified the information elements in various offices under IMD and also measured the level of automation and digitisation of data.

Thus, the objectives of the study are:

- To measure the impact of IT in building a generality model for management of industries data, w.r.t. current management practices and IT policies as well as state government initiatives and thus the effective use of IT in light of the technological enhancement
- To find the effective use of networks (intranet and internet) to reduce the delay in compilation of data with their impact on the overall data management
- To Build a model that provides an on-line query facility
- To establish strategic use of IT to eliminate the duplication of work to improve system of data management with the help of IT to generate accurate and comprehensive reports, this enhances control and quality of information for close monitoring.

On scrutiny of the objectives cited above, one can relate the importance attached by the objectives of the study with the present status of automation in IMD and its offices, the environment of IMD i.e. other departments in GOG and the feasibility of a sustainable IT model for managing both processes and Data. Care has been taken to bring under the scope of the study the Policies, existing infrastructure and the standards suggested by Central and State Government. Information Technology is a fast changing field. It has also been found mandatory to explore the Technology dimensions and the related management issues,
the advent of modern technology trends and practices in relation with inter and intra office integration through a sound IT model. The objectives place importance on training, human and cultural dimensions with its relevant overtones for the strategic use of IT to eliminate duplication of work.

Security, enhanced control, accuracy and quality of information are important aspects, which have been given scant attention by policy experts and management practitioners. Thus it is felt that the study explore the prevailing practices, with the use of Gujarat State Wide Area Network (GSWAN) in other Government Departments having similar State level structure. The Revenue Department has also been studied having collector's offices at district level and Mamlatdar's office at taluka level. Thus the study draws and builds upon each of the objectives cited to reach a conclusion.

6.2 Research Methodology

Since the focus of research for the study has a very large setting, one needed to adopt different aspects of research to reach an acceptable solution. The main activities of the department with the help of various Boards, Corporations, Head of the Departments etc are as under:

- To develop trade, commerce, production and distribution of products of industries other than rural industries
- To publicize industrial activities
- To implement works related with various industrial schemes
- To promote products through industrial fairs, exhibitions and show rooms
- To procure and distribute indigenous and imported scarce raw materials for industrial purpose
- To protect the interest of traders
- To promote industrial goods
- To maintain statistical records related with industries for the state.
- To help in matters related with inventions, patents, designs and merchandise marks
- To promote trade, publicity and research related with industries and mines.
- To implement various schemes in cases of natural disasters
- To regulate mines and mineral developmental activities.
- Administration of Gujarat minor mineral rules.
- Regulates taxes on mineral rights related with mineral development.
To manufacture and use alcohol for industrial use
Distribution of coal and coke for industrial/manufacturing purposes
Geological surveys
To develop industrial, co-operative and cottage industries
To help in various activities for the establishment of sugar factories
Activities related with salt production
Activities related with stores
Civil aviation activities within the state
Activities pertaining to government printing, stationery and official publications
To promote tourism in the state of Gujarat
To manage activities pertaining to various appointments, postings, transfers, promotions etc for all the officers and non-government servants under the administrative control of the department.
To maintain all the land and buildings assigned to the department by the state government

Thus, the research methodology embarked upon was also a matching one with exploratory and descriptive research to suggest an IT model that fulfils the objectives of making the system more efficient and effective, avoid duplication of work at different levels, provide fast decision support system, to establish better monitoring system, make administrative system more simple and systematic as well as centralized and effectively use available resources.

The Integrated System will perform department's activities throughout the state and co-ordinate with district offices. It will facilitate information outlets at the doorstep to the common man. This will enable people at large to access information & provicce services related to industry, policies, schemes etc. making Government - Citizen Interface more effective, efficient and transparent.

The objective of designing the Model is to allow the system to be rigid enough to enforce discipline and accountability and flexible enough to accommodate evolving policies.

6.3 Offices Selection Process

There are seven Major Heads of the Department and 25 District Industries Commissionerate (DIC) and various boards and Corporations and Institutions to help in achieving the desired results and goals of IMD. The DIC in each district serves as a common point for developing the industries
and in implementing various policies and schemes in their respective
districts.

6.4 Profile of Selected Offices

6.4.1 Offices under the Industries and Mines Department

- Commissioner of Industries
- Commissioner of Cottage Industries
- Commissioner of Geology and Mining
- Commissioner of Tourism
- Commissioner of Trade and Commerce
- Commissioner of Payments
- Director of Government Printing and Stationery
- Gujarat State Investment Corporation
- Gujarat Industrial Investment Corporation
- Gujarat Mineral Development Corporation
- Gujarat Industrial Development Corporation
- Gujarat Infrastructure Development Corporation
- Gujarat State Handicraft Development Corporation
- Gujarat State Handloom Development Corporation
- Gujarat Khadi and Village Industries Board
- Gujarat Growth Development Corporation
- Gujarat State Rural Technology Institute
- Gujarat Hira Vikas Board
- Gujarat Soil and Art Development Board
- Industrial Extension Bureau (INDEXTb)
- INDEXTC
- Tourism Corporation of Gujarat Limited
- Gujarat State Export Corporation
- Gujarat State Leather Development Corporation

Both primary and secondary data required for fulfilling the objectives
of the study were collected. The primary data were mostly collected
through the personal interview method using a pre-structured and
pre-tested questionnaire. Trained persons who were familiar with the
local language and government culture and structure conducted the
interviews in the month of December-2000 to January 2001-(Phase
I) and May-2002 to June 2002-(Phase 2). The questionnaire administered to identify the e-readiness is given at (Annexure-1).

6.4.2 A profile of the Sample offices
In this section, some salient features of the sample offices have been presented.

6.4.3 Branches under the Industries and Mines Department

Detail functioning of various branches under IMD is given below.

D Branch (Local Establishment)
- Creating Temporary Jobs & converting them into permanent positions
- Handling Appointments and Transfers
- Handling Departmental Inquiries
- Handling Payroll related matters
- Conducting Training and Departmental Examinations
- Handling all the activities related with perks
• Handling all the administrative activities of the department
• Supervision of Registry
• All the activities related with Allocation of work
• Handling all the activities related with Rules and regulations of work

CH Branch: (Small Scale Industries)
• This branch is responsible for all the activities related with Salt, CSPO and Small Scale Industries in liaison with Industrial Commissionerate
• Activities related with Registration of SSI, Testing, Subsidy, Quality Award
• Implementing Schemes related with Normal Rehabilitation of Sick Units, Rehabilitation due to Natural Calamities etc.
• All the activities related with Laghu Kutir Board, Diamond Board, Bureau of Indian Standards, Indo German Tool Room, Gujarat Small Industries Corporation etc.
• To handle various activities pertaining to State Purchase Policies, Audit etc. related with Board and Corporations Under the Branch
• Handle all the activities related with Materials like Salt, Paraffin Wax, Industrial Alcohol, Coal, and Oils etc.
• Handles all activities related to the Salt industry

KH and KH-I Branch (Cottage Industries)
• Implementing various Yojanas like Self-Employment, Shri Vajpayee Yuva Swarojgar Yojana, Bankable Yojana, Gram Udhyog Sankul Yojana, Rajiv Gram Udhyog Yojana etc.
• Various activities related with Gujarat State Handicraft Development Board, Gujarat Industrial Co-operative Bank Limited, Matikam Boards, Gujarat State Khadi and Village Industry Board, ZARI Research etc.
• To develop Sericulture and Coir Industry
• Implement various activities related with Shilp Gram, Leather Industries, Tannery etc.
• To implement various schemes related with Rural Artisans Program & Rural Industries Program.
• Maintain the Training and Production Centres.
• All the activities related with NABARD.
• Promotion of Co-operative Sector, Carpet Industry
• Audit matters related with Commissioner of Cottage and Rural Industry.
• Budgetary activities related with Gujarat Handicraft Development Corporation, Gujarat Handloom Development Corporation, GRIMCO, Rural Technology Institute etc. Integration of statistical information pertaining to various schemes of the Village and Cottage Industry
• Implementing 15 Point and 20 Point Program of Prime Minister
• All the Budgetary and Finance related matters as mentioned above.

P Branch: Industrial Projects
• All the Matters related, with Gujarat Industrial Investment Corporation like Finance, Administrative Tasks.
• Approval to proposals related with GIIC
• All activities related with GCPTCL
• Maintain all the activities related with NRI Commissioner.
• Maintain all activities of Gujarat State Industrial Advisor Board, Gujarat State Industrial Advisory Committee etc.
• Matters related with Awards to Export.
• Release of grants for foreign tours, Exhibition etc
• Handling BIFR cases other than Textiles.
• Setting up Regional exhibition cum Convention Centres.
• All matters related with Budget, CAG, AUDIT, Draft Paras, LAQ's, PUC, PAC etc related with the corporations mentioned above.

CHH Branch: Policies Mines and Minerals
• To Frame and Implement "all the policies related with Mines and Minerals. All the activities related with Mineral Advisory Council, etc.
• Monitor all the activities related with Coal Bed, Methane's Development, Exploitation and Exploration.
• To monitor all activities related with Reconnaissance Permits, license, Mining lease application in Kutch, Rajkot, Probandar, Junagadh, Sabarkanta, Panchmahal, Baroda, Dahod, Surendranagar, Bharuch etc.

• Implementation / Modification and Clarification of all the matters related with Gujarat Minor Mineral Rules

CHH-I Branch
• Manages activities related with Gujarat Mineral Development Corporation.
• Issue of Prospecting License and Mining lease.
• Geological Survey
• All matters related with Revision Applications

D2 Branch
• All matters related with Commissioner of Cottage and Rural industries. All matters related with establishment of Director - Government Printing and Stationery.
• All the Matters related with Printing and Stationery.
• Policies regarding providing stationery to Government employees and various departments.
• Policies regarding local purchase of stationery, policies regarding standard forms, cycle, duplicator etc.
• Providing Copiers, Type Writers, Fax etc to the office of Minister

D1 Branch
• To monitor and implement all activities related with officers of Commissioner-Geology and Mining.
• All activities pertaining to the Finance and Budget as well as leave of personnel in the Geology and Mining department
• Service matters departmental inquiry etc of Industries Commissionerate.
• All the matters related with administrative co-ordination pertaining to HoD's of the Secretariat

S Branch: Tourism
• To frame all new Policies related with Tourism.
• All matters related with Development of Tourist Centres
• All matters related with Indian Hotel Management, Western Zone Council, Gujarat Tourism Corporation Limited, Inspection of Star Hotels and Privatisation of Tourist Centres.

• Co-ordination work related with Tourism Plan, Budget etc

• Implementation of various schemes pertaining to Tourism related with Central Government

• All the activities related with Civil Aviation in the state

• Development of Air Port, Helipad Air Craft etc in the State

I Branch: New Industrial Policies

• All the matters related with Formation / Interpretation of new Industrial policies.

• All the matters related with Administrative and Budgetary Activities of Gujarat Growth Centre Development Corporation.

• All activities related with Centre for Entrepreneurship.

• All matters related with sanctioning for publication of iNDEXTb.

• All matters related with Gujarat Infrastructure Development Board

A Branch : 5 Year & Annual Development Plan

• All the matters related with Formation of Five year and Annual Development Plan

• Monitoring all the activities related with above point

• All the activities related with Finance Commission and Allowances

• All the Budgetary and Publication related activities

T Branch: Textile Industries

• All activities related with Textile industry

• All matters related with Rehabilitation of Closed Units.

• All activities related with Power Looms

• All the matters related with Closed Textile units and Gujarat State Textile Corporation

• Handling all matters related with BIFR / GBIFR in textiles

• All the activities related with NIFT
G Branch: Medium and Large Scale Industries

- All activities related with Electronic Quality Development Centre
- All Works related with Gujarat Communication & Electronics Limited. All works related with Narmada Cement Co, Alcoc Asdown Co, Cement industries, Hosiery Training, CGRI, National Productivity Council, Gujarat Industrial Research and Development Association, Electrical Research and Development Association etc.
- All works related with Land Acquisition for Large and Medium Scale Industries.
- Matters related with Industrial Pollution, Disturbance, Design & Research, Port Development, Kandla Free Trade Zone, Gujarat Industrial Development Corporation, Gems and Jewellery, Gujarat Industrial Security Force Society

J Branch: Co-ordination Activity

- Forming policies related with Advisory Committee
- Allotment of space to various Government Bodies in Udyog Bhavan, all matters related with weekly arrears
- Special Resolution to 'MLA's
- Co-ordination of MP, MLA and Minister References
- Compilation of cases involving more than one Department
- Correspondence with Government of India
- Court cases

B Branch: Budget and Grants

- All matters related with allocation of Budget Provision and Grants, all matters related with preparation of budgets
- Activities related with Reinvestment and Reimbursement, Monitoring Non Planned Expenditures
- Appropriation of Accounts Grants and Opening new Budget Heads All Matters related with Grant undertaking
- All matters related with Budget Committee related works

Cash Branch

- Salary, TA/DA, other allowances, contingency and medical bill processing, HBA, MCA, charge allowances, service book maintenance, linkage with establishment branch for service book
- Linkage with Pay & Accounts (Treasury) offices
Registry Branch
- It carries out all activities related to registry like inward, outward letters, files and routing them to relevant branches and offices

Typist Branch
- Typing work for various branches

6.5 Research Process

6.5.1 Exploratory Research
Exploratory research aspects are mentioned below but one cannot help elaborate the importance of exploratory research on any study pertaining to the Government Department and its related offices. This is because any government office has its own rules of operations and processes based on government guidelines. The level of IT in IMD, HoDs and boards and corporations is different. The h/w installed in these offices is heterogeneous both in specifications and brands. The s/w products and applications are of different verities and run on different platforms. The integration of the existing applications is an impossible task on heterogeneous h/w platforms. There are no standards followed in any of the IT issues. The documentation is not available. Thus, the researcher had to refer to available documents, literature and meet members of IT section in different offices to elicit the opinion on six major aspects of relevance to the study i.e. Office Information, IT Policy and Plan, Hardware, Software, IT projects, Training and Attitude.

At the second stage, the researcher studied in detail literature available on all aspects of the study, the global IT scenario, National IT scenario, State IT scenario as a whole with special emphasis on IMD. The purpose behind this was to understand various dependencies, commonalities and differences that project IMD’s unique scenario, crisis and related management.

6.5.2 Descriptive Research: Aspects
At the final stage, two major government departments in Gujarat were identified for detailed field level study. The departments so chosen were IMD and RD (Revenue Department). Both these departments have Secretariat, HoDs, District level offices and Taluka level presence. Both these departments deal with citizens at large. IMD deals with Industries, business houses and Revenue deals with citizens having two-tier functional architecture.

After pre-testing, the relevant modifications were made in questionnaire (Annexure-1) and it was administered to 345 respondents in the two departments. The stratified sampling method was attempted, but often it resulted in convenient sampling due to
the inherent difficulties for research at the field level. To make the study more authentic, the offices were divided into different meaningful groups based on offices at HQ (Gandhinagar), offices at Ahmedabad, offices at district places and offices at Taluka places.

As IT and its management activities specifically w.r.t. databases is an activity encompassing numerous dimensions, the researcher was sure that the study objectives could not be addressed to by the questionnaire method, alone. There were numerous limitations in the collection of data through questionnaire method even though the enumerators (who were BE/MBA/MCA or the students of these streams) were trained for the purpose and supervised.

6.5.3 Focus Groups
The focus group method of study was found to be the most crucial information gainer. Focus group discussions were organised in the secretariat with senior Secretaries, senior officers personnel handling the data both at HQ and district office level, solution providers, technical personnel in the Boards and Corporations, and users. After that, discussions were held with practitioners, theoreticians and management experts to bridge the gaps in the study. The information has been supported by secondary data wherever relevant and applicable.

Focus groups in exploratory research are used to provide some of the complex, subtle aspects of the relationship between research topics on the one hand and the framework (model) creation and deployment efforts on the other hand. They provide qualitative or subjective analysis of such things as user language in talking about the system, operational ease, speedy delivery of outputs, flexibility of updating modules and data, etc.

As IT and its management activities specifically w.r.t. databases is an activity encompassing many dimensions, the study would not have been fulfilled by questionnaire alone. Ten focus group discussions at field level involving participants from district offices, active SSI entrepreneurs, traders, representatives of business houses, IT practitioner and theoreticians helped bridge the gaps in the study.

6.5.4 Focus Group Process
When a focus group is convened, the moderator provides a brief general comment on the purpose of the meeting and suggests a specific topic to open the discussion. A typical approach is to have the group start talking about an issue and the specific aspects within that category. From this the moderator motivates the group to talk
about how they feel about the approach towards developing IT Model and then to a discussion on the issues raised etc.

The researcher trained skilled moderators since they were crucial to the success of focus groups. Since the moderator conducted the interview, analysed the results, drew conclusions, and recommended action, it was clear that the result from this type of exploratory research depended on the skill of this individual. Though this is one of the weaknesses of this type of research, a weakness, which leads to scepticism on the part of man, this aspect has been taken care of.

6.6 Analysis of Selected Cases: Process

The case method involved intensive study of a relatively small number of situations. For example, an investigator might make a detailed investigation of few branches of IMD secretariat, 2-3 HoDs, few Boards and Corporations as well as it in the Revenue Department. The emphasis is on obtaining a complete description and understanding of the relationships of factors in each instance, regardless of the number involved.

Data was collected by technical people- students with the help of detail tool technical kit, FAQs and glossary (Annexure:2) available with them, while visiting different offices. By putting maximum emphasis on objective form and then time was spent cross checking them with two sources of information.

The available data at GIL by virtue of its consultative status for IT in GOG

The checking and verifying with the information available from the study of e-databank project for the given two departments.

6.7 Demographic Profile of Survey

6.7.1 Hardware Status

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Department</th>
<th>Type of Local Area Network</th>
<th>GSWAN Connectivity</th>
<th>Internet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industries and Mines Department</td>
<td>Ethernet With Server</td>
<td>Yes</td>
<td>GSWAN Lease Line</td>
</tr>
</tbody>
</table>

Table 6.1
### Office Automation Level

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Department</th>
<th>Office Automation Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Item Name</td>
</tr>
<tr>
<td>1</td>
<td>Industries and Mines Department</td>
<td>Telephone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fax</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Photo Copier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mobile Phone Provided By Govt.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>GSWAN Phone</td>
</tr>
</tbody>
</table>

**Table 6.2**

### Office Information

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name Of the Department &amp; Address</th>
<th>Name of HOD</th>
<th>Number of Sections</th>
<th>Number of Branches</th>
<th>Number of Employees</th>
<th>Purchase Approval Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industries and Mines Department</td>
<td>Shri L. Manshingh, IAS (Principal Secretary)</td>
<td>19</td>
<td>16</td>
<td>144</td>
<td>SEC / PRI SEC</td>
</tr>
</tbody>
</table>

**Table 6.3**

### Operating Systems & Software Packages

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the Department</th>
<th>OS Used</th>
<th>S/W packages Used</th>
<th>Data Base Package S/W</th>
<th>Design Solution S/W</th>
<th>Anti Virus S/W</th>
<th>Bilingual S/W</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Industries and Mines Department</td>
<td>Windows XP, Windows 98, Windows 2000</td>
<td>Indica</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 6.4**
6.8 The Model:

Some of the models are derived from projects implemented by organizations/individuals, in the government departments for improvement of internal processes and providing government information to the citizens.

Bases for evaluation are parameterized and point system, indicating the satisfying percentage is considered as follows.

<table>
<thead>
<tr>
<th>How many % of satisfaction</th>
<th>Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 % to 20 %</td>
<td>1</td>
</tr>
<tr>
<td>21 % to 40 %</td>
<td>2</td>
</tr>
<tr>
<td>41 % to 60 %</td>
<td>3</td>
</tr>
<tr>
<td>61 % to 80 %</td>
<td>4</td>
</tr>
<tr>
<td>81 % &amp; above</td>
<td>5</td>
</tr>
</tbody>
</table>

The table below shows GM-IIMS Model the most applicable one for IMD.

<table>
<thead>
<tr>
<th>Office under IMD</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
<th>M6 Generality Model GM-IIMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMD</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>IC</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>CCI</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>GSHDC</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Handicraft</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>GRIMCO</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Index-t-c</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>RTI</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>CGM</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>DGPS</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>KVB</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 6.6
6.8.1 Generality Model (IIMS) is the most suitable model for IMD and its associated offices.

Based on the data analysis and proximity derived from both the methods the development of IT model will use the 11 technical components specified in Chapter 4.

- This is achieved by combining the appropriate Generality Model selected with powerful tools used for developing the system. Changes to the existing process based on the analysis done are also aimed at designing a system with such characteristics. In addition a Meta model of the processes will be stored in the tool set to enable quick changes and generate the code. The workflow will have pre-defined process definitions ensuring discipline is maintained.

- Following systems will be used in order to provide a solution that will meet the objective of controlling the creation of new files in the secretariat. The security model will allow only the authorized personnel to open the files.

- A knowledge management system which has data (precedents, GRs, Acts, Statutes, rules, etc.) required for taking a decision,

- A carefully designed system security model that defines access control to the appropriate levels of users

- The amount of information that is required to be scanned by a person before processing the input received is enormous in the department. It is proposed to integrate Knowledge Management System as a solution element to reduce this huge amount of information, thereby increasing productivity. Secondly, using a Document Management System, drafting of documents, word processing, managing the documents from the desktop, scanning of documents, etc., can be done easily and in a better way. These measures enhance the productivity of the end users, especially at the Section Level. Thirdly, process changes will be recommended to government processes with an objective to increase the productivity of the staff at Secretariat. These changes when integrated with other solution elements will enhance the productivity to a desired level.

- By providing a solution that integrates different kinds of products to handle and manage

  - The business rules of the system,
  - The workflow within the system,
  - The departmental knowledge base,
Networking requirements of the department,
Document management issues,
The process driven approach involves participation from all levels of the end users at all stages in the life cycle of the project. The Generality Model selected for the project determines and ensures the involvement of the end users, for e.g., Joint Application Development involves users in the development of the system. This coupled with Training provided to the end users before the implementation of the software ensures that the users have the pride of ownership of the system. In addition to these, adoption of the "use case" approach to understand the scenarios from the point of views of different types of users and incorporate the same into the requirements.

6.9 Key Challenges
Some key challenges in the IT model building of IMD are as follows:
- Disparate applications being developed in some Departments and their integration.
- Common infrastructure
  - Hardware
  - Networking
- Common application architecture
- Common list of modules
  - Specific modules for each department
  - Customisation of common modules
- Gaps in functionality / modules
- Linkages with other databases
  - Other departments
  - Other Boards / Corporations / HoDs under IMD External agencies like Banks, Industries, and Citizens etc.
- Lack of connectivity with remote locations
- Manual systems
- Security issues