# CHARPTER 5
# IMPLEMENTATION PLAN

This chapter presents the implementation plan of the Data Mart. The implementation plan of Data Mart is implemented after strategic planning and information requirement analysis has completed. It covers resource allocation and project planning that are third and fourth stage of Wetherbe's (1993) four-stage model of IT planning as show in Figure 5.1.

Firstly, resource allocation is presented. The resource allocation mainly depended on the budget of the project that was allocated from AAA group for IT investment of AAA Company. The budget will be allocated for human resource, hardware and software of Data Mart, and miscellaneous expenses; for example, paper, telephone, Internet, rent of computer, notebook, printer, fax, and others. The resource allocation also considers roles and responsibilities of project's staff and hardware and software specification to estimate total initial cost of the project.

| Strategic Planning | → | Information Requirements Analysis | → | Resource Allocation | → | Project Planning |
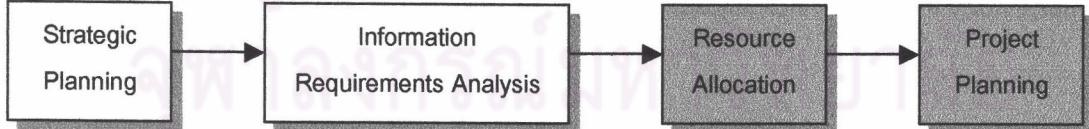
Figure 5.1: Resource Allocation and Project Planning (the third and fourth stage of A Basic four-stage model of IT planning) (Turban, et al., 2002)

Secondly, work plan of Data Mart is presented. Work plan of Data Mart is shown on grant chart created by Microsoft Project 2002. It is presented the task name in each step and its duration and it also shows the relation of each step. Then the table of Project's staffs Man-days is shown. It is used for estimating cost of human resource.

## 5.1 Resource Allocation

### 5.1.1 Human Resource Management

Effective system implementation of information system requires a team effort and expert. The team usually consists of system stakeholder, users, system developers, IS manager, programmers, vendors and suppliers, technical specialist, and other support personnel. This team, called the development team, is responsible for determining the objectives of the information system and delivering to the organization a system that meets these objectives. (Stair, 1996)
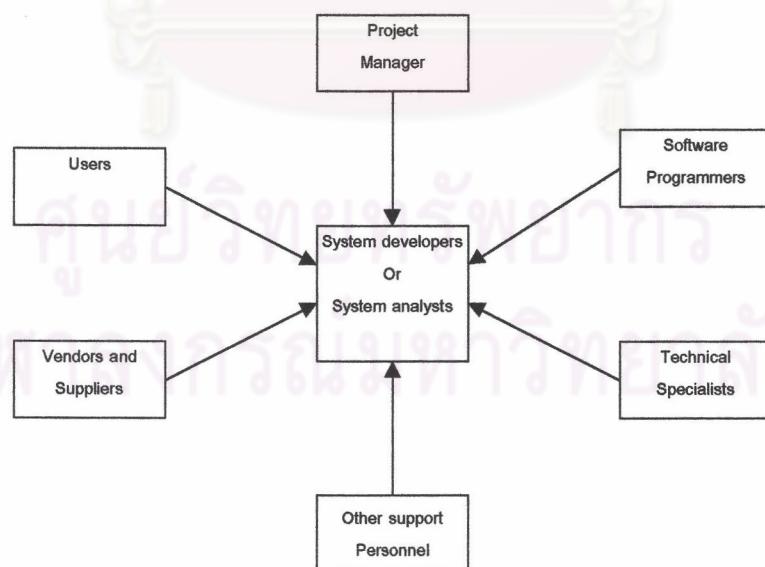
Figure 5.2: Typically information system development team (Adapted from Stair, 1996)

The human resource of Data Mart in this thesis comprises of staffs from 3 companies; IT-ONE, AVANADE (joint venture between Microsoft and Accenture), and AAA Company.

AAA group is very big group of company in Thailand. There are many companies under AAA group often requiring technical services and consultancy of IT. Many companies have expanding and new investing of IT projects. They also require services of daily problem solving; for example, problems of intranet, e-mail, computer, LAN, virus computer, etc. and setting up new software and hardware. So AAA group set up IT-ONE Company as services providers and consultant of IT for the companies under AAA group to reduce group 's total cost of IT. Inevitably, IT-ONE was selected to be a part of Data Mart project. In addition, IT-ONE 's staffs are familiar with SAP of AAA Company since SAP was also set up by IT-ONE five years ago.

The development of Data Mart is so complicate and needs specialists who have high capability and special long experience of information system design and development especially on Data Mart design and development. AVANADE as consultant and Data Mart vendor has been consultants of IT-ONE in developing many IT projects of companies under AAA group; in addition, it is one of most prestigious company and long experience about Data Mart developer and consultant joint between Microsoft and Accenture so it was selected to be consultant of Data Mart Project in this thesis.

### 5.1.2 Project Team Structure

The project team structure of Data Mart consists of project director, project manager, Data Mart developers, SAP ABAP/4 programmers, technical administration, and project coordinators, and business users as shown in Figure 5.3.
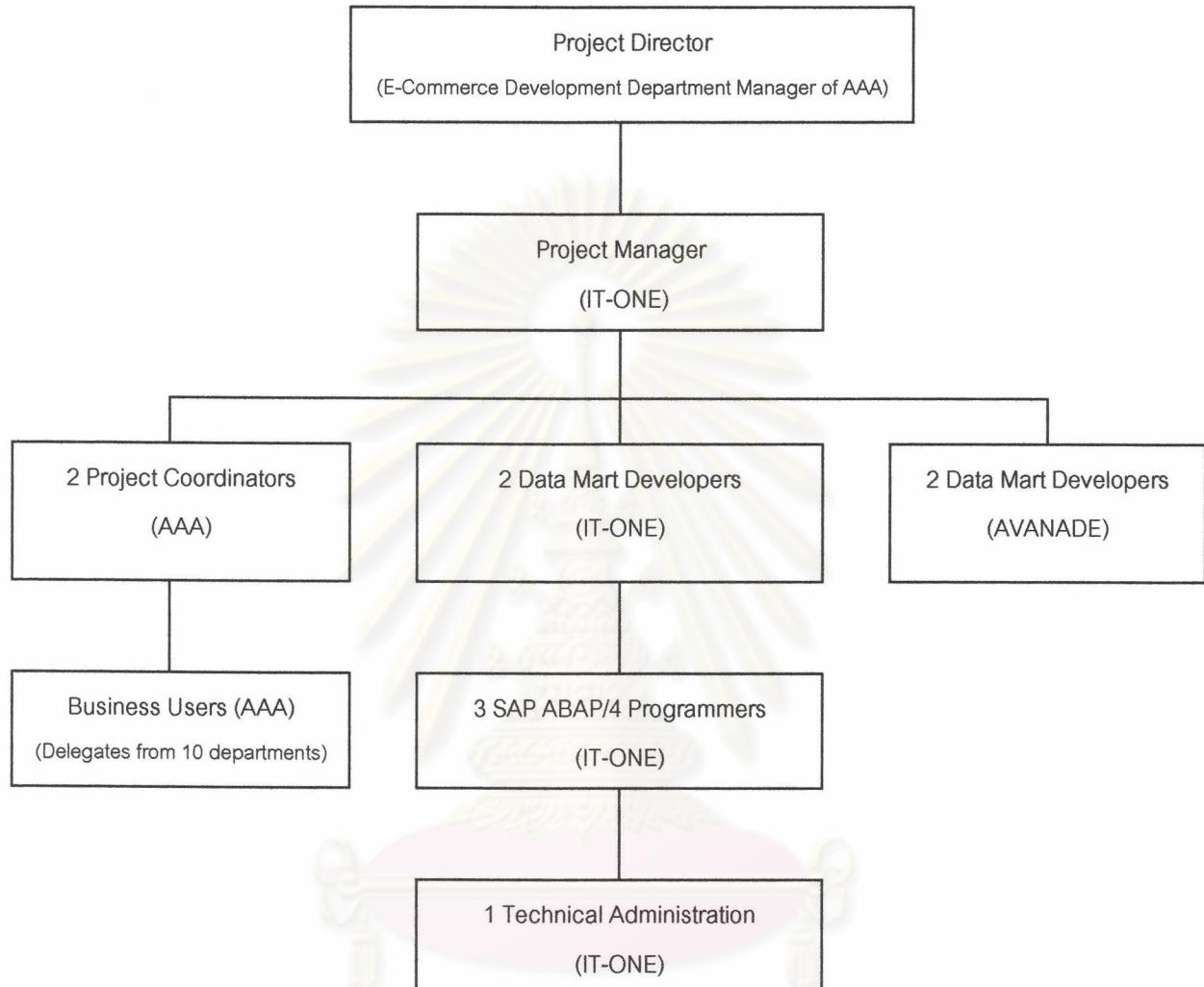
Figure 5.3: Project team structure

### 5.1.3 Project Team Roles and Responsibilities

The project 's staffs have roles and responsibilities that are individually assigned as follows

#### 5.1.3.1 IT-ONE Roles and Responsibilities

IT-ONE has primary roles to manages overall project and maintain implementation of Data Mart in timeliness and budget; schedule tracking, scope management control, weekly

status reports, team meeting, project monitor and problem solving, design and development control, document write up, and others. It also manages system integration responsibilities; application design, configuration, data extraction from existing system for Data Mart, product and users acceptance, component building and testing, and deployment. In addition, it coordinates and communicates with AVANADE to design Data Mart system.

IT-ONE resources consist of project manager, SAP ABAP/4 programmers, Data Mart developers, and Technical administration. The roles and responsibilities of each position are described as follows.

### 1. Project Manager

Project Manager should be senior who have many experiences on management of IT projects and good knowledge of Information System Development. He has main responsibilities to control overall project and manage implementation of Data Mart in timeliness and budget. He also communicates with AVANADE doing work as scope and objective of Data Mart project. The roles and responsibilities of project manager are covered as follows.

- Perform project management
- Monitoring the progress of work according to the project schedules and budget
- Resolve major project issues; such as, resources allocation, scope change, agreement between IT-ONE, AVANADE, and AAA, etc.
- Issue weekly project status update to AAA and concerned parties.

❑ Assign work to the development and design staffs and provide all resources those are required by team

❑ Set and lead meeting regularly with project teams to review the project status and monitor

❑ Identify and resolve the occurred problems during project implementing

2. SAP ABAP/4 Programmers

SAP ABAP/4 programmers have main roles to design and develop ABAP/4 program for extracting data from SAP to Data Mart database. It is advantage if they are same group that had been developed SAP project of AAA Company in five years ago since they have well known about system and programs of SAP. The roles and responsibilities of SAP ABAP/4 programmers are covered as follows.

❑ Develop and design ABAP/4 program for extracting data from SAP

❑ Perform unit test and integration test

❑ Develop design document of ABAP/4 program

❑ Deploy developed program

❑ Transform SAP knowledge to application maintenance team after completing development of program

❑ Attend meeting with project team during developing and design ABAP/4 program to discuss and update the status of work

### 3. Data Mart Developers

Data Mart Developers have main roles of design and operation of data extraction for non-SAP system to Data Mart database. They coordinate and assist AVANADE's Data Mart developers to get requirements from data modeling and system design as well as SQL DTS design and development. They also implement deploy and go-live and post support of Data Mart system to business users. The roles and responsibilities of Data Mart Developers are covered as follows.

- Assist AVANADE 's Data Mart developers to get business scope and data modeling

- Coordinate with SAP ABAP/4 programmers on data extraction from SAP

- Design and implement data extraction from non-SAP system to Data Mart database

- Develop detail design for flat file to staging database of Data Mart

- Design external source database for Data Mart

- Assist and coordinate with AVANADE 's Data Mart developers in developing ETL, ODS, and OLAP

- Coordinate AVANDE's Data Mart developers for product testing; prepare environment and test scripts and conduct product test and document system test results

- Conduct User Acceptance Test (UAT)

- Conduct deploy of Data Mart; prepare Data Mart 's user manual and users' training

❑ Develop support documents and conduct knowledge transfer to application maintenance team and customer support team

#### 4. Technical Administration

Technical Administration has main roles to set up development and production server and workstation and to set up server/network configuration. He installs all software and hardware on server and client computers; for example, window 2000 server and SQL server 2000, MS office XP Pro, and he helps Data Mart 's developers to prepare and conduct User Acceptance Test (UAT) and implement go-live and post support

#### 5.1.3.2 AAA's Roles and Responsibilities

AAA Company has primary roles responsibilities to provide the necessary project infrastructure and facilities for the project team to work effectively; such as, working place, meeting rooms, presentation equipments, notebooks, printers, software and hardware, copy machine, telephone, internet, etc. They have to support all information of business scope, processes, and requirements to the team and they have to coordinate with IT-ONE and AVANADE to manage the implementation of project on schedule and budget. In addition, AAA periodically monitors design and development of Data Mart system in the scope and objective that was set in the beginning of project. The roles and responsibilities of each position are as follows.

#### 1. Project Director

Project Director is E-commerce Development Department of AAA company. She has key roles to monitor the progress of work against the project schedule and budget and she

allocates required resource and facilities for the team. The project director considers and makes decision to sign-off the acceptance in each step of project. She is one of most key person of this project since she has worked with AAA company for long times and she well known about the existing problems and business scope of the company so she is able to be very good source of information for development team. The roles and responsibilities of project director are covered as follows.

- ❏ Coordinate with IT-ONE to identify hardware and software specification and procurement
- ❏ Attend project team meeting to monitor project and solve the problems with IT-ONE and AVANADE's staffs
- ❏ Provide information to IT-ONE for designing external source database
- ❏ Attend preparing and conducting User Acceptance Test (UAT)
- ❏ Prepare training program and material
- ❏ Conduct training course for business users
- ❏ Attend Go-Live and Data Mart system and post support of Data Mart system
- ❏ Collect knowledge from Data Mart design and development to support business users

## 2. Project Coordinators

Project Coordinators have main roles of assistance of team to implement project on schedule and in the steps that are needed business users to involve, they will communicate

between team and business users. The roles and responsibilities of project coordinators are covered as follows.

- ❑ Prepare project infrastructure and facilities for team

- ❑ Prepare UAT (User Acceptance Test) environment

- ❑ Assist the Data Mart's developers of IT-ONE to prepare UAT plan and test scripts and to conduct the UAT

- ❑ Assist Data Mart's developers of IT-ONE to prepare the documentation of Data Mart's user manual including dispatching to business users

- ❑ Prepare training environment and training program and material

- ❑ Assist IT-ONE to conduct training

- ❑ Post support and check feed back of Data Mart system from business users

### 3. Business Users

Business Users are the delegates from each business departments who have main roles to provide the details of business scopes and analytic requirements and they are also required to participate and give feed back on each activities of Data Mart development. The roles and responsibilities of business users are covered as follows.

- ❑ Provide all required information and documents that are required for developing the Data Mart to team

- ❑ Give feed back and problem issue to team

- ❑ Participate and assist team to prepare UAT test scripts

- ❑ Participate in users' training program

❑ Attend Go-live of Data Mart system

### 5.1.3.3 AVANADE's Roles and Responsibilities

1. **Data Mart's developers**

Data Mart developers have key roles to design Dimensional Data Model and OLAP cubes, design ETL process for SAP data to staging database, and design ETL process for non-SAP system (external SAP). They also build and component test of OLAP cubes, ETL (DTS package) for SAP data, and ETL for non-SAP system. The roles and responsibilities are covered as follows.

❑ Prepare Kick-off meeting documents and presentation to present team overview of the Data Mart system; such as, Data Mart concept, benefits and scopes, required information, the method of design and development of Data Mart.

❑ Advise status and problems of their work to project manager

❑ Perform high level external system analysis and design for interface with ODS

❑ Provide ODS consultancy services with reference to the use of SQL Server 2000 and related Microsoft technologies

❑ Assist the Data Mart Developers of IT-ONE to design and develop analytic report templates utilizing Microsoft Excel

❑ Advise on the technical infrastructure to support the use of SQL Server 2000.

&#x2751; Train IT-ONE and AAA's staffs in the use of the SQL Server 2000 analysis services and develop all relevant project documents

&#x2751; Coordinate with IT-ONE and AAA 's staffs to conduct product test

&#x2751; Attend to conduct and support UAT

### 5.1.4 Estimation of Human Resource Cost

Human resource cost is calculated by multiplying rate of employment per day with number of man-days. Rate of employment per day of IT-ONE and AVANADE resources are 10,000 and 35,000 Bahts per day respectively. The total man-days of IT-ONE resources; project manager, Data Mart 's developer no. 1, Data Mart 's developer no. 2, SAP ABAP/4 programmers no. 1, SAP ABAP/4 programmers no. 2, SAP ABAP/4 programmers no. 3, and technical administration, are 50, 136, 124, 37, 37, 37, and 29 respectively. The total man-days of AVANADE resources; Data Mart's developer no. 1 and Data Mart's developer no. 2 , are 68 and 64 (The details of human resource 's man-days in each activities will be shown in Table ). The estimation of human resource cost is shown in Table 5.1.

Table 5.1: The estimation of human resource cost

| Company | Position | Total of man-days (Days) | Rate of employment (Baht/ day) | Total cost (Baht) |
|---|---|---|---|---|
| IT-ONE | Project Manager | 50 | 8,000 | 400,000 |
| | Data Mart Developer no.1 | 136 | 8,000 | 1,088,000 |
| | Data Mart Developer no.2 | 124 | 8,000 | 992,000 |
| | SAP ABAP/4 Programmer no.1 | 37 | 8,000 | 296,000 |
| | SAP ABAP/4 Programmer no.2 | 37 | 8,000 | 296,000 |
| | SAP ABAP/4 Programmer no.3 | 37 | 8,000 | 296,000 |
| | Technical Administration | 29 | 8,000 | 232,000 |
| AVANADE | Data Mart Developer no.1 | 68 | 30,000 | 2,040,000 |
| | Data Mart Developer no. 2 | 64 | 30,000 | 1,920,000 |
| Total cost of human resource = | | | | 7,560,000 |

### 5.1.5 Estimation of Hardware and Software Cost

Hardware and Software cost is estimated on standard set of AVANADE. The hardware is consisted of 2 main parts; development hardware and production hardware. The development hardware will be used by the Data Mart developers during the development phase and after the Data Mart system have completed, the production hardware will be used to run the Data Mart System. Software of the Data Mart is consisted of 3 parts which will be used in different functions; operating system for server, database manager, and visualized/ reporting tools to users. The estimation of hardware and software cost is shown in Table 5.2.

Table 5.2: The estimation of hardware and software cost

| Cost type | Description | quantity (Unit) | Unit Price (Baht) | Total price (Baht) | VAT 7% (Baht) | Total Price (Baht) |
|---|---|---|---|---|---|---|
| Development Hardware Set | CPU (Pentium III, 700 MHz) | 1 | 25,000 | 25,000 | 1,750 | 26,750 |
| | Memory 256/512 MB | 1 | 4,000 | 4,000 | 280 | 4,280 |
| | Storage 20 GB | 1 | 10,000 | 10,000 | 700 | 10,700 |
| | Monitor 15" | 1 | 6,000 | 6,000 | 420 | 6,420 |
| Production Hardware Set | ProLiant DL 380 g2 PIII, 1.4 GHz-512K, RAM 256 MB M1 A/P | 1 | 158,000 | 158,000 | 11,060 | 169,060 |
| | Memory (RAM 1 GB) | 2 | 30,000 | 60,000 | 4,200 | 64,200 |
| | Storage 73 GB Pluggable Ultra3 10K (1") Drive | 3 | 60,000 | 180,000 | 12,600 | 192,600 |
| | Monitor 17" | 1 | 10,000 | 10,000 | 700 | 10,700 |
| Total cost of hardware | | | | | | 484,710 |
| Software Set Operating system for sever | Window Server 2000 English OLP NL | 1 | 30,700 | 30,700 | 2,149 | 32,849 |
| | Window Server 2000 CAL English OLP NL | 50 | 1,280 | 64,000 | 4,480 | 68,480 |
| Database Manager | SQL Server 2000 Enterprise Edition English OLP NL (Per CPU) | 1 | 274,000 | 274,000 | 19,180 | 293,180 |
| | SQL Server 2000 CAL English OLP NL | 1 | 6,300 | 6,300 | 441 | 6,741 |
| Visualized / Reporting Tool | Microsoft Office XP Pro (With MS Access) | 50 | 22,000 | 1,100,000 | 77,000 | 1,177,000 |
| Total cost of software | | | | | | 1,578,250 |
| Total cost of hardware and software= | | | | | | 2,062,960 |

### 5.1.6 The Estimation of Total Cost of Project

The total cost of Data Mart Project is comprised with human resource cost, hardware and software cost, and miscellaneous cost as shown below.

| | |
|---|---|
| Human resource cost | = 7,560,000 Bahts |
| Hardware and software cost | = 2,062,960 Bahts |
| Miscellaneous cost | = 250,000 Bahts |
| Total project investment | = 9,872,960 Bahts |

## 5.2 The Work Plan of Data Mart

### 5.2.1 Process Flow of Data Mart

It is necessary to understand the overview of Data Mart' s process flow before the work plan of Data Mart is developed. The Data Mart's process flow is shown in Figure 5.4.

Step 1: Several ABAP data extraction program extract Measure information from SAP at a designated time. All related transaction tables for Sales, Financial, Purchasing, and customer aging information are extracted from SAP in this step.

Step2: ABAP data extraction program change all measure information from SAP into Text file. Normally this step is taken about 5 hours in daily generating all the text files. Information is contained for running the ABAP programs.

- ❑ Name of ABAP data extraction program
- ❑ Sequence of the ABAP data extraction program
- ❑ Time of running the program

IT-ONE staffs are persons who take daily monitoring of this step. They will rectify and solve any errors that may be occurred on daily basis.

Step3: DTS (Data Transformation Services) packages and stored procedures (SPROCS) extract data from the ABAP text file.

Step4: Daily " Transaction Text Files" are extracted from SAP and loaded by DTS and SPROCS to temporary transaction table (staging database). These text files are transformed into database table to manipulate process of data. The staging database is
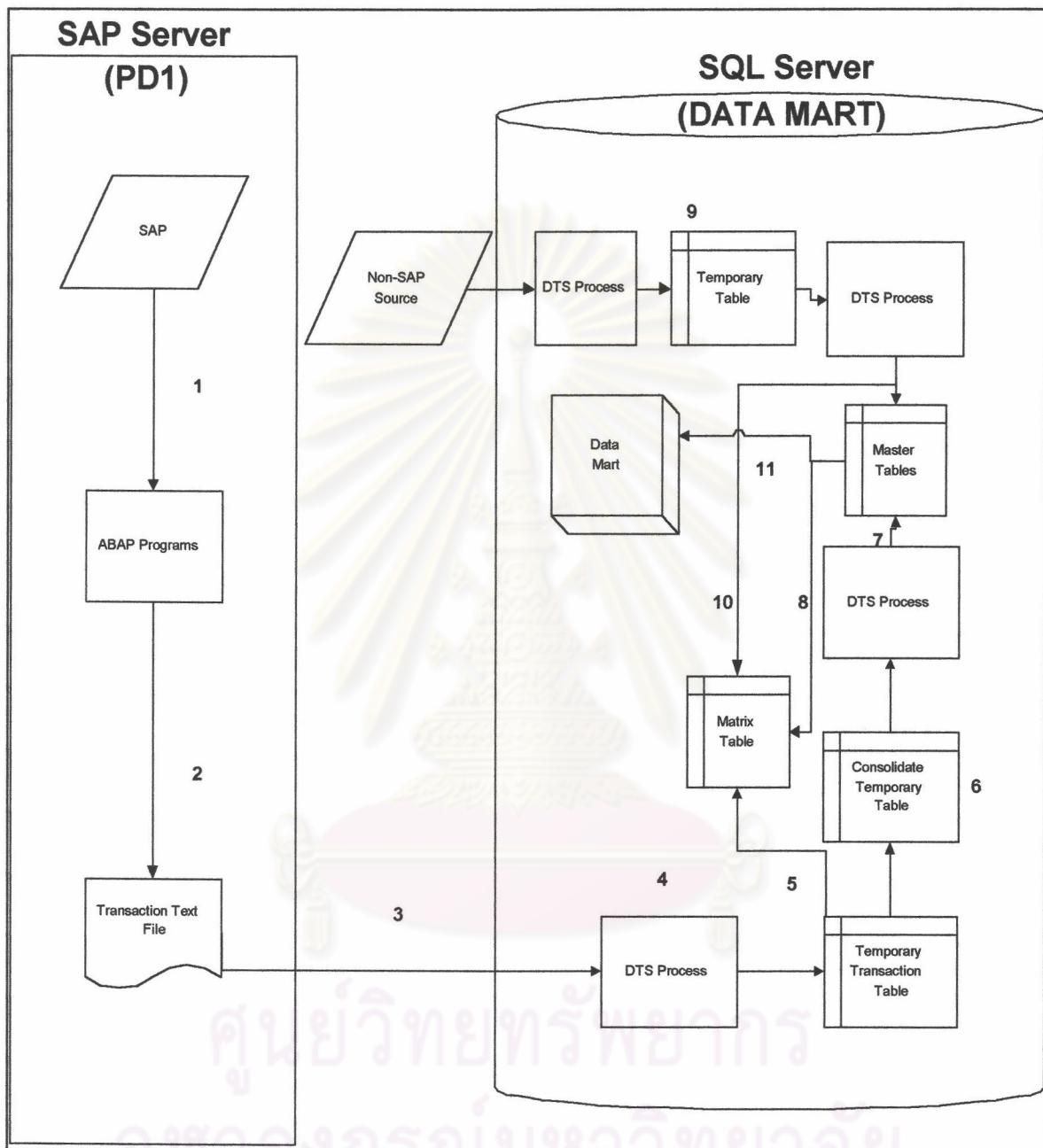
Figure 5.4: Data Mart process flow

performed data manipulation; for example, it converts the sales amount in document currency to that Baht. (Staging is a temporary area in which data is staged for efficient transformation and loading into the data mart.)

No user access occurs within this area. Data is generally deleted on overwritten when the next batch of data needs to be staged. These data will be transferred into the Data Mart database to build the OLAP cubes.

Step 5: When the temporary transaction tables are created, there is a process to update time and process status as finished in the Matrix table. All temporary transaction tables have already been created and transferred successfully before the next task can be started. This matrix table keep information of 1 month for auditing purpose.

Step 6: When the population of the Temporary table is finished, it is transformed the data from staging database to Master Table. The DTS process is required to transform data to Master Tables. There are 3 packages running in the Data Mart to perform DML (Data Manipulation Language-Insert, Update, and Delete) which is based on the action flag provided.

Step7: Data from consolidate temporary table are transformed to master tables by DTS process.

Step 8: After data are transformed to Master table, the text file is deleted from the source. The Matrix table is updated to indicate the extraction when the SAP table is finished. The DTS job will be rescheduled to execute in the next day.

Step 9: Non-SAP data which are consolidated by designed standard format into text files after that the Non-SAP data are extracted by DTS process and send to Temporary table like as step 4. Next the data in temporary table are transformed by DTS process to Master Tables.

Step 10: The time and process status are updated in the matrix table after step 9 completed.
All temporary transaction table has already been created and transformed successfully before the next task can be started. The matrix table keeps information as the same.

Step 11: All data (SAP and Non-SAP) are consolidated into the database in Data Mart using the star schemas which is a simple consists of a fact table in the middle

connected to a set of dimension tables. Then it is built and populated the fact and dimension tables.

### 5.2.2 The Data Mart Development Life Cycle

According to system development life cycle of Shelly, et al., (2001) that was shown in Chapter 2, normally, work plan of Information System follows System Development Life cycle (SDLC). The SDLC model is shown in Figure 5.5.
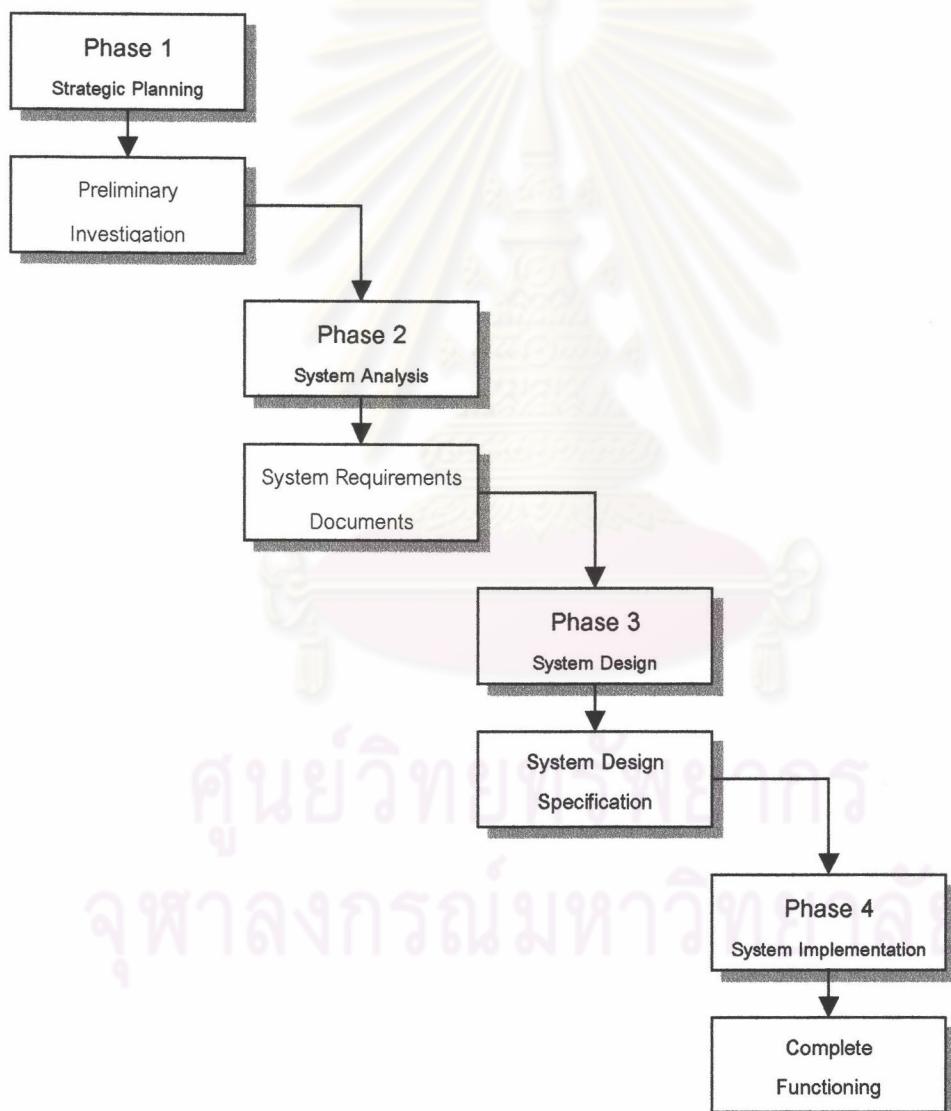


Figure 5.5: The phases of the systems development life cycle (SDLC)

(Adapted from Shelly, et al., 2001)

The work plan of Data Mart follows the system development life cycle (SDLC). SDLC is comprised of 4 phases; strategic planning, system analysis, system design, and system implementation. Since Chapter 3, strategic planning and Chapter 4, Information requirement analysis have already covered strategic planning and system analysis of SDLC. Therefore work plan of Data Mart in this thesis covers only design and implementation phase of SDLC. In work plan of Data Mart, The implementation phase of SDLC is divided into 2 sub-phase; development and deployment.

The tasks in design phase of Data Mart are the design of dimensional data model and OLAP cubes, ETL process for SAP data to staging database, ETL process for non-SAP system (external source), external source database, and MS Excel pivot tables.

The tasks in development phase of Data Mart are build&component test of database, build&component test of cubes, build&component test of MS Excel pivot tables, and build&component test of ETL package.

The tasks in deployment phase of Data Mart are User Acceptance Test (UAT), loading production data from SAP and Non-SAP to the Data Mart, preparing of the Data Mart user's manual, preparing and conducting training, go-live and post support of Data Mart system, developing support documents, transferring knowledge of SAP and Data Mart to application maintenance team and customer support team.

The system development life cycle of Data Mart is shown as Figure 5.6.

| DESIGN | DEVELOPMENT | DEPLOYMENT |
|---|---|---|
| **Purpose:** | **Purpose:** | **Purpose:** |
| 1. Define dimensional model | 1. Implement physical database | 1. Train business users and |
| 2. Define MS Excel PTS. | 2. Implement users interface | IT administrators |
| 3. Design high- level staging | 3. Implement staging and | 2. Test use of Data Mart and MS Excel |
| and transformation requirements | transformation code | PTS. |
| **Key tasks:** | **Key tasks:** | **Key tasks:** |
| 1. Design of dimensional data model | 1. Build&component test of database | 1. User Acceptance Test (UAT) |
| and OLAP cubes | 2. Build&component test of cubes | 2. Load production data from SAP and |
| 2. Design ETL process for SAP data | 3. Build&component test of MS Excel | non-SAP to the Data Mart |
| to staging database | PTS. | 3. Prepare of the Data Mart users' manual |
| 3. Design ETL process for non-SAP | 4. Build&component test of ETL | 4. Prepare and conduct users' training |
| system (external source) | package | 5. Go-live and post support of Data Mart |
| 4. Design external source database | 5. Build&component test of MS Excel | 6. Develop support documents |
| 5. Design MS Excel PTS. | PTS. | 7. Transfer knowledge of SAP and Data |
| | | Mart to application maintenance team |
| | | and customer support team |

Figure 5.6: The data mart' s development lifecycle

### 5.2.3 The Details of Data Mart 's Work Plan

The details of Data Mart's work plan are presented on Gantt chart created by Microsoft Project 2002. The details on work plan shows tasks name and duration in each step; date of start and date of finish. Next, man-days plan of Data Mart is shown. It shows position of project team and number of man-days that is used for implementing Data Mart in each step. The work plan of Data Mart has 11 main tasks; project kick-off meeting and preparation, project status update and monitor, hardware and software procurement and setup, data modeling and system design, data extraction from SAP, data extraction from

non-SAP system (external source), ETL, ODS, and OLAP development, product test, User Acceptance Test (UAT), deploy, and go live and post support. The project will be taken totally 127 days started on Monday, 21/10/2002, finished Tuesday, 15/04/2003. The work plan of Data Mart is shown Figure 5.7 and 5.8 and man-days plan of Data Mart is shown in Table 5.3 as follows.

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | **Project Plan Duration** | **127 days** | **Mon 21/10/02** | **Tue 15/4/03** |
| 2 | Project Kick-Off Meeting and Preparation | 11 days | Mon 21/10/02 | Mon 4/11/02 |
| 6 | Project status update and monitor | 115 days | Mon 4/11/02 | Fri 11/4/03 |
| 9 | Hardware and Software Procument and Setup | 27 days | Tue 29/10/02 | Wed 4/12/02 |
| 17 | Data Modeling and System Design | 26 days | Tue 5/11/02 | Tue 10/12/02 |
| 22 | Data Extraction from SAP | 31 days | Wed 11/12/02 | Wed 22/1/03 |
| 32 | Data Extraction from Non-SAP System (external source) | 29 days | Wed 11/12/02 | Mon 20/1/03 |
| 45 | ETL, ODS, and OLAP Development | 15 days | Thu 23/1/03 | Wed 12/2/03 |
| 56 | Product Test | 7 days | Thu 13/2/03 | Fri 21/2/03 |
| 59 | User Acceptance Test (UAT) | 8 days | Mon 24/2/03 | Wed 5/3/03 |
| 64 | Deploy | 8 days | Thu 6/3/03 | Mon 17/3/03 |
| 70 | Go Live and Post Support | 21 days | Tue 18/3/03 | Tue 15/4/03 |

Legend:
- Task
- Split
- Progress
- Milestone
- Summary
- Project Summary
- External Tasks
- External Milestone
- Deadline

Project: Data Mart
Created by Jadepiya
Date: 15/10/02

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Figure 5.7: Over view of Data Mart 's work plan

# WORK PLAN OF DATA MART

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | Project Plan Duration | 127 days | Mon 21/10/02 | Tue 15/4/03 |
| 2 | Project Kick-Off Meeting and Preparation | 11 days | Mon 21/10/02 | Mon 4/11/02 |
| 3 | Prepare Kick-Off contents and documents | 5 days | Mon 21/10/02 | Fri 25/10/02 |
| 4 | Implement Kick-Off meeting | 1 day | Mon 28/10/02 | Mon 28/10/02 |
| 5 | Project Preparation (infrastructure & facility) | 5 days | Tue 29/10/02 | Mon 4/11/02 |
| 6 | Project status update and monitor | 115 days | Mon 4/11/02 | Fri 11/4/03 |
| 7 | Project team meeting (monitor project and solve problems) | 23 days | Mon 4/11/02 | Mon 7/4/03 |
| 8 | Report status of project | 111 days | Fri 8/11/02 | Fri 11/4/03 |
| 9 | Hardware and Software Procument and Setup | 27 days | Tue 29/10/02 | Wed 4/12/02 |
| 10 | Hardware and Software Procument | 12 days | Tue 29/10/02 | Wed 13/11/02 |
| 11 | Identify Hardware and Software specification | 2 days | Tue 29/10/02 | Wed 30/10/02 |
| 12 | Hardware and Software package procurements | 10 days | Thu 31/10/02 | Wed 13/11/02 |
| 13 | Hardware and Software Setup | 15 days | Thu 14/11/02 | Wed 4/12/02 |
| 14 | Set Up Development Server and Workstation | 7 days | Thu 14/11/02 | Fri 22/11/02 |
| 15 | Set Up Production Server and Workstation | 7 days | Mon 25/11/02 | Tue 3/12/02 |
| 16 | Server Maintenance Policy and Place | 1 day | Wed 4/12/02 | Wed 4/12/02 |
| 17 | Data Modeling and System Design | 26 days | Tue 5/11/02 | Tue 10/12/02 |
| 18 | Design Dimensional Data Model and OLAP Cubes | 8 days | Tue 5/11/02 | Thu 14/11/02 |
| 19 | Design ETL process for SAP data to staging Database | 8 days | Fri 15/11/02 | Tue 26/11/02 |
| 20 | Design ETL process for non-SAP system (external SAP) | 8 days | Wed 27/11/02 | Fri 6/12/02 |
| 21 | Acceptance sign-off for data modeling and system design | 2 days | Mon 9/12/02 | Tue 10/12/02 |
| 22 | Data Extraction from SAP | 31 days | Wed 11/12/02 | Wed 22/1/03 |
| 23 | Get requirement from data modeling and system design | 5 days | Wed 11/12/02 | Tue 17/12/02 |
| 24 | Develop detail design | 7 days | Wed 18/12/02 | Thu 26/12/02 |
| 25 | Develop and inspect detailed requirement summary | 2 days | Wed 18/12/02 | Thu 19/12/02 |
| 26 | Develop and inspect detailed design | 5 days | Fri 20/12/02 | Thu 26/12/02 |
| 27 | Build and component test | 12 days | Fri 27/12/02 | Mon 13/1/03 |
| 28 | Build component | 12 days | Fri 27/12/02 | Mon 13/1/03 |
| 29 | Inspect and execute component test | 10 days | Tue 31/12/02 | Mon 13/1/03 |
| 30 | Assembly test until staging database | 5 days | Tue 14/1/03 | Mon 20/1/03 |
| 31 | Acceptance sign-off data extraction from SAP (ABAP/4 coding) | 2 days | Tue 21/1/03 | Wed 22/1/03 |
| 32 | Data Extraction from Non-SAP System (external source) | 29 days | Wed 11/12/02 | Mon 20/1/03 |
| 33 | Get requirement from data modeling and system design | 5 days | Wed 11/12/02 | Tue 17/12/02 |
| 34 | Develop detail design for flat file to staging database | 7 days | Wed 18/12/02 | Thu 26/12/02 |
| 35 | Develop and inspect detailed requirement summary | 2 days | Wed 18/12/02 | Thu 19/12/02 |
| 36 | Develop and inspect detailed design | 5 days | Fri 20/12/02 | Thu 26/12/02 |
| 37 | Design external source database | 5 days | Fri 27/12/02 | Thu 2/1/03 |
| 38 | Design external source | 5 days | Fri 27/12/02 | Thu 2/1/03 |
| 39 | Inspect external source database design | 3 days | Tue 31/12/02 | Thu 2/1/03 |
| 40 | Build and component test | 5 days | Fri 3/1/03 | Thu 9/1/03 |
| 41 | Build component | 5 days | Fri 3/1/03 | Thu 9/1/03 |
| 42 | Inspect and execute component test | 3 days | Tue 7/1/03 | Thu 9/1/03 |

Project: Data Mart
Created by Jadepiya
Date 15/10/2003

Legend: Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline
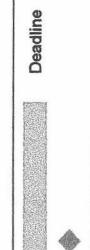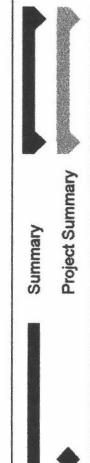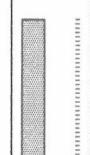
Figure 5.8: The work plan of Data Mart

# WORK PLAN OF DATA MART

| ID | Task Name | Duration | Start | Finish |
|----|-----------|----------|-------|--------|
| 43 | Assembly test until staging database | 5 days | Fri 10/1/03 | Thu 16/1/03 |
| 44 | Acceptance sign-off data extraction from non-SAP system | 2 days | Fri 17/1/03 | Mon 20/1/03 |
| 45 | ETL, ODS, and OLAP Development | 15 days | Thu 23/1/03 | Wed 12/2/03 |
| 46 | Build and component test OLAP cubes | 5 days | Thu 23/1/03 | Wed 29/1/03 |
| 47 | Build component | 5 days | Thu 23/1/03 | Wed 29/1/03 |
| 48 | Inspect and excute component test | 3 days | Mon 27/1/03 | Wed 29/1/03 |
| 49 | Build and component test ETL (DTS packages) for SAP data | 8 days | Thu 30/1/03 | Mon 10/2/03 |
| 50 | Build component | 8 days | Thu 30/1/03 | Mon 10/2/03 |
| 51 | Inspect and excute component test | 6 days | Mon 3/2/03 | Mon 10/2/03 |
| 52 | Build and component test ETL for non-SAP system | 8 days | Thu 30/1/03 | Mon 10/2/03 |
| 53 | Build component | 8 days | Thu 30/1/03 | Mon 10/2/03 |
| 54 | Inspect and excute component test | 6 days | Mon 3/2/03 | Mon 10/2/03 |
| 55 | Acceptance sign-off ETL, ODS, and OLAP development | 2 days | Tue 11/2/03 | Wed 12/2/03 |
| 56 | Product Test | 7 days | Thu 13/2/03 | Fri 21/2/03 |
| 57 | Prepare environment, test plan and test scripts | 2 days | Thu 13/2/03 | Fri 14/2/03 |
| 58 | Conduct product test and document system test results | 5 days | Mon 17/2/03 | Fri 21/2/03 |
| 59 | User Acceptance Test (UAT) | 8 days | Mon 24/2/03 | Wed 5/3/03 |
| 60 | Prepare UAT environment | 2 days | Mon 24/2/03 | Tue 25/2/03 |
| 61 | Prepare UAT plan and test scripts | 2 days | Mon 24/2/03 | Tue 25/2/03 |
| 62 | Conduct and support UAT | 4 days | Wed 26/2/03 | Mon 3/3/03 |
| 63 | Acceptance sign-off UAT | 2 days | Tue 4/3/03 | Wed 5/3/03 |
| 64 | Deploy | 8 days | Thu 6/3/03 | Mon 17/3/03 |
| 65 | Load production data from SAP and Non-SAP system | 5 days | Thu 6/3/03 | Wed 12/3/03 |
| 66 | Prepare Data Mart's user manual | 5 days | Thu 6/3/03 | Wed 12/3/03 |
| 67 | Prepare training environment | 2 days | Thu 6/3/03 | Fri 7/3/03 |
| 68 | Prepare training program and material | 2 days | Mon 10/3/03 | Tue 11/3/03 |
| 69 | Conduct training | 4 days | Wed 12/3/03 | Mon 17/3/03 |
| 70 | Go Live and Post Support | 21 days | Tue 18/3/03 | Tue 15/4/03 |
| 71 | Go live Data Mart system | 1 day | Tue 18/3/03 | Tue 18/3/03 |
| 72 | Post support Data Mart system | 5 days | Wed 19/3/03 | Tue 25/3/03 |
| 73 | Develop support documents | 8 days | Wed 26/3/03 | Fri 4/4/03 |
| 74 | Develop SAP support documents | 4 days | Wed 26/3/03 | Mon 31/3/03 |
| 75 | Develop Data Mart support documents | 4 days | Tue 1/4/03 | Fri 4/4/03 |
| 76 | Knowledge Transfers to application maintenance team | 4 days | Mon 7/4/03 | Thu 10/4/03 |
| 77 | SAP knowledge transfers to application maintenance team | 2 days | Mon 7/4/03 | Tue 8/4/03 |
| 78 | Data Mart knowledge transfers to application maintenance team | 2 days | Wed 9/4/03 | Thu 10/4/03 |
| 79 | Knowledge transfers to customer support team | 3 days | Fri 11/4/03 | Tue 15/4/03 |

Legend: Task, Split, Progress, Milestone, Summary, Project Summary, External Tasks, External Milestone, Deadline

Figure 5.8: The work plan of Data Mart

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Table 5.3: The man-days plan of Data Mart

| ID | TASK NAME | START DATE DD/MM/YY | | FINISH DATE DD/MM/YY | | DURATION (DAYS) | Project Manager | IT-ONE Data Mart Developer (1) | IT-ONE Data Mart Developer (2) | SAP ABAP/4 Programmer (1) | SAP ABAP/4 Programmer (2) | SAP ABAP/4 Programmer (3) | Technical Administration | AVANADE Data Mart Developer (1) | AVANADE Data Mart Developer (2) | Project Director | AAA Project Coordinator (1) | AAA Project Coordinator (2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Project Plan Duration | Mon. | 21-Oct-02 | Tue. | 15-Apr-03 | 127 days | 50 | 136 | 124 | 37 | 37 | 37 | 29 | 68 | 64 | 49 | 50 | 47 |
| 2 | Project Kick-Off Meeting and Preparation | Mon. | 21-Oct-02 | Mon. | 4-Nov-02 | 11 days | 3 | 8 | 8 | | | | | 6 | 6 | 3 | 5 | 5 |
| 3 | - Prepare Kick-Off documents | Mon. | 21-Oct-02 | Fri. | 25-Oct-02 | 5 days | 1 | 5 | 5 | | | | | 3 | 3 | 1 | | |
| 4 | - Implement Kick-Off meeting | Mon. | 28-Oct-02 | Mon. | 28-Oct-02 | 1 day | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 | 1 |
| 5 | - Project Preparation (infrastructure & facility) | Tue. | 29-Oct-02 | Mon. | 4-Nov-02 | 5 days | 1 | 2 | 2 | | | | | 2 | 2 | 1 | 4 | 4 |
| 6 | Project status update and monitor | Mon. | 4-Nov-02 | Fri. | 11-Apr-03 | 115 days | 35 | 9 | 9 | 2 | 2 | 2 | | 5 | 5 | 9 | 5 | 5 |
| 7 | - Project team meeting (monitor project and solve problems) | Mon. | 4-Nov-02 | Mon. | 7-Apr-03 | 23 days | 9 | 9 | 9 | 2 | 2 | 2 | | 5 | 5 | 9 | 5 | 5 |
| 8 | - Report status of project | Fri. | 8-Nov-02 | Fri. | 11-Apr-03 | 111 days | 26 | | | | | | | | | | | |
| 9 | Hardware and Software Procurement and Setup | Tue. | 29-Oct-02 | Wed. | 4-Dec-02 | 27 days | 2 | 9 | 5 | | | | 14 | | | 4 | 5 | 5 |
| 10 | - Hardware and Software Procurment | Tue. | 29-Oct-02 | Wed. | 13-Nov-02 | 12 days | 2 | 5 | 5 | | | | 0 | | | 4 | 5 | 5 |
| 11 | - Identify Hardware and Software specification | Tue. | 29-Oct-02 | Wed. | 30-Oct-02 | 2 days | 1 | 2 | 2 | | | | | | | 1 | 2 | 2 |
| 12 | - Hardware and Software package procurements | Thu. | 31-Oct-02 | Wed. | 13-Nov-02 | 10 days | 1 | 3 | 3 | | | | | | | 3 | 3 | 3 |
| 13 | - Hardware and Software Setup | Thu. | 14-Nov-02 | Wed. | 4-Dec-02 | 15 days | | 4 | | | | | 14 | | | | | |
| 14 | - Set Up Development Server and Workstation | Thu. | 14-Nov-02 | Fri. | 22-Nov-02 | 7 days | | 2 | | | | | 7 | | | | | |
| 15 | - Set Up Production Server and Workstation | Mon. | 25-Nov-02 | Tue. | 3-Dec-02 | 7 days | | 2 | | | | | 7 | | | | | |
| 16 | - Server Maintenance Policy and Place | Wed. | 4-Dec-02 | Wed. | 4-Dec-02 | 1 day | 1 | 1 | | | | | | | | 1 | | |
| 17 | Data Modeling and System Design | Tue. | 5-Nov-02 | Tue. | 10-Dec-02 | 26 days | 2 | 20 | 18 | | | | | 26 | 24 | 3 | 2 | 2 |
| 18 | - Design Dimensional Data Model and OLAP Cubes | Tue. | 5-Nov-02 | Thu. | 14-Nov-02 | 8 days | | 6 | 6 | | | | | 8 | 8 | 2 | 2 | 2 |
| 19 | - Design ETL process for SAP data to staging Database | Fri. | 15-Nov-02 | Tue. | 26-Nov-02 | 8 days | | 6 | 6 | | | | | 8 | 8 | | | |
| 20 | - Design ETL process for non-SAP system (external SAP) | Wed. | 27-Nov-02 | Fri. | 6-Dec-02 | 8 days | | 6 | 6 | | | | | 8 | 8 | | | |
| 21 | - Acceptance sign-off for data modeling and system design | Mon. | 9-Dec-02 | Tue. | 10-Dec-02 | 2 days | 2 | 2 | 2 | | | | | 2 | | 1 | | |

| ID | TASK NAME | START DATE DD/MM/YY | | FINISH DATE DD/MM/YY | | DURATION (DAYS) | Project Manager | Data Mart Developer (1) | Data Mart Developer (2) | SAP ABAP/4 Programmer (1) | SAP ABAP/4 Programmer (2) | SAP ABAP/4 Programmer (3) | Technical Administration | Data Mart Developer (1) | Data Mart Developer (2) | Project Director | Project Coordinator (1) | Project Coordinator (2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 22 | Data Extraction from SAP | Wed. | 11-Dec-02 | Wed. | 22-Jan-03 | 31 days | 2 | 31 | | 31 | 31 | 31 | | | | 2 | | |
| 23 | - Get requirement from data modeling and system design | Wed. | 11-Dec-02 | Tue. | 17-Dec-02 | 5 days | | 5 | | 5 | 5 | 5 | | | | | | |
| 24 | - Develop detail design | Wed. | 18-Dec-02 | Thu. | 26-Dec-02 | 7 days | | 7 | | 7 | 7 | 7 | | | | | | |
| 25 | - Develop and inspect detailed requirement summary | Wed. | 18-Dec-02 | Thu. | 19-Dec-02 | 2 days | | 2 | | 2 | 2 | 2 | | | | | | |
| 26 | - Develop and inspect detailed design | Fri. | 20-Dec-02 | Thu. | 26-Dec-02 | 5 days | | 5 | | 5 | 5 | 5 | | | | | | |
| 27 | - Build and component test | Fri. | 27-Dec-02 | Mon. | 13-Jan-03 | 12 days | | 12 | | 12 | 12 | 12 | | | | | | |
| 28 | - Build component | Fri. | 27-Dec-02 | Mon. | 13-Jan-03 | 12 days | | 7 | | 7 | 7 | 7 | | | | | | |
| 29 | - Inspect and excute component test | Tue. | 31-Dec-02 | Mon. | 13-Jan-03 | 10 days | | 5 | | 5 | 5 | 5 | | | | | | |
| 30 | - Assembly test until staging database | Tue. | 14-Jan-03 | Mon. | 20-Jan-03 | 5 days | | 5 | | 5 | 5 | 5 | | | | | | |
| 31 | - Acceptance sign-off data extraction from SAP (ABAP/4 coding) | Tue. | 21-Jan-03 | Wed. | 22-Jan-03 | 2 days | 2 | 2 | | 2 | 2 | 2 | | | | 2 | | |
| 32 | Data Extraction from Non-SAP System (external source) | Wed. | 11-Dec-02 | Mon. | 20-Jan-03 | 29 days | 2 | | 30 | | | | | | | 8 | 7 | 4 |
| 33 | - Get requirement from data modeling and system design | Wed. | 11-Dec-02 | Tue. | 17-Dec-02 | 5 days | | | 5 | | | | | | | | | |
| 34 | - Develop detail design for flat file to staging database | Wed. | 18-Dec-02 | Thu. | 26-Dec-02 | 7 days | | | 7 | | | | | | | | | |
| 35 | - Develop and inspect detailed requirement summary | Wed. | 18-Dec-02 | Thu. | 19-Dec-02 | 2 days | | | 2 | | | | | | | | | |
| 36 | - Develop and inspect detailed design | Fri. | 20-Dec-02 | Thu. | 26-Dec-02 | 5 days | | | 5 | | | | | | | | | |
| 37 | - Design external source database | Fri. | 27-Dec-02 | Thu. | 2-Jan-03 | 5 days | | | 8 | | | | | | | 6 | 5 | 2 |
| 38 | - Design external source | Fri. | 27-Dec-02 | Thu. | 2-Jan-03 | 5 days | | | 5 | | | | | | | 3 | 3 | 1 |
| 39 | - Inspect external source database design | Tue. | 31-Dec-02 | Thu. | 9-Jan-03 | 3 days | | | 3 | | | | | | | 3 | 2 | 1 |
| 40 | - Build and component test | Fri. | 3-Jan-03 | Thu. | 9-Jan-03 | 5 days | | | 3 | | | | | | | | | |
| 41 | - Build component | Fri. | 3-Jan-03 | Thu. | 9-Jan-03 | 5 days | | | 2 | | | | | | | | | |
| 42 | - Inspect and execute component test | Tue. | 7-Jan-03 | Thu. | 9-Jan-03 | 3 days | | | 1 | | | | | | | | | |
| 43 | - Assembly test until staging database | Fri. | 10-Jan-03 | Thu. | 16-Jan-03 | 5 days | | | 5 | | | | | | | | | |

| ID | TASK NAME | START DATE DD/MM/YY | FINISH DATE DD/MM/YY | DURATION (DAYS) | IT-ONE Project Manager | Data Mart Developer (1) | Data Mart Developer (2) | SAP ABAP/4 Programmer (1) | SAP ABAP/4 Programmer (2) | SAP ABAP/4 Programmer (3) | Technical Administration | AVANADE Data Mart Developer (1) | Data Mart Developer (2) | AAA Project Director | Project Coordinator (1) | Project Coordinator (2) |
|----|-----------|---------------------|----------------------|-----------------|-----|---|---|---|---|---|---|---|---|---|---|---|
| 44 | - Acceptance sign-off data extraction from non-SAP system | Fri. 17-Jan-03 | Mon. 20-Jan-03 | 2 days | 2 | | 2 | | | | | | | 2 | 2 | 2 |
| 45 | ETL, ODS, and OLAP Development | Thu. 23-Jan-03 | Wed. 12-Feb-03 | 15 days | 2 | 13 | 11 | | | | | 24 | 22 | 2 | | |
| 46 | - Build and component test OLAP cubes | Thu. 23-Jan-03 | Wed. 29-Jan-03 | 5 days | | 3 | 3 | | | | | 8 | 8 | | | |
| 47 | - Build component | Thu. 23-Jan-03 | Wed. 29-Jan-03 | 5 days | | 2 | 2 | | | | | 5 | 5 | | | |
| 48 | - Inspect and excute component test | Mon. 27-Jan-03 | Wed. 29-Jan-03 | 3 days | | 1 | 1 | | | | | 3 | 3 | | | |
| 49 | - Build and component test ETL (DTS packages) for SAP data | Thu. 30-Jan-03 | Mon. 10-Feb-03 | 8 days | | 4 | 4 | | | | | 7 | 7 | | | |
| 50 | - Build component | Thu. 30-Jan-03 | Mon. 10-Feb-03 | 8 days | | 2 | 2 | | | | | 4 | 4 | | | |
| 51 | - Inspect and excute component test | Mon. 3-Feb-03 | Mon. 10-Feb-03 | 6 days | | 2 | 2 | | | | | 3 | 3 | | | |
| 52 | - Build and component test ETL for non-SAP system | Thu. 30-Jan-03 | Mon. 10-Feb-03 | 8 days | | 4 | 4 | | | | | 7 | 7 | | | |
| 53 | - Build component | Thu. 30-Jan-03 | Mon. 10-Feb-03 | 8 days | | 2 | 2 | | | | | 4 | 4 | | | |
| 54 | - Inspect and excute component test | Mon. 3-Feb-03 | Mon. 10-Feb-03 | 6 days | | 2 | 2 | | | | | 3 | 3 | | | |
| 55 | - Acceptance sign-off ETL, ODS, and OLAP development | Tue. 11-Feb-03 | Wed. 12-Feb-03 | 2 days | 2 | 2 | 2 | | | | | 2 | 2 | 2 | | |
| 56 | Product Test | Thu. 13-Feb-03 | Fri. 21-Feb-03 | 7 days | | 7 | 7 | | | | | 7 | 7 | | | |
| 57 | - Prepare environment, test plan and test scripts | Thu. 13-Feb-03 | Fri. 14-Feb-03 | 2 days | | 2 | 2 | | | | | 2 | 2 | | | |
| 58 | - Conduct product test and document system test results | Mon. 17-Feb-03 | Fri. 21-Feb-03 | 5 days | | 5 | 5 | | | | | 5 | 5 | | | |
| 59 | User Acceptance Test (UAT) | Mon. 24-Feb-03 | Wed. 5-Mar-03 | 8 days | 2 | 8 | 6 | | | | 5 | | | 5 | 8 | 8 |
| 60 | - Prepare UAT environment | Mon. 24-Feb-03 | Tue. 25-Feb-03 | 2 days | | 1 | 1 | | | | 1 | | | 1 | 1 | 1 |
| 61 | - Prepare UAT plan and test scripts | Mon. 24-Feb-03 | Tue. 25-Feb-03 | 2 days | | 1 | 1 | | | | | | | 1 | 1 | 1 |
| 62 | - Conduct and support UAT | Wed. 26-Feb-03 | Mon. 3-Mar-03 | 4 days | | 4 | 4 | | | | 4 | | | 1 | 4 | 4 |
| 63 | - Acceptance sign-off UAT | Tue. 4-Mar-03 | Wed. 5-Mar-03 | 2 days | 2 | 2 | 2 | | | | | | | 2 | 2 | 2 |
| 64 | Deploy | Thu. 6-Mar-03 | Mon. 17-Mar-03 | 8 days | | 10 | 9 | | | | 4 | | | 7 | 9 | 9 |
| 65 | - Load production data from SAP and Non-SAP system | Thu. 6-Mar-03 | Wed. 12-Mar-03 | 5 days | | 1 | | | | | 4 | | | | | |

| ID | TASK NAME | START DATE | | FINISH DATE | | DURATION (DAYS) | Project Manager | Data Mart Developer (1) | Data Mart Developer (2) | SAP ABAP/4 Programmer (1) | SAP ABAP/4 Programmer (2) | SAP ABAP/4 Programmer (3) | Technical Administration | Data Mart Developer (1) | Data Mart Developer (2) | Project Director | Project Coordinator (1) | Project Coordinator (2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | IT-ONE | | | | | | AVANADE | | AAA | | |
| 66 | - Prepare Data Mart's user manual | Thu. | 6-Mar-03 | Wed. | 12-Mar-03 | 5 days | | 3 | 3 | | | | | | | 1 | 1 | 1 |
| 67 | - Prepare training environment | Thu. | 6-Mar-03 | Fri. | 7-Mar-03 | 2 days | | | | | | | | | | 2 | 2 | 2 |
| 68 | - Prepare training program and materials | Mon. | 10-Mar-03 | Tue. | 11-Mar-03 | 2 days | | 2 | 2 | | | | | | | 2 | 2 | 2 |
| 69 | - Conduct training | Wed. | 12-Mar-03 | Mon. | 17-Mar-03 | 4 days | | 4 | 4 | | | | | | | 4 | 4 | 4 |
| 70 | Go Live and Post Support | Tue. | 18-Mar-03 | Tue. | 15-Apr-03 | 21 days | | 21 | 21 | 4 | 4 | 4 | 6 | | | 6 | 9 | 9 |
| 71 | - Go live Data Mart system | Tue. | 18-Mar-03 | Tue. | 18-Mar-03 | 1 day | | 1 | 1 | | | | 1 | | | 1 | 1 | 1 |
| 72 | - Post support Data Mart system | Wed. | 19-Mar-03 | Tue. | 25-Mar-03 | 5 days | | 5 | 5 | | | | 5 | | | 2 | 5 | 5 |
| 73 | - Develop support documents | Wed. | 26-Mar-03 | Fri. | 4-Apr-03 | 8 days | | 8 | 8 | 2 | 2 | 2 | | | | | | |
| 74 | - Develop SAP support documents | Wed. | 26-Mar-03 | Mon. | 31-Mar-03 | 4 days | | 4 | 4 | 2 | 2 | 2 | | | | | | |
| 75 | - Develop Data Mart support documents | Tue. | 1-Apr-03 | Fri. | 4-Apr-03 | 4 days | | 4 | 4 | | | | | | | | | |
| 76 | - Knowledge Transfers to application maintenance team | Mon. | 7-Apr-03 | Thu. | 10-Apr-03 | 4 days | | 4 | 4 | 2 | 2 | 2 | | | | | | |
| 77 | - SAP knowledge transfers to application maintenance team | Mon. | 7-Apr-03 | Tue. | 8-Apr-03 | 2 days | | 2 | 2 | 2 | 2 | 2 | | | | | | |
| 78 | - Data Mart knowledge transfers to application maintenance team | Wed. | 9-Apr-03 | Thu. | 10-Apr-03 | 2 days | | 2 | 2 | | | | | | | | | |
| 79 | - Knowledge transfers to customer support team | Fri. | 11-Apr-03 | Tue. | 15-Apr-03 | 3 days | | 3 | 3 | | | | | | | 3 | 3 | 3 |

The details in each step of Data Mart's work plan are described as follows.

1.  **Project Kick-Off Meeting and Preparation**

Before project will be started, IT-ONE and AAA, arrange the meeting to discuss about all concerned works, the roles and responsibilities, the scopes and objectives of project, concepts, solutions, benefits of Data Mart, overview of Data Mart, key deliveries of project, majors and key concerns, restrictions of budget and timeliness, etc., in addition, the project methodologies; analysis of requirements, design, development, deployment, and go live and post support, will be presented by IT-ONE in this step.

After project kick-off meeting has completed, project preparation is implemented. Project preparation includes infrastructure and facilities 's preparation for project team; such as, telephone, notebook, meeting room and work room, faxes, scanners, printers, and others. Project preparation also coves preparing the concerned document and human resource.

The steps of project kick-off meeting and preparation are shown as follows

- ❑  Prepare kick-off document
- ❑  Implement kick-off meeting
- ❑  Project preparation (Infrastructures & Facilities)

2.  **Project Status Update and Monitor**

Project team meeting will be arranged every Monday started on Monday, 4/11/2002 to Monday, 7/04/2003 totally 35 days to track project progress and solve occurred problems during implementing the Data Mart. Project team cooperates and helps each other to find

out the solutions to maintain the project on schedule. Resource usage will be monitored to control all costs within budget. Actual man-day of project staffs will be also monitored and revised to control cost. During implementation of Data Mart may have some scopes changed out of plan so project team has many discusses and they will be finalise among IT-ONE, AVANADE, and AAA Company.

Weekly status reports will be prepared by project manager every Friday started from Friday, 8/11/2002 to Friday, 11/04/2003 and they will be sent directly to Data Mart's project director and copied to all concerned persons. The weekly status reports cover the summary of completed task in each week, overall project progress (%), issues for management attention, issues resolved in last week, major accomplishment in each week, key activities and issues that will be discuss of next week.

The steps of project status update and monitor are shown as follows.

- ❏ Project team meeting (monitor project and solve problems)
- ❏ Report status of project

### 3. Hardware and Software Procurement and Set Up

Hardware and Software's specification and procurement are considered by project staffs of IT-ONE and AAA Company as soon as they finish the kick-off meeting. They will be considered on total transaction; number of users, number of transaction per day, and the budget of the company. After procurement of hardware and software is completed and hardware and software are delivered, technical administration set up development and production server and workstation to prepare for development and design of the Data Mart in the next step.

Then the project manager, Data Mart developers, and project director set server maintenance policy and place that will be used to be the reference after the Data Mart system is completed.

The steps of hardware and software procurement and set up are shown as follows.

- ❑ Identify hardware and software specification
- ❑ Hardware and software package procurement
- ❑ Set up development server and workstation
- ❑ Set up production server and workstation
- ❑ Server maintenance policy and place

### 4. Data Modeling and System Design

The high-level data model that was developed in system requirement determination is used as guideline for Data Mart Developers to design data model of Data Mart. Then Data Mart Developers will design ETL process for both of SAP data and not-SAP data that will be used for extracting and loading data from designed text files to staging Database before transformed to the Data Mart system. The AVANADE's Data Mart Developers have big roles in this step since the design of Data Mart needs the specialists who have very good skills and well understand about system architectures and have many experiences on design of the Data Mart.

The steps of Data Modeling and System Design are shown as follows.

- ❑ Design dimensional data model and OLAP cubes
- ❑ Design ETL process for SAP data to staging DB
- ❑ Design ETL process for non-SAP system (external source) to staging DB
- ❑ Acceptance sign-off- Data modeling and system design

## 5. Data Extraction From SAP

In this step, the SAP ABAP/4 Programmers have main roles to design ABAP data extraction program to extract required data from SAP. This program will transform the required data; sales, financial, purchasing, and customer aging data, etc, in SAP to be ABAP flat files that ready to be loaded to the Data Mart system. The SAP ABAP/4 Programmers should be the same group that was built the SAP in last five years so The IT-ONE ABAP/4 Programmers are selected to be main resource for designing ABAP/4 coding.

The steps of data extraction from SAP are shown as follows.

- ❑ Get requirement from data modeling and system design
- ❑ Develop and inspect detailed requirement summary
- ❑ Develop and inspect detailed design
- ❑ Build component test
- ❑ Inspect and execute component test
- ❑ Assembly test until staging database
- ❑ Acceptance sign-off-Data extraction from SAP ABAP/4 Coding

## 6. Data Extraction From Non-SAP System (external source)

The step the Data Mart's Developers design external source database to consolidate the external data (non-SAP) in the form that can be loaded to staging database.

The steps of data extraction from non-SAP are shown as follows.

- ❑ Get requirement from data modeling and system design
- ❑ Develop detail design for flat file to staging database
- ❑ Design external source database

&#9633;  Build and component test

&#9633;  Assembly test until staging database

&#9633;  Acceptance sign-off-Data extraction from non-SAP system

### 7. ETL, ODS and OLAP Development

The AVANADE 's Data Mart Developers have key roles to develop the ETL, ODS, OLAP since this concerns with designing the process and system to link the working of Data Mart, This step concerns with building and components test of OLAP cubes and ETL process for both SAP and non-SAP system. ODS will be developed to build storing area for Data.

The steps of ETL, ODS and OLAP developments are shown as follows.

&#9633;  Build and component test OLAP cubes

&#9633;  Build and component test ETL (DTS packages) for SAP data

&#9633;  Build and component test ETL (DTS packages) for non-SAP system (external source)

&#9633;  Acceptance sign-off- ETL, ODS and OLAP development

### 8. Product Test

Product test will be conducted to check the working of Data Mart. The objective is to identify and eliminate execution error, which could cause the Data Mart system to terminate abnormally. All possible situations that could occur the errors should be tested. The product test can be presented as follow.

The steps of product test are shown as follows.

- ❏ Prepare environment, test plan and test scripts
- ❏ Conduct product test and document system test results

### 9 User Acceptance Test (UAT)

UAT will be conducted after product test has completed. This test is required the participation of users to check the system can serve all business requirements and scopes.

The steps of User Acceptance Test (UAT) are shown as follows.

- ❏ Prepare UAT environment
- ❏ Prepare UAT plan and test scripts
- ❏ Conduct and support UAT
- ❏ Acceptance sign-off- UAT

### 10 Deployment

This step is prepared for actual usage. The technical administration will load production data from SAP and non-SAP system so that users can start to use the system. The Data Mart's user manual will be developed and then training will be conducted to train users before starting use of system.

The steps of deployment are shown as follows.

- ❏ Load production data from SAP and non-SAP system
- ❏ Prepare Data Mart's user manual
- ❏ Prepare training environment
- ❏ Prepare training program and material
- ❏ Conduct training

## 11 Go Live and Post Support

Users start to use the Data Mart. In first week, project team still closely follows up and they provide services and give suggestions to users. They also collect feedback from the users to check the working of system. The IT-ONE staffs have to develop support document. In addition, the SAP knowledge will be transferred to application maintenance team and Data Mart knowledge will be transferred to application maintenance team. Finally, all knowledge transfers to customer support team.

The steps of go-live and post supports are shown as follows.

- Go live
- Post support
- Develop support document
- Knowledge transfer to application maintenance team
- Knowledge transfer to customer support team
- Project closing sign-off