Project Management Development Scheduling Plan:
Data Mart

By Turell Makins
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Executive Summary: Data Mart

Datastream is in need of a central and timely reporting system for key customer measurements as they relates to sales revenue. Because of Datastream’s unique position as a software developer, all project development needs can be acquired from in-house sources. The system will access our CRM system and Internet portal database. This information will be downloaded on daily basis into a central reporting environment. An Online Analytical Processing (OLAP) data structure will be used. This data structure will facilitate drill-down capability and quick ad hoc query times. Because all development resources are in-house, total development time of the project should span less than 12 months. A small development team will be necessary for project completion with no more than three members being used at anytime. Project meetings will be conduct once a week with project reports being produce once a month. All critical issues have been addressed and measures have been put in place to control the risk of these items. Among these items are scope creep, and data quality. Each Item has been assigned a risk factor to avoid any length delays in the project. Quality of the finish product will be measure and refined during the circular testing and updating phase of the project development. This will allow for a user friendly and robust reporting environment, meeting all user needs.
Purpose of Project

Understanding and managing enterprise-wide information is crucial for making timely decisions and responding to changing business conditions. As Datastream competes in the Asset Lifecycle Management (ALM) business, it needs to take advantage/leverage of one of its key assets - business data. There is a tremendous amount of data generated by day-to-day business operational applications, primarily the Customer Relationship Management (CRM) Software (Onyx) and Datastream’s new portal, datstream.net. In addition there is valuable data available from external sources such as market research organizations, independent surveys and quality testing labs. Datastream must find a way of combining the key information in timely and accurate reports.
Customer’s Requirements

- A daily updated report from CRM and Internet data
- A report with drill-down capability
- Ad hoc query time less than 10 seconds
- Easy to use report interface
- A reporting structure with low training requirements
- Keep overall implementation cost low
- A reporting structure with low overhead
- A reporting structure that uses internal skill sets
- Reporting system that is easy to upgrade
Resource List

**Personnel Resources:**
All need skill sets for this project are available internally at Datastream and at no cost.

Advantage: No capital outlay required for staffing or consulting expertise.  
Disadvantage: All personnel resources will be borrowed from other company project…no direct control and limited time with resources.

**Software Resources:**
Datastream has all Microsoft and Oracle licenses agreements. Also several reporting environments/software packages are currently being used throughout Datastream.

Advantage: There is extensive product knowledge throughout the company on reporting and database products in use. No cost will be associated with implementation of software for project because of existing licensing agreements.  
Disadvantage: Will not have the option to look at software package outside of Datastream inventory because of acquisition cost and potential training cost with new software.

**Hardware Resources:**
There are several servers that are on the existing network that can be use to house a data and reporting system.

Advantage: No capital outlay required for data storage or networking equipment.  
Disadvantage: Storage needs and backup options might be compromise.
## Project Gantt Chart

<table>
<thead>
<tr>
<th>TASK</th>
<th>Responsibility</th>
<th>Scheduled Start Date</th>
<th>Final Date</th>
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Critical Questions

- Does existing software and hardware on hand meeting final performance requirements?
- Will MS Excel Pivot table meet future data scaling requirements?
- Will human resources be available at the appropriate time to meet the critical path schedule?
- Is there full support of department and executive management?
- Will the waterfall development model be to constraining in gathering support versus the rapid application development model?
- What kind of problems will data quality cause the project in respect to time to clean data and support of reporting system?
- Will network issue slow query and data acquisition performance?
- How will scope creep be managed from executive management?

Risk Assessment of Critical Questions

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Risk Event</th>
<th>Probability</th>
<th>Impact</th>
<th>Risk Strategy</th>
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<tbody>
<tr>
<td>1</td>
<td>Availability of Human Resources</td>
<td>75%</td>
<td>Huge delays in project and possible project killer</td>
<td>Schedule and sign commitment</td>
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<tr>
<td>2</td>
<td>Data Quality</td>
<td>50%</td>
<td>Possible project killer</td>
<td>Make participants aware of data quality issue as they arise</td>
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<tr>
<td>3</td>
<td>Scope Creep</td>
<td>80%</td>
<td>Possible delays in project and extended training</td>
<td>Lock-in project scope before coding</td>
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<td>4</td>
<td>Full Support of Management</td>
<td>30%</td>
<td>Possible project killer</td>
<td>Control all variable…time, cost, and quality</td>
</tr>
</tbody>
</table>
Software Development Model

The waterfall development model will be used in favor of rapid application development model. The waterfall approach is being used because of its stage completion methodology. This will allow for easier scheduling of resources and a simpler tracking scheme. *Human Resources will be available in stages also.*

Simple Develop Model

- Requirements
- Establishing Resources
- High-Level Design
- Low-Level Design
- Coding
- Testing
- Implementation
- Training
**High-Level Design**
The major actions of the data mart system:

- Extraction of data from key sources
- Cleansing and formatting data
- Loading data into cube data mart
- Data cube development

**Data Flow to Reporting Model**

[Diagram showing data flow from OLTP, RDMS, Legacy to Cleansing, Sampled Data, Summary Data, Data Mining, Management Reporting]

**Basic Data Cube Dimensions**

[Diagram showing a cube with dimensions of Sales Region, Time, and Product]
Low-Level Design (Star Schema)

The star schema cube design is being used with the sales table being the fact table. There will be four key dimension tables (customer, time, area/rep, campaigns). Other table will be linked to the dimension tables as the reporting model grows.
**Project Tracking Mechanisms**

Because of the limited number of developers that will be a part of development schedule at any one time. The Gantt chart will be the primary tacking tool. Meeting will be conducted once a week with active party. A project status report will be published every month for all project participants.

No project tracking software will be used. The Gantt chart, meeting notes, and monthly reports will all be stored and publish from MS Excel.

**Testing/Quality Plan**

Quality will be measure by the end user (customer) primary during the functional testing. The functional testing phase will continue the updating and performance cycle until end users are satisfied will basic product. *Code Testing will be part of this process also.*
Objectives/Specifications
- Data mart information will be stored in MS SQL Database that will be maintain with other company system databases

- MS Excel Pivot table will be the user interface with query refresh estimate time of 5 sec. All user currently have MS Office 2002 install on desktop computers

- Data mart will be refreshed nightly between 9pm to 11pm. This time was chosen because of other back processes starting at 12pm

- A Dell server with 10 GB of partition space will house the data mart. 5 GB of addition space is available upon request

- All reporting maintenance will be assigned to project manager after completion of project

- All hardware and network maintenance will part corporate-wide system maintenance
Post Project Review Plan

Post project review will be conducted one month after the implementation and training phase is completed. The following items below will be covered during the post project review meeting.

- Finish Product Quality
- Quality of Testing
- Human Capital Allocation
- Productivity/Lag Time
- Information Flow During Development
- Project Tracking
- Quality of Software and Hardware Options
- Overall Support
- Ranking of Things to Be Improved
- Quality of Training
- Thing That When Well