Project Name: SimulPro

**Sample Only**

This document was submitted by students in a previous class. Their requirements were different from yours. We offer it only as a sample of what a project was for that class. Copying this document, in whole or in part, and submitting the result as your own work, would be a violation of the honor code.

Document Title: Midpoint Status Report

Revision Number: 1.0

SimulPro Team:

**1. Problem definition**

My initial model was supposed to be a Monte Carlo simulation model. But as the course staff doesn’t have the resources to evaluate such a model, I had to seriously modify my initial idea. The current problem definition is following.

A seasonal product Store sells one Product, a new Model of which it buys each month from a Supplier. When a Model is new it has the highest price, but each consequent month the Demand on the Model falls and the Store reduces price of the Model. In other words, in any particular month the Store sells several Models of different ages and asks different prices for them, computed as percentages of the Product costs. The Product costs are different on Models of different seasons. Some Models happen to be popular and some not. The Unpopular Models have lower initial Demand, which then falls with higher rate each month than the Demand on Popular Models. There is fixed probability for the Model to be Popular or Unpopular. The Supplier is able to provide 3 Order Sizes: Small, Medium, and Big. The Orders Size has to be defined in advance for an entire year. The question the Store wants to answer is: what Order Sizes to choose to maximize the profit?

My model has following Input Streams:

1. Product Costs – how much the Model costs to the Store, depends on seasons.

2. Model’s Prices – percentages of the costs for different ages of a model (2 streams - for popular and unpopular models).

3. Demand Schedule – percentages of the initial demand for different ages of a model (2 streams - for popular and unpopular models).

The model has following Parameters:

1-3. Order Sizes: Small, Medium, Big – the Order Sizes the Supplier can provide.

4. Highest Demand Value – the demand for a new popular model.

5-6. Probability of a Model to be Popular and Unpopular – fractions of 1.

(I’ve submitted my model in its current state, so you can check the Input sheet if something is unclear in my description).

The Output will include costs, revenues and profits tables and charts, the comparison of which will allow to choose the best Order Size.

In the Second Scenario the Store consider an offer of a different supplier. The supplier is known to have more popular models, in other words the probability for model to become popular is higher in this scenario. However, all 3 Order Sizes are bigger in this scenario. The costs, prices asked and demand stay the same in both scenarios. The Stores considers which Supplier is preferable and what Order Size is most profitable.

**2. Who does what**

Task List (what yet should be done):

Main calculations modeling

Scenarios development

Outputs Sheet

User Guide

Reference Guide

Inspection of the Model

Revision of the Guides

Final Report

Entire Project review

Preparation of the package for the Projects Library

**3. Refined schedule and budget**

Because of the changes in the model, the budget and schedule were slightly modified.

Budget

|  |  |
| --- | --- |
| Task | Cost (in hours) |
| Planning Total | 11 |
| Problem Definition | 10 |
| Project Schedule | 1 |
| Modeling  | 14 |
| Inputs sheet | 6 |
| Main calculations modeling | 8 |
| Documents | 32 |
| Project Proposal | 6 |
| Midpoint Status Report | 2 |
| Final Report | 8 |
| User Guide | 8 |
| Reference Guide | 8 |
| Execution | 10 |
| Application to different order quantities | 1 |
| Outputs representation | 8 |
| Creation of second scenario | 1 |
| Grand Total | 67 |

Schedule and milestones

|  |  |  |
| --- | --- | --- |
|   | Date | Milestone |
| 1 | 10/5/2011 | Project Proposal |
| 2 | 10/11/2011 | Creation of Excel workbook template and Inputs sheet |
| 3 | 10/20/2011 | Excel additional capabilities Request |
| 4 | 10/25/2011 | Midpoint Status Report; New Inputs Sheet |
| 5 | 11/1/2011 | Main Modeling |
| 6 | 11/8/2011 | Scenarios development; Outputs Sheet |
| 7 | 11/15/2011 | User Guide |
| 8 | 11/22/2011 | Reference Guide |
| 9 | 11/29/2011 | Inspection of the Model and Revision of the Guides |
| 10 | 12/6/2011 | Final Report |
| 11 | 12/12/2011 | Entire Project review; Preparation of the package for the Projects Library, Project submission. |