FPD Drinking Metrics

Project Proposal

Scott Jue
MSDS 475
Assignment 10
8/28/2023

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Executive Summary

The FPD Drinking Metrics (FPD DM) project will address FPD's lack of accurate and timely sales forecasts by product and customer that is leading to poor sales and operations decision making and planning. This has caused unpredictable business performance which has negatively impacted FPD's large customers who have complained about incomplete shipments, late shipments, and delays in fulfilling orders. These customers have also threatened to seek other beverage suppliers if the issues are not resolved within a timely manner. It is important to develop a feasible solution as losing these large customers will result in a potential loss of $5MM in revenue. The proposed solution involves using training project team members to implement AI tools to clean data and improve the accuracy and timeliness of current FPD's sales forecasts models. Additionally, metrics dashboards will be developed using model outputs to support sales and operations management decision making and planning.

For initial planning purposes, some key assumptions were made. We are assuming the project start date will be 1/1/2023. It is assumed that the marketing and sales personnel have the appropriate devices to access data and dashboards. If they do not have devices, additional expenses could be incurred to purchase them. We are assuming that the Python and QlikSense AI tools training is sufficient to provide the required skillset to clean the data build the sales forecast models. Additionally, the project plan assumes that the QlikSense tools and applications are already contracted and available for use for the project. Salary data was gathered using California salary data to estimate salary expense for the project team. FPD DM also assumes that IT resources are currently very constrained and that third-party resources may need to be used if more resources are needed.

The following risks have been identified for FPD DM. First, the project is at risk of receiving unclean data with low data integrity and missing elements. Another risk is requiring additional resources in order to meet schedule due to other duties and lack of appropriate skills/experience. We have also identified possible disagreement on how performance metrics will be calculated as a potential risk.

Additionally, poor AI model performance and weak dashboard security are also considered potential risks to the success of FPD DM. For each of these identified risks, we have developed a mitigation and contingency plan.

The following limits and exclusions have been identified for FPD DM. The project scope does not include any post implementation support since project resources will be released when the project is completed. Next, the project also excludes any follow-up communications with the customers that were experiencing order fulfillment and delivery issues. FPD DM also is limited by any significant ERP changes as there are limited IT resources available.

We are requesting a project budget of $267,383 with an estimated project duration of 5 months and 3.5 weeks (942.8 hours). The budget includes a baseline cost of $243,076 and a 10% contingency of $24,307. Original estimations had a baseline cost of $244,541 and project duration of 6 months and 1 week (991.4 hours) (see Appendix A). FPD DM is time constrained and was requested to meet a 6-month target duration. For this reason, we have implemented a crashing alternative by bringing in a 3rd party resource to compress the project schedule in order to meet the 6-month target duration (see Appendix B and C). However, we are not able to meet the original target budget of $250,000. Therefore, we are seeking approval to increase FPD DM's budget.

FPD DM project plan proposal includes a scope statement that defines the objective, stakeholders' requirements, deliverables, key milestones, and EOC members. This project is time constrained as shown by the Priority Matrix and assessment. WBS with cost detail has been created for schedule and resource planning, as well as, providing detailed support for the baseline cost. Additionally, this plan includes a Communications Plan to address how the status reporting and project oversight will be executed. An AON Diagram and related spreadsheet is also included to show the project's critical path, non-critical paths, and duration calculations. Next, we have included a Project Baseline Budget chart to show how resources will be allocated over the life of the project. This ties into

the Gantt Chart which shows the project schedule by tasks. This plan also contains extensive risk assessment and planning which can be found in the Risk Assessment, Risk Severity, and Risk Response matrices and also the Project Risk Impact Summary. We have defined the FPD DM's project team in the Project Organization Chart and have assigned tasks to team members in the Responsibility Matrix. Lastly, we have also provided a Feasibility Statement that analyzes the project components and discusses the feasibility of the FPD DM.

We are kindly requesting for FPD executive leadership team to review the FPD DM plan documents, budget, schedule, and other components included in this plan. Additionally, we are requesting for final approval of the project plan and for approval to proceed to implementation of FPD DM on 1/1/2023.

FPD DM Scope Statement

Project: FPD DM
Project Manager: Scott Jue
Project Sponsor: Paul Reporting (CFO)

Project Scope and Objective:

Implement the use of AI tools to clean data and build analytical models that will generate insights and metrics dashboards for sales and operations management to support decision making for improved production and distribution planning. Inaccurate and untimely sales forecast have also led to poor production planning and distribution which has negatively impacted FPD's largest customers. Losing these customers could result in potential annual revenue loss of $5M. The business improvements are aimed to improve customer experience and customer retention, specifically resolving issues such as incomplete shipments, late shipments, and delays in fulfilling orders. The project is estimated to take 5 months and 3.5 weeks to complete and with a proposed budget of $267,383.

Project Deliverables:

1) Development and deployment of dashboards with metrics that include but not limited to product line sales analysis, packaging performance by product line analysis, product line by customer analysis, order delivery performance by product line and customer, and distribution center shipping performance to customer.

2) Clean sales and operations data to be used in predictive models using AI tools provided by QlikSense.

3) A predictive model using QlikSense AI tools that predicts sales and operations data with at least 85% accuracy.

4) Documentation and SOPs for the data cleaning process, model formulation, analysis of model output, and dashboard generation.

5) Provide a 1-week AI tools training from Big Data Training Group to the appropriate FPD DM team members.

6) Provide user training prior to deployment of dashboards

Milestones (assuming project start date is 01/01/2023):

1) *01/21/2023* - Complete 1-week AI tools and Python training provided by Big Data Training Group

2) *05/05/2023* - Complete validation of analytical model with required minimum accuracy

3) *05/14/2023* - Complete dashboard generation using analytical model outputs

4) *06/10/2023* - Complete testing of dashboards for performance, accessibility, and security

Technical Requirements:

1) Implement appropriate security technology and protocols to ensure sensitive data is protected.
2) 24/7 access to dashboard data anywhere on any authorized device by marketing and sales personnel with minimal response and processing time.
3) Dashboards metrics should include product line sales analysis, packaging performance by product line analysis, product line by customer analysis, order delivery performance by product line and customer, and distribution center shipping performance to customer.
4) Use cloud-based technology for data storage and AI tools.
5) Predictive models should be validated using data science methods and have at least 85% accuracy.
6) Train FPD DM programmers to use Python and QlikSense AI tools
7) Use Python and QlikSense AI tools to clean the data and to develop models to generate input metrics for dashboards and visualizations.
8) Use waterfall/predictive project management approach for all stages of FPD DM
9) Hardware and software requirements need to be documented for review and approval by the enterprise architect team in accordance to FPD standards.

Limits and Exclusions:

The project scope does not include post implementation support. The project also excludes any follow-up communications with the customers that were experiencing order fulfillment and delivery issues. FPD DM also is limited by any significant ERP changes as there are limited IT resources.

Review with customer:

The EOC will review and approve the project scope statement. The EOC members are Barbara Coffee (CEO), Paul Reporting (CFO/Project Sponsor), Mike Jones (VP Sales), Sarah Foster (VP Supply Chain), Jim Smith (Director of Analytics).

Priority Matrix

	Time	Performance	Cost
Constrain	X		
Enhance		X	
Accept			X

Priority Matrix Assessment:

The above priority matrix shows the trade-offs of priorities for the FPD DM project. The priorities of the project are ranked in the following order: 1) Time 2) Performance 3) Cost. That is the goal of the project is to enhance performance while meeting a specific deadline and accepting the project cost. The first priority of FPD DM is to be on schedule because it is imperative to improve customer experience as quickly as possible in order to retain FPD's large customers. If the project is running behind schedule, more resources will need to be allocated to the project and/or certain dashboard features may need to be removed from the project scope. If model performance is not providing meaning insights to improve business operations, then more resources will need to be allocated to the project and/or the project deadline may need to be pushed back. And if there are no more resources that FPD can allocate to FPD DM, then features may need to be removed from the project scope and/or the project hours may need to be reduced.

Work Breakdown Structure (WBS)

WBS Outline

1.0 FPD BM Project

- 1.1 Define Requirements
  - 1.1.1 Functional Requirements
  - 1.1.2 Non-functional Requirements
  - 1.1.3 Business Requirements
- 1.2 AI Tools Training
  - 1.2.1 Training Manual
  - 1.2.2 Conduct Training
- 1.3 Design Dashboard
  - 1.3.1 Dashboard Metrics & Components
  - 1.3.2 Dashboard Prototype
- 1.4 Source/Cleanse Data
  - 1.4.1 Identify Data Sources
  - 1.4.2 Use AI Tools to Clean Data
- 1.5 Develop Analytics Models
  - 1.5.1 Design and Train AI Model
  - 1.5.2 Validate Model
- 1.6 Construct/Modify Dashboard
- 1.7 Test Dashboard
  - 1.7.1 Test accessibility and response time performance
  - 1.7.2 Test security of dashboard and data
- 1.8 Train Users
  - 1.8.1 Develop Training Documentation
  - 1.8.2 Train Users
- 1.9 Deploy Dashboard
- 1.10 Project Management

WBS Cost Spreadsheet

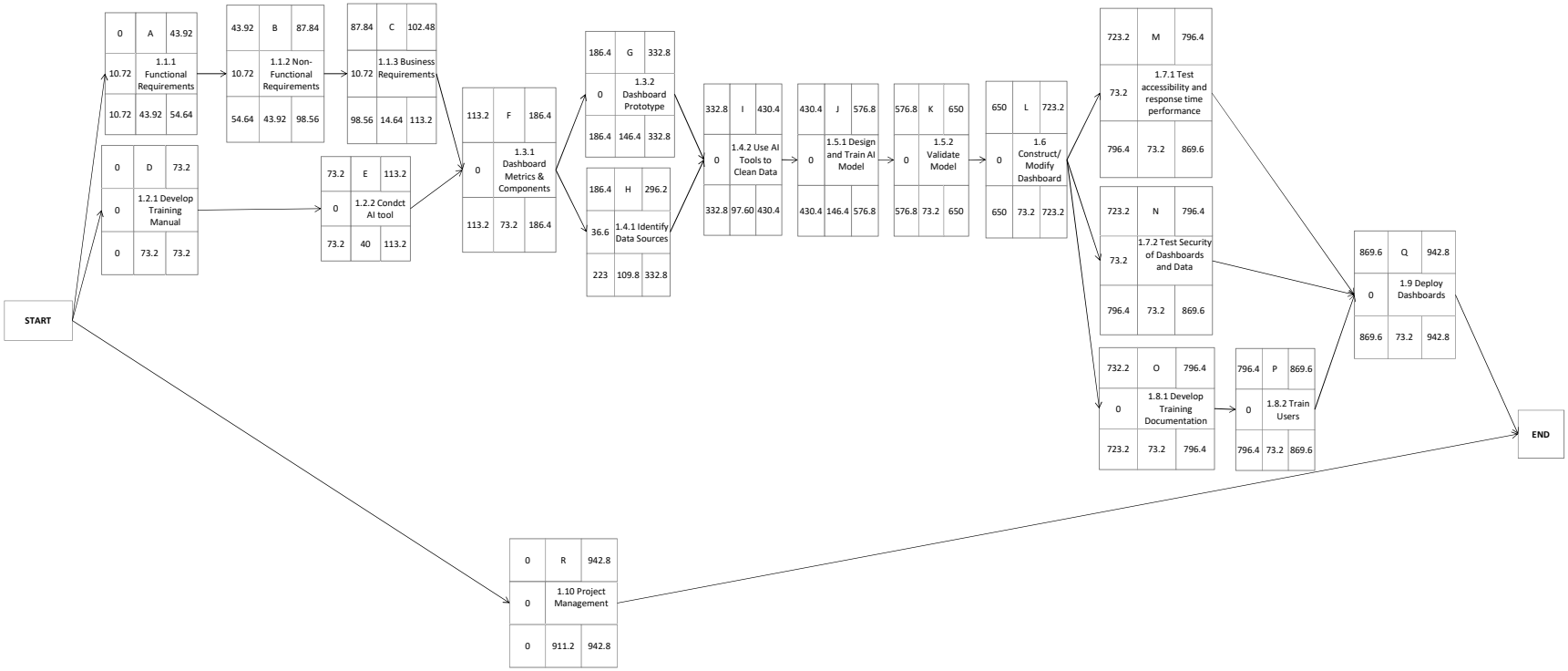
Time-Cost Labor Estimates														
WBS ID	**Task Description**	**Task Assigned to**	**Estimate (hrs)**	**Estimating Approach**	**Estimated Duration (hrs) (Estimate * 1.5)**	**Estimated Interruptions (hrs) (Estimate * 0.33)**	**Total Effort (hrs)**	**Labor Rate $/hr**	**Labor Cost Total $**	**Expenses**	**Total Costs**	# of Resources	Calendar duration
1.0	Project FPD BM												
1.1	Define Requirements												
1.1.1	Functional Requirements	Jordan, John, Emily	72	Historical	108.0	23.8	131.8	$47	$ 6,237	$ -	$ 6,237	3	43.92
1.1.2	Non-functional Requirements	Jordan, Lisa, David	72	Historical	108.0	23.8	131.8	$43	$ 5,666	$ -	$ 5,666	3	43.92
1.1.3	Business Requirements	Barbara, Paul	16	Historical	24.0	5.3	29.3	$125	$ 3,660	$ -	$ 3,660	2	14.64
1.2	AI Tools Training												
1.2.1	Develop Training Manual	Jordan, John, Emily	120	Expert	180.0	39.6	219.6	$47	$ 10,394	$ -	$ 10,394	3	73.2
1.2.2	Conduct QlikSense AI tool Training (Big Data Training Group)	Jordan, John, Emily	120	Expert			120.0	$47	$ 5,680	$ 10,000	$ 15,680	3	40
1.3	Design Dashboard												
1.3.1	Dashboard Metrics & Components	Paul, Lisa, David	120	Expert	180.0	39.6	219.6	$67	$ 14,786	$ -	$ 14,786	3	73.2
1.3.2	Dashboard Prototype	John, Emily, Lisa, David	320	Expert	480.0	105.6	585.6	$42	$ 24,449	$ -	$ 24,449	4	146.4
1.4	Source/Cleanse data												
1.4.1	Identify Data Sources	Emily	60	Expert	90.0	19.8	109.8	$45	$ 4,941	$ -	$ 4,941	1	109.8
1.4.2	Use AI Tools to Clean Data	John, Emily, Consultant	160	Historical	240.0	52.8	292.8	$50	$ 14,640	$ -	$ 14,640	3	97.6
1.5	Develop analytics models												
1.5.1	Design and Train AI Model	John, Lisa, David	240	Expert	360.0	79.2	439.2	$41	$ 17,861	$ -	$ 17,861	3	146.4
1.5.2	Validate Model	Lisa, David	80	Expert	120.0	26.4	146.4	$39	$ 5,636	$ -	$ 5,636	2	73.2
1.6	Construct/Modify dashboard	John, Emily, Lisa, David	160	Expert	240.0	52.8	292.8	$42	$ 12,224	$ -	$ 12,224	4	73.2
1.7	Test dashboard												
1.7.1	Test accessibility and response time performance	Jordan, Lisa, David	120	Expert	180.0	39.6	219.6	$43	$ 9,443	$ -	$ 9,443	3	73.2
1.7.2	Test security of dashboard and data	Jordan, Lisa, David	120	Expert	180.0	39.6	219.6	$43	$ 9,443	$ 5,000	$ 14,443	3	73.2
1.8	Train Users												
1.8.1	Develop Training Documentation	Jordan, John	80	Expert	120.0	26.4	146.4	$49	$ 7,100		$ 7,100	2	73.2
1.8.2	Train Users	David	40	Expert	60.0	13.2	73.2	$42	$ 3,074		$ 3,074	1	73.2
1.9	Deploy Dashboard	Paul, Jordan, John	120	Expert	180.0	39.6	219.6	$74	$ 16,250		$ 16,250	3	73.2
1.10	Project Management	Scott	911.2	Expert			911.2	$62	$ 56,590	$ -	$ 56,590	1	911.2

Total	$ 228,076	$ 15,000	$ 243,076

# work packages	18

Communication Plan

What Information	Target Audience	When?	Method of Communication	Provider
AI tools training	All FPD team members that will be using QlikSense AI tools (FPD analysts and programmers)	1/02/2023	1 week in-person training workshop and email copies of training materials for later reference	Project Manager (Scott Jue) and Big Data Training Group
Milestone report	EOC	Biweekly	In-person meeting/presentation	Project Manager (Scott Jue)
Predictive Model status reports	EOC	Biweekly	In-person meeting/presentation	Project Manager (Scott Jue)
Data cleaning process documentation	FPD DM analysts and programmers	As needed	Send updated documentation of data cleaning process via email	Project Manager (Scott Jue)
Dashboard metrics status reports	EOC	Biweekly	In-person meeting/presentation	Project Manager (Scott Jue)
Beta testing of dashboard performance quality and accessibility progress report	Marketing and sales personnel	Weekly (after roll out of beta testing)	In-person meeting/presentation	Project Manager (Scott Jue)
Team status report	FPD DM team members	Weekly	email	Project Manager (Scott Jue)
Customer issues report	FPD DM team members	Weekly	email	Project Manager (Scott Jue)


START
0 A 43.92
10.72 1.1.1 Functional Requirements 10.72
10.72 43.92 54.64
43.92 B 87.84
10.72 1.1.2 Non-Functional Requirements 10.72
54.64 43.92 98.56
87.84 C 102.48
10.72 1.1.3 Business Requirements 10.72
98.56 14.64 113.2
0 D 73.2
0 1.2.1 Develop Training Manual 0
0 73.2 73.2
73.2 E 113.2
0 1.2.2 Condct AI tool 0
73.2 40 113.2
113.2 F 186.4
0 1.3.1 Dashboard Metrics & Components 0
113.2 73.2 186.4
186.4 G 332.8
0 1.3.2 Dashboard Prototype 0
186.4 146.4 332.8
186.4 H 296.2
36.6 1.4.1 Identify Data Sources 36.6
223 109.8 332.8
332.8 I 430.4
0 1.4.2 Use AI Tools to Clean Data 0
332.8 97.60 430.4
430.4 J 576.8
0 1.5.1 Design and Train AI Model 0
430.4 146.4 576.8
576.8 K 650
0 1.5.2 Validate Model 0
576.8 73.2 650
650 L 723.2
0 1.6 Construct/ Modify Dashboard 0
650 73.2 723.2
723.2 M 796.4
73.2 1.7.1 Test accessibility and response time performance 73.2
796.4 73.2 869.6
723.2 N 796.4
73.2 1.7.2 Test Security of Dashboards and Data 73.2
796.4 73.2 869.6
732.2 O 796.4
0 1.8.1 Develop Training Documentation 0
723.2 73.2 796.4
796.4 P 869.6
0 1.8.2 Train Users 0
796.4 73.2 869.6
869.6 Q 942.8
0 1.9 Deploy Dashboards 0
869.6 73.2 942.8
0 R 942.8
0 1.10 Project Management 0
0 911.2 942.8
END

Activity/ Work Pkg	Duration	ES	LS	EF	LF	Slack
A (1.1.1)	43.92	0.00	10.72	43.92	54.64	10.72
B (1.1.2)	43.92	43.92	54.64	87.84	98.56	10.72
C (1.1.3)	14.64	87.84	98.56	102.48	113.20	10.72
D (1.2.1)	73.2	0.00	0.00	73.20	73.20	0.00
E (1.2.2)	40	73.20	73.20	113.20	113.20	0.00
F (1.3.1)	73.2	113.20	113.20	186.40	186.40	0.00
G (1.3.2)	146.4	186.40	186.40	332.80	332.80	0.00
H (1.4.1)	109.8	186.40	223.00	296.20	332.80	36.60
I (1.4.2)	97.6	332.80	332.80	430.40	430.40	0.00
J (1.5.1)	146.4	430.40	430.40	576.80	576.80	0.00
K (1.5.2)	73.2	576.80	576.80	650.00	650.00	0.00
L (1.6)	73.2	650.00	650.00	723.20	723.20	0.00
M (1.7.1)	73.2	723.20	796.40	796.40	869.60	73.20
N (1.7.2)	73.2	723.20	796.40	796.40	869.60	73.20
O (1.8.1)	73.2	723.20	723.20	796.40	796.40	0.00
P (1.8.2)	73.2	796.40	796.40	869.60	869.60	0.00
Q (1.9)	73.2	869.60	869.60	942.80	942.80	0.00
R (1.10)	911.2	0.00	0.00	942.80	942.80	0.00

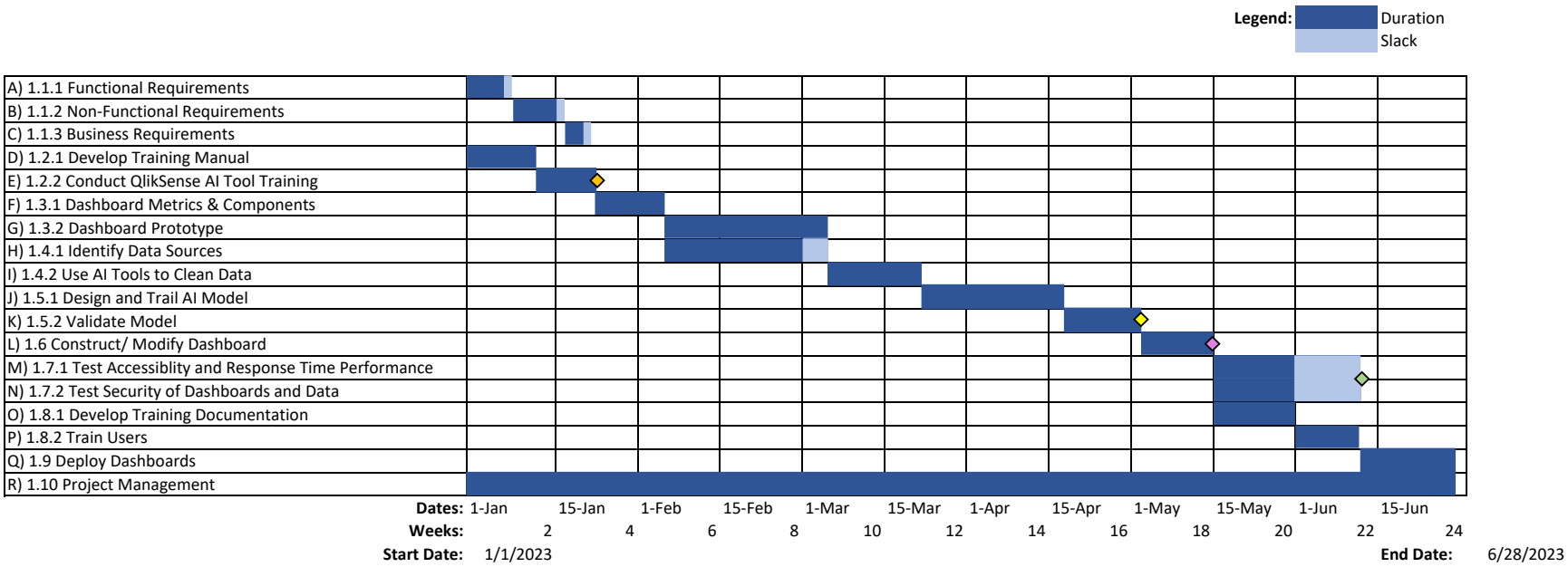
Critical Path	**D-E-F-G-I-J-K-L-O-P-Q**
Critical Path Duration	**942.8 hours**

FDP DM Project Baseline Budget

Time Period (Weeks)

Activity/ Work Pkg	Duration	ES	LF	Slack	Cost from WBS Cost Spreadsheet	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
A) 1.1.1 Functional Requirements	1.1	0.0	1.4	0.3	$ 6,237	6,237	0																						
B) 1.1.2 Non-Functional Requirements	1.1	1.1	2.5	0.3	$ 5,666		5,666	0																					
C) 1.1.3 Business Requirements	0.4	2.2	2.8	0.3	$ 3,660			3,660	0																				
D) 1.2.1 Develop Training Manual	1.8	0.0	1.8	0.0	$ 10,394	5,197	5,197																						
E) 1.2.2 Conduct QlikSense AI Tool Training	1.0	1.8	2.8	0.0	$ 15,680			15,680																					
F) 1.3.1 Dashboard Metrics & Components	1.8	2.8	4.7	0.0	$ 14,786				7,393	7,393																			
G) 1.3.2 Dashboard Prototype	3.7	4.7	8.3	0.0	$ 24,449						6,112	6,112	6,112	6,112															
H) 1.4.1 Identify Data Sources	2.7	4.7	8.3	0.9	$ 4,941						1,647	1,647	1,647	0															
I) 1.4.2 Use AI Tools to Clean Data	2.4	8.3	10.8	0.0	$ 14,640									7,320	7,320														
J) 1.5.1 Design and Trail AI Model	3.7	10.8	14.4	0.0	$ 17,861											4,465	4,465	4,465	4,465										
K) 1.5.2 Validate Model	1.8	14.4	16.3	0.0	$ 5,636															2,818	2,818								
L) 1.6 Construct/ Modify Dashboard	1.8	16.3	18.1	0.0	$ 12,224																	6,112	6,112						
M) 1.7.1 Test Accessiblity and Response Time	1.8	18.1	21.7	1.8	$ 9,443																			4,721	4,721	0	0		
N) 1.7.2 Test Security of Dashboards and Data	1.8	18.1	21.7	1.8	$ 14,443																			7,221	7,221	0	0		
O) 1.8.1 Develop Training Documentation	1.8	18.1	19.9	0.0	$ 7,100																			3,550	3,550				
P) 1.8.2 Train Users	1.8	19.9	21.7	0.0	$ 3,074																					1,537	1,537		
Q) 1.9 Deploy Dashboards	1.8	21.7	23.6	0.0	$ 16,250																							8,125	8,125
R) 1.10 Project Management	22.8	0.0	23.6	0.0	$ 56,590	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358	2,358
				BAC	$ 243,076	$ 13,792	$ 13,221	$ 29,091	$ 9,751	$ 10,117	$ 10,117	$ 10,117	$ 8,470	$ 9,678	$ 9,678	$ 6,823	$ 6,823	$ 6,823	$ 6,823	$ 5,176	$ 5,176	$ 8,470	$ 8,470	$ 17,851	$ 17,851	$ 3,895	$ 3,895	$ 10,483	$ 10,483
				Culmative PV		$ 13,792	$ 27,013	$ 56,104	$ 65,855	$ 75,972	$ 86,089	$ 96,206	$ 104,676	$ 114,354	$ 124,032	$ 130,855	$ 137,678	$ 144,502	$ 151,325	$ 156,501	$ 161,677	$ 170,147	$ 178,617	$ 196,468	$ 214,319	$ 218,214	$ 222,109	$ 232,592	$ 243,076

Critical Path	**D-E-F-G-I-J-K-L-O-P-Q**
Critical Path Duration	**942.8 hours**



Total Estimated Duration: 5 months and 3.5 weeks

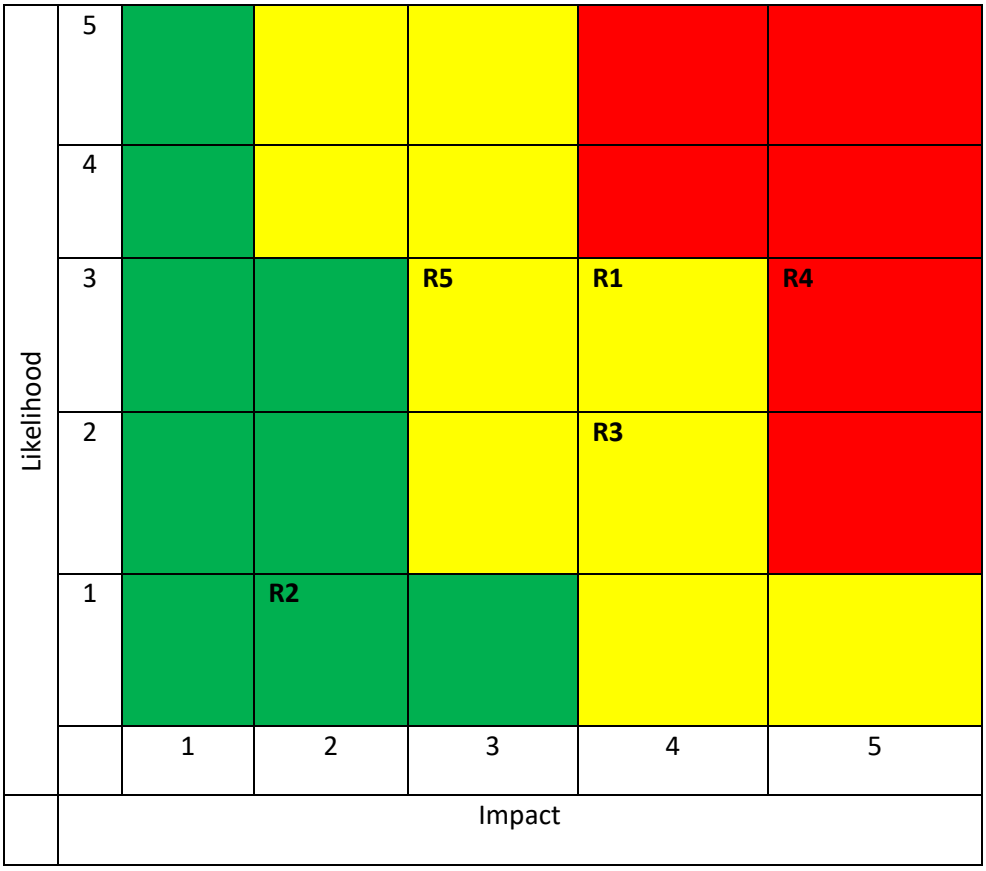
Milestones:

1) Complete 1-week AI tools and Python training (provided by Big Data Training Group)
2) Complete validation of analytical model with required minimum accuracy
3) Complete dashboard generation using analytical model outputs
4) Complete testing of dashboards for performance, accessibility and security

RISK ASSESSMENT MATRIX

Risk ID	Risk Event	Likelihood	Impact	Detection Difficulty	When
R1	Receiving unclean data with low data integrity and missing elements	3	4	2	Model design and training
R2	Requiring additional resources to meet schedule due to other duties and lack of appropriate skills/experience	1	2	1	Start-up and initial project planning
R3	Define/socialize/accept performance metrics (how to calculate)	2	4	1	Dashboard design
R4	Poor AI model performance	3	5	2	Model testing and validation
R5	Weak security for dashboards	3	3	4	Post dashboard deployment

RISK SEVERITY MATRIX



LIKELIHOOD & IMPACT LEGEND:

1	Very Low	Very little likelihood, insignificant Impact
2	Low	< 10% likelihood, low impact
3	Moderate	10-20% likelihood, moderate impact
4	High	20-40% likelihood, high impact
5	Very High	> 40% likelihood, very high impact

RISK RESPONSE MATRIX

Risk ID	Risk Event	Response	Contingency Plan	Trigger	Responsible Party
R1	Receiving unclean data with low data integrity and missing elements	**Mitigate**: Run data quality tests and develop ETL process into pipeline that facilitates data transformations	Add additional team member to data cleansing work package and also consider buying external data	Necessary fixes require more than the 2 calendar weeks of work allocated	Scott Jue (Project Manager)
R2	Requiring additional resources to meet schedule due to other duties and lack of appropriate skills/experience	**Mitigate**: Request formal prioritization of project duties for team members from EOC. Get confirmation of availability of resources.	Add available employee with relevant experience to project team or consider external resources if cannot be acquired internally	IT and other departments cannot confirm resources at project start	Scott Jue (Project Manager)
R3	Define / socialize / accept performance metrics (how to calculate)	**Mitigate**: Schedule meeting for EOC and project team to deliberate and finalize metrics	EOC makes final decision for metric calculations and parameters, otherwise the project will be delayed	No agreement after 2-3 meetings	Scott Jue (Project Manager)
R4	Poor AI model performance	**Mitigate**: Develop and compare multiple models	Acquire more training data and also consider hiring external experts	Recall, precision, or RMSE is below minimally viable threshold	Scott Jue (Project Manager)
R5	Weak security for dashboards	**Mitigate**: Use a strict implicit deny access control policy	Patch the discovered vulnerabilities and also consider hiring external experts	Penetration test discovers vulnerabilities	Scott Jue (Project Manager)

Project Risk Impact Summary

☑ Preliminary ☐ Updated

Project Name: FDP Drinking Metrics	Current Date: 8/28/2022
Project Leader: Scott Jue	Service Request #: 1

Impact		Risk Rating	
Capability	==========>	1.95	Medium
Cost	==========>	3.75	High
Customer	==========>	1.61	Low
Technology	==========>	2.17	Medium

Definitions

Impact
Capability: The impact on the skills and availability of the company's personnel to manage and complete the project.
Cost: The impact of a project's total estimated cost on the stakeholder's budget
Customer: The impact of the project on the personnel, procedures and systems of the company's business unit(s) and members.
Technology: The impact of a project on the company's Information Technology (hardware, software and standards).

Risk Rating	
High	Greater than 2.3
Medium:	1.67 through 2.3
Low:	Less than 1.67

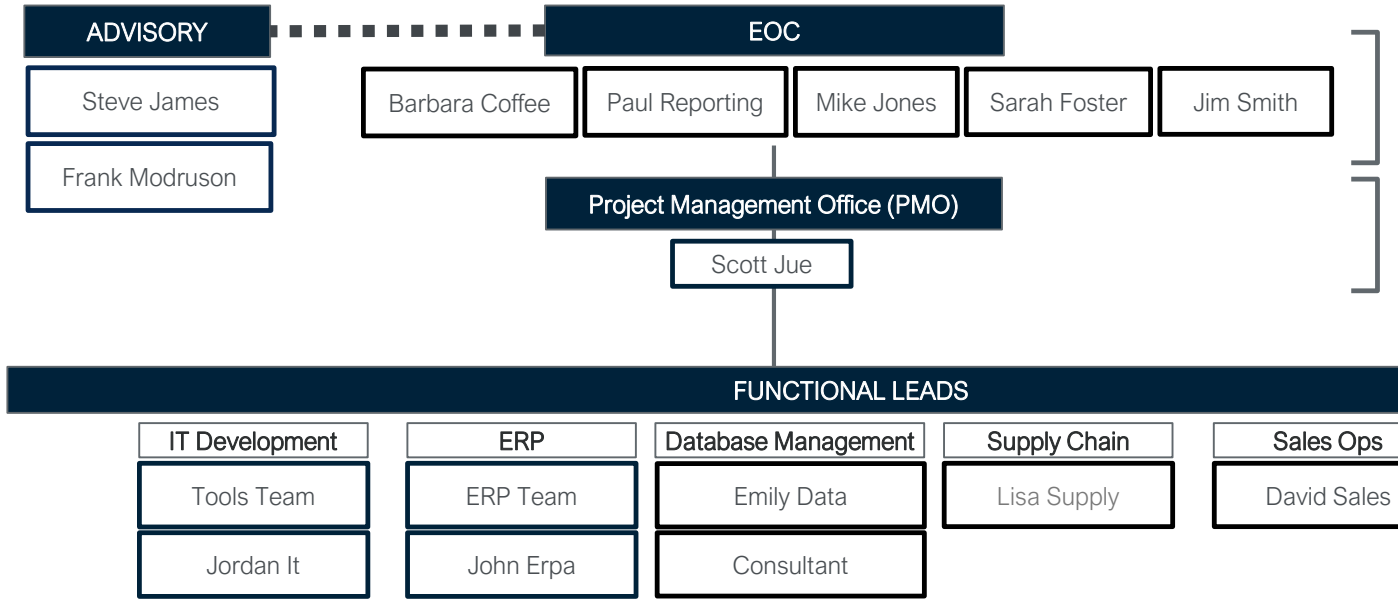
Project Risk Impact Worksheet

Risk Characteristic	Low Risk = 1	High Risk = 3	Risk Rating	Impact	Weight	Adjusted Rating
Project management processes and procedures are:	Familiar and will be utilized	Not familiar and will not be utilized	1	Cap	0.5	0.5
The application manager has:	Similar experience on other projects	Little experience on similar projects	2	Cap	0.5	1
The application team is:	Located together	Dispersed at multiple sites	1	Cap	0.5	0.5
The vendor or project team is:	Experienced with the solution	Not experienced with the solution	2	Cap	1	2
Project staffing level is:	Less than 8	More than 8	2	Cap	1	2
The quality of current data is:	Well defined and simple to convert	Poor or complex to convert	3	Cap	1	3
The project is dependent on:	Zero or one outside project team	Three or more outside teams or people	1	Cap	1.5	1.5
The subject matter is:	Well known by the project team	Not well known by the project team	1	Cap	1.5	1.5
The technical (programming) requirements are:	Similar to others in the company	Very vague or very complex	2	Cap	1.5	3
The total estimated project duration is:	Less than 3 months	Longer than three months	3	Cap	1.5	4.5
If a software package implementation:	No or minimal customization is needed	Heavy customization is needed	3	Cost	1	3
The total estimated project cost is:	Less than $100,000	More than $100,000	3	Cost	1.5	4.5
If a software package implementation:	The product or release is stable	The product or release is new	3	Cust	0.5	1.5
The business benefit of the project is:	Well defined	Inadequately defined	1	Cust	0.5	0.5
The business customer commitment level is:	Involved, easy to engage	Uninvolved, hard to engage	1	Cust	0.5	0.5
The business requirements of the project are:	Understood and straightforward	Not familiar and will not be utilized	1	Cust	1	1
The project sponsor is:	Identified and committed	Not identified or committed	1	Cust	1	1
The scope of the project is:	Well defined	Inadequately defined	1	Cust	1	1
Business processes, procedures, policies require:	Little or no change	Substantial change	2	Cust	1.5	3
Changes to the organizational structure require:	Little or no change	Substantial change	1	Cust	1.5	1.5
The number of departments/organizations this will affect:	One	Three or more	3	Cust	1.5	4.5
The system availability requirements include:	Windows of availability and downtime	Availability on a 24/7 basis	3	Tech	0.5	1.5
Use of contractor or part time staff is:	None	Extensive	1	Tech	0.5	0.5
The data requirements are:	Simple	Complex	3	Tech	1	3
The number of system interfaces are:	One or none	Three or more	2	Tech	1	2
The technology being utilized consists of:	Existing software, hardware, languages, datebases and tools	New software, hardware, languages, datebases or tools (or new releases)	2	Tech	1.5	3
The testing requirements are:	Simple	Complex	2	Tech	1.5	3

Project Risk Assessment

Using the information from the above risk severity matrix, we have determined that poor AI model performance is a major risk to the project since it would not provide enough valuable information for the dashboards in order to improve current business operations which is the main goal of FPD DM. However, it has a difficulty detection score of 2 since the model performance will be evaluated during the testing and validation phase. Having weak dashboard security, receiving unclean data, and accepting performance metrics are considered moderate risks. Lastly, requiring additional resources is a minor risk to the project, since we have determined outside consultants are not required for FPD DM. The project has an overall medium high riskiness level.

FPD DM Project Governance Structure



EOC RESPONSIBILITIES

- Meet 1x weekly with PMO
- Shape and advise overall direction, allocate resources
- Make key decisions, resolve escalated issues and risks

PMO RESPONSIBILITIES

- Lead execution, enforcing guiding principles
- Link between EOC and functional teams
- Manage budget, synergy governance and provide reporting to EOC

FUNCTIONAL TEAM RESPONSIBILITIES

- Meet 2x a month with PMO
- Identify activities that need to occur and the timeline for each
- Perform/delegate day-to-day planning & roadmap tasks
- Proactively escalate issues/risks to PMO
- Provide business/technical expertise

		FPD DM Project Team								
WBS ID	**Task Description**	Barbara Coffee	Paul Reporting	Scott Jue	Jordan It	John Erpa	Emily Data	Lisa Supply	David Sales	Consultant
1.1.1	Functional Requirements				R	S	S			
1.1.2	Non-functional Requirements				R			S	S	
1.1.3	Business Requirements	R	S							
1.2.1	Develop Training Manual				R	S	S			
1.2.2	Conduct QlikSense AI tool Training (Big Data Training Group)				R	S	S			
1.3.1	Dashboard Metrics & Components		R					S	S	
1.3.2	Dashboard Prototype					R	S	S	S	
1.4.1	Identify Data Sources						R			
1.4.2	Use AI Tools to Clean Data					R	S			S
1.5.1	Design and Train AI Model					R		S	S	
1.5.2	Validate Model							R	S	
1.6	Construct/Modify dashboard					S	R	S	S	
1.7.1	Test accessibility and response time performance				S			S	R	
1.7.2	Test security of dashboard and data				R			S	S	
1.8.1	Develop Training Documentation				R	S				
1.8.2	Train Users								R	
1.9	Deploy Dashboard		S		R	S				
1.10	Project Management			R						

R = Responsible
S = Supports

Feasibility Statement

In order to obtain a high level of feasibility for FPD DM, an extensive amount of project planning using the waterfall approach has been completed. Additionally, we have a clear understanding of the business problem and have developed a well-defined project scope to address and resolve these issues. We have considered the stakeholders' requirements in our project plan and have confirmed we have the appropriate level of resources to complete this project on schedule. In cases where we may lack the required resources or skillset, we plan to outsource to consultants and 3rd-party training groups.

To plan and allocate resources, we have developed a detailed WBS and used this to create a baseline budget and schedule that supports all stages of the project. Additionally, we have explored crashing alternatives to compress the project schedule to meet the 6-month target deadline as this project is time constrained due to the potential loss of large customers. For project monitoring and status reporting, we have created a detailed communications plan that includes frequent and routine meetings for project oversight. Furthermore, we have incorporated a testing phase of the dashboards to resolve any issues prior to final deployment. We have also looked at the possible risks to the project and have developed a risk response matrix with mitigation and contingency plans for each identified risk. Lastly, we have included a 10% contingency in the project budget to account for any unforeseen expenses that might occur during the project. Therefore, we have determined that FPD DM is a highly feasible solution to resolve FPD's unpredictable business performance and poor sales forecasting.

Appendix A

WBS Cost Spreadsheet Base Case Without Crashing Activities

Time-Cost Labor Estimates													
WBS ID	**Task Description**	**Task Assigned to**	**Estimate (hrs)**	**Estimating Approach**	**Estimated Duration (hrs) (Estimate * 1.5)**	**Estimated Interruptions (hrs) (Estimate * 0.33)**	**Total Effort (hrs)**	**Labor Rate $/hr**	**Labor Cost Total $**	**Expenses**	**Total Costs**	# of Resources	Calendar duration
1.0	Project FPD BM												
1.1	Define Requirements												
1.1.1	Functional Requirements	Jordan, John, Emily	72	Historical	108.0	23.8	131.8	$47	$ 6,237	$ -	$ 6,237	3	43.92
1.1.2	Non-functional Requirements	Jordan, Lisa, David	72	Historical	108.0	23.8	131.8	$43	$ 5,666	$ -	$ 5,666	3	43.92
1.1.3	Business Requirements	Barbara, Paul	16	Historical	24.0	5.3	29.3	$125	$ 3,660	$ -	$ 3,660	2	14.64
1.2	AI Tools Training												
1.2.1	Develop Training Manual	Jordan, John, Emily	120	Expert	180.0	39.6	219.6	$47	$ 10,394	$ -	$ 10,394	3	73.2
1.2.2	Conduct QlikSense AI tool Training (Big Data Training Group)	Jordan, John, Emily	120	Expert			120.0	$47	$ 5,680	$ 10,000	$ 15,680	3	40
1.3	Design Dashboard												
1.3.1	Dashboard Metrics & Components	Paul, Lisa, David	120	Expert	180.0	39.6	219.6	$67	$ 14,786	$ -	$ 14,786	3	73.2
1.3.2	Dashboard Prototype	John, Emily, Lisa, David	320	Expert	480.0	105.6	585.6	$42	$ 24,449	$ -	$ 24,449	4	146.4
1.4	Source/Cleanse data												
1.4.1	Identify Data Sources	Emily	60	Expert	90.0	19.8	109.8	$45	$ 4,941	$ -	$ 4,941	1	109.8
1.4.2	Use AI Tools to Clean Data	John, Emily	160	Historical	240.0	52.8	292.8	$45	$ 13,176	$ -	$ 13,176	2	146.4
1.5	Develop analytics models												
1.5.1	Design and Train AI Model	John, Lisa, David	240	Expert	360.0	79.2	439.2	$41	$ 17,861	$ -	$ 17,861	3	146.4
1.5.2	Validate Model	Lisa, David	80	Expert	120.0	26.4	146.4	$39	$ 5,636	$ -	$ 5,636	2	73.2
1.6	Construct/Modify dashboard	John, Emily, Lisa, David	160	Expert	240.0	52.8	292.8	$42	$ 12,224	$ -	$ 12,224	4	73.2
1.7	Test dashboard												
1.7.1	Test accessibility and response time performance	Jordan, Lisa, David	120	Expert	180.0	39.6	219.6	$43	$ 9,443	$ -	$ 9,443	3	73.2
1.7.2	Test security of dashboard and data	Jordan, Lisa, David	120	Expert	180.0	39.6	219.6	$43	$ 9,443	$ 5,000	$ 14,443	3	73.2
1.8	Train Users												
1.8.1	Develop Training Documentation	Jordan, John	80	Expert	120.0	26.4	146.4	$49	$ 7,100		$ 7,100	2	73.2
1.8.2	Train Users	David	40	Expert	60.0	13.2	73.2	$42	$ 3,074		$ 3,074	1	73.2
1.9	Deploy Dashboard	Paul, Jordan, John	120	Expert	180.0	39.6	219.6	$74	$ 16,250		$ 16,250	3	73.2
1.10	Project Management	Scott	960	Expert			960.0	$62	$ 59,520	$ -	$ 59,520	1	960

Total	$ 229,541	$ 15,000	$ 244,541

# work packages	18

Crashing Alternatives

Crash Alternative 1:

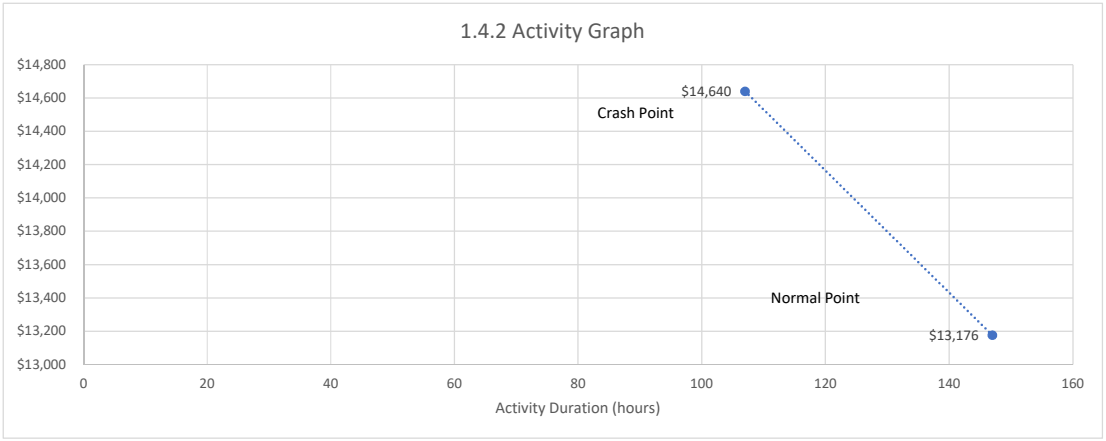
Activity 1.4.2 (Base Case I)			
Resource	Hours	Hourly Labor Rate	Cost
John Erpa	146.4	45	$ 6,588
Emily Data	146.4	45	$ 6,588
Total	292.8		$ 13,176

Activity 1.4.2 (Crash Case I)			
Resource	Hours	Hourly Labor Rate	Cost
John Erpa	97.6	45	$ 4,392
Emily Data	97.6	45	$ 4,392
Consultant	97.6	60	$ 5,856
Total	292.8		$ 14,640

Cost increase $ 1,464
Duration Decrease 48.8

	Hours	Cost
Base Case	147	$ 13,176
Crash Case	107	$ 14,640

Change in cost (crash case - base case)	$ 1,464	
Change in duration (crash case - base case)	-40	hr
Cost slope = Change in cost/change in duration hours	-36.6	$/hr



Crash Alternative 2:

Activity 1.2.1 (Base Case D)			
Resource	Hours	Hourly Labor Rate	Cost
Jordan It	73.2	52	$ 3,806
Emily Data	73.2	45	$ 3,294
John Erpa	73.2	45	$ 3,294
Total	219.6		$ 10,394

Activity 1.2.1 (Crash Case D)			
Resource	Hours	Hourly Labor Rate	Cost
Jordan It	58.2	52	$ 3,026
Emily Data	58.2	45	$ 2,619
John Erpa	58.2	45	$ 2,619
Consultant	45	55	$ 2,475
Total	219.6		$ 10,739

Cost increase $ 345
Duration Decrease 15

Crash Alternative 3:

Activity 1.3.2 (Base Case G)			
Resource	Hours	Hourly Labor Rate	Cost
John It	146.4	45	$ 6,588
Emily Data	146.4	45	$ 6,588
Lisa Supply	146.4	35	$ 5,124
David Sales	146.4	42	$ 6,149
Total	585.6		$ 24,449

Activity 1.3.2 (Crash Case G)			
Resource	Hours	Hourly Labor Rate	Cost
John It	126.4	45	$ 5,688
Emily Data	126.4	45	$ 5,688
Lisa Supply	126.4	35	$ 4,424
David Sales	126.4	42	$ 5,309
Consultant	80	60	$ 4,800
Total	585.6		$ 25,909

Cost increase $ 1,460
Duration Decrease 20

Summary Costs by Duration Table:

Case	Project Duration	Direct Costs	Indirect Costs	Total Costs
Base Case	991.4	$ 185,021	$ 59,520	$ 244,541
Crash I	942.8	$ 186,485	$ 56,590	$ 243,076
Crash I-D	927.8	$ 186,830	$ 55,702	$ 242,532
Crash I-D-G	907.8	$ 188,290	$ 54,501	$ 242,791