Dryer Efficiency Project
Team 2

Introduction

Team Members

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Problem Statement - Goal

- **Increase η in dryer 3**
- **Decrease the moisture content in the product**

Problem Statement - Objectives

| Objectives	Basis for Measurement	Units
Inexpensive	Implementation costs	$
Production output	Weight of product	Tons
Moisture content	Amount of water	%
Efficiency	Energy used	BTU/ ton
Condensation	Weight of water in the steam	Kg water/ kg steam

Problem Statement - Constraints

- **Moisture Content in the product < 11.5%**

- **Payback period for investment < 8 years**

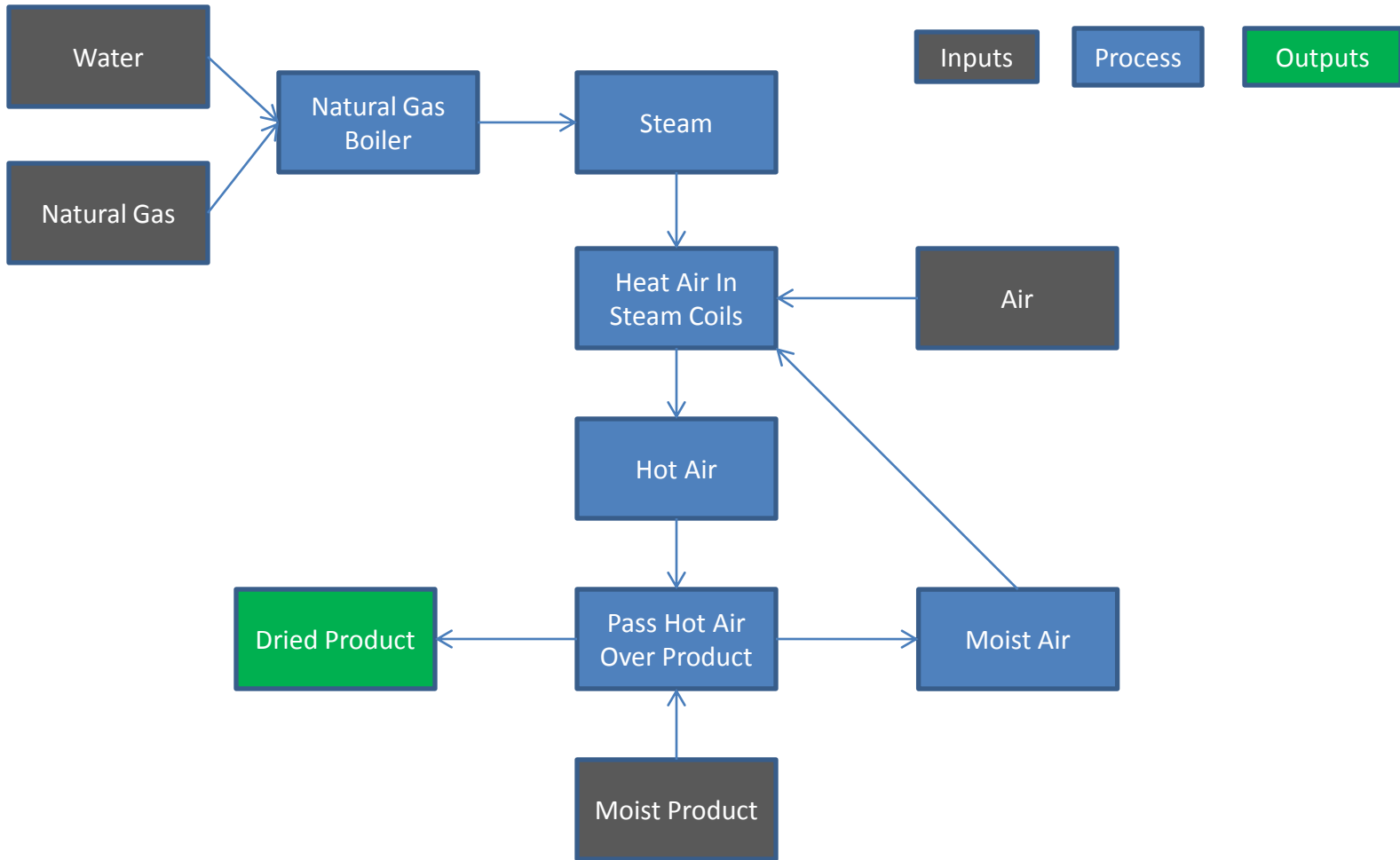- **There is no condensation in the steam coils**

Problem Statement - Test Environment

- **The Purina plant: Dryer, computer modeling and data.**

Criteria Tree
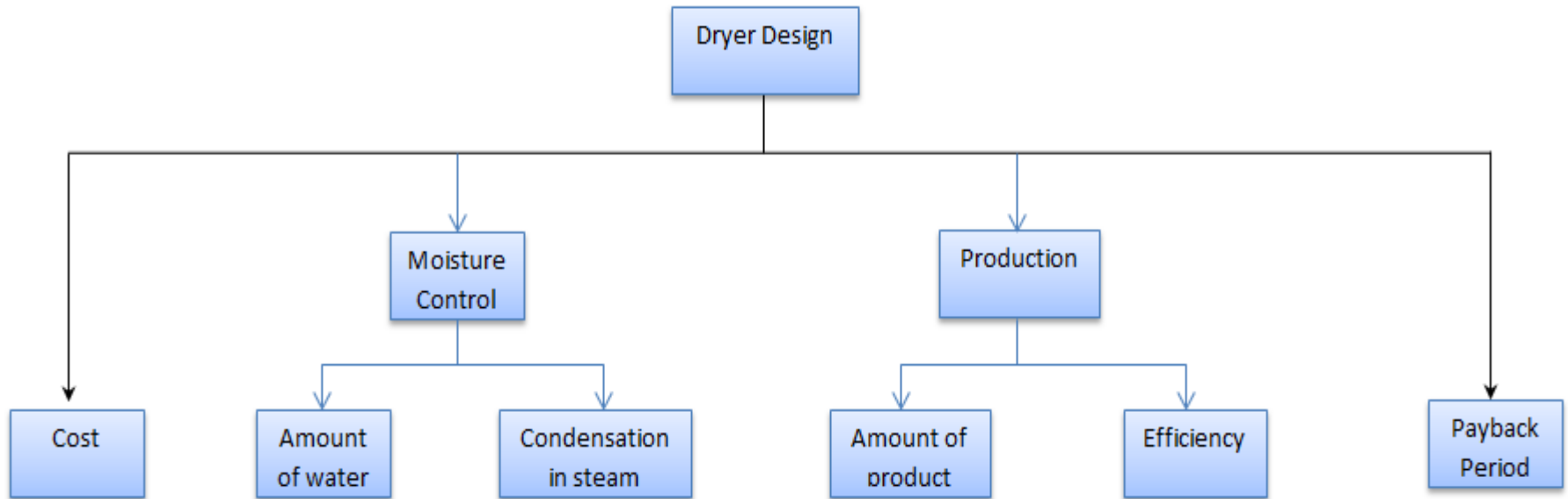
Functional Diagram

Quality Function Table

Customer Requirements		Engineering Requirements				
		Weight	Cost	Payback Period	Energy reduction	Tonnage
	Inexpensive	x	x	x	x	
	Allow for more product throughput		x	x	x	x
	Durable	x	x	x		
	Units	lb	$	yrs	%	ton
		NA	250k	8	10	20/day
			Engineering Targets			

House of Quality
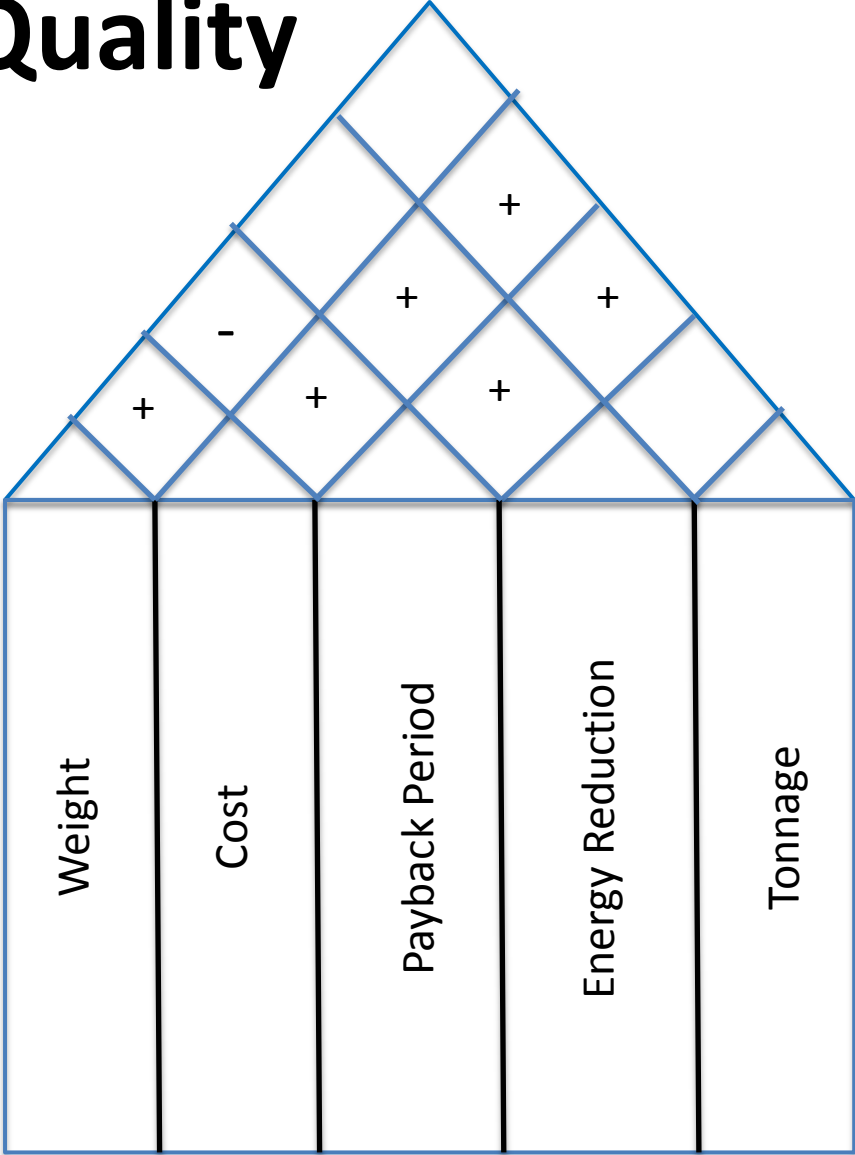
Gantt Chart

	Task	Date
1	Presentation Preparations	Wed 10/3/12
2	Presentation	Wed 10/3/12
3	Report	Fri 10/5/12
4	Needs Identification, Product Specification and Project plan	Fri 10/5/12
5	Presentation Preparations	Mon 10/22/12
6	Presentation	Mon 10/22/12
7	Report	Fri 10/26/12
8	Meeting	Tue 10/9/12
9	Meeting	Tue 10/16/12
10	Meeting	Tue 10/23/12
11	Concept Generation and Selection	Fri 10/26/12
12	presentation Preparations	Mon 11/5/12

Gantt Chart

6	Presentation	Mon 10/22/12	
7	Report	Fri 10/26/12	
8	Meeting	Tue 10/9/12	
9	Meeting	Tue 10/16/12	
10	Meeting	Tue 10/23/12	23
11	Concept Generation and Selection	Fri 10/26/12	◆ 10/26
12	presentation Preparations	Mon 11/5/12	
13	Presentation	Mon 11/5/12	◆ 11/5
14	Report	Fri 11/9/12	
15	Meeting	Tue 10/30/12	◆ 10/30
16	Meeting	Tue 11/6/12	◆ 11/6
17	Engineering Analysis	Fri 11/9/12	◆ 11/9
18	Presentation Preparations	Mon 11/26/12	
19	Presentation	Mon 11/26/12	◆ 11/26
20	Report	Fri 11/30/12	
21	Meeting	Tue 11/13/12	◆ 11/13
22	Meeting	Tue 11/20/12	◆ 11/20
23	Meeting	Tue 11/27/12	◆ 11/27
24	Final Design Review and Project Proposal	Fri 11/30/12	◆ 11/30