Agenda

1) Introduction

2) What is Six Sigma
   1) Models
   2) Principles

3) Types of Data & Types of Tools

4) Where can it be applied

5) How it has been applied to Audit & Finance
Introduction

Who I am and what I have done is not important; however, the journey I have taken has highlighted the nature of Six Sigma’s evolution.

…and I am the guy who doesn’t care.
So, What is Six Sigma?

Sometimes called Six Sigma

Sometimes Lean Sigma

Sometimes Lean Six Sigma

Sometimes Business Process Improvement (BPI)…as long as someone can spin a consulting gig more acronyms will follow.
Six Sigma – What it Isn’t

Six Sigma is **NOT** about telling a “good story”……

it is about getting an unemotional view of a problem and possible solutions – getting to the true “story”.

Six Sigma is **NOT** about finding blame……

it is a process focused problem solving methodology where the process and not the people is what needs to be “fixed”.

Six Sigma is **NOT** a firefighting technique……

it is about fixing a problem and having controls in place so that the problem does not have to be “fixed” again.
Our Decision Making Process as related to problem solving

**Decision Making Process**

1. Intuition, gut feel, I think, I want ..... 
2. We have Raw Data and look at it 
3. We make graphs / charts of the data 
4. We use advanced statistical tools to evaluate the data

**Types of Problems You Will Normally Solve**

Simple (Guess & Mess)

How Many Times Have We Heard This? “I Think The Problem Is…”

Complex (Statistical Analysis)
So, what model of Six Sigma

**DMAIC:** Define, Measure, Analyze, Improve, Control  
(Focus on Mean and Variance)

**DFSS:** Design for Six Sigma  
(Design a new system/product for Six Sigma Capability)

**LEAN:** Focus is on waste reduction  
(does not recognize variability)

It is a CUSTOMER and PROCESS way of looking at problems and how to fix them.
Customers – a reminder

A Customer can be External or Internal

**External Customers:**
- End user of Data (SEC, Shareholders)
- End user of product
- Purchaser of product

**Internal Customers:**
- User of data (Finance, Accounting)
- Anyone that receives the output of a process

Quality in a product or service is not what the supplier puts in. It is what the customer gets out and is willing to pay for. A product is not quality because it is hard to make and costs a lot of money, as manufacturers typically believe. This is incompetence. Customers pay only for what is of use to them and gives them value. Nothing else constitutes quality.

Peter Drucker
*(1909 - 2005)*

What is it that you make?
So, what does Six Sigma mean in numbers?

<table>
<thead>
<tr>
<th>Σ</th>
<th>% Non-Defective</th>
<th>Parts per Million Defective</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>69.1%</td>
<td>308,537</td>
</tr>
<tr>
<td>3</td>
<td>93.32%</td>
<td>66,807</td>
</tr>
<tr>
<td>4</td>
<td>99.379%</td>
<td>6,210</td>
</tr>
<tr>
<td>5</td>
<td>99.9767%</td>
<td>233</td>
</tr>
<tr>
<td>6</td>
<td>99.99966%</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Why is 99% not good enough?

Note: Assumes 1.5 shift (not to be explained later)
What Does 6 Sigma Mean In Our Daily Lives?

**PPM**

<table>
<thead>
<tr>
<th>Process</th>
<th>Sigma Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescription Writing</td>
<td>5</td>
</tr>
<tr>
<td>Restaurant Bills</td>
<td>4</td>
</tr>
<tr>
<td>Payroll Processing</td>
<td>3</td>
</tr>
<tr>
<td>Baggage Handling</td>
<td>2</td>
</tr>
<tr>
<td>US-IRS Tax Advice</td>
<td>1</td>
</tr>
<tr>
<td>Best in Class</td>
<td>6</td>
</tr>
<tr>
<td>US Airline Safety Rate</td>
<td>7</td>
</tr>
</tbody>
</table>
So, why is 99% not good enough?

The Classical View of Quality
“99% Good” (3.8σ)

- 20,000 lost articles of mail per hour
- Unsafe drinking water almost 15 minutes each day
- 5,000 incorrect surgical operations per week
- 2 short or long landings at most major airports daily
- 200,000 wrong drug prescriptions each year
- No electricity for almost 7 hours each month

The Six Sigma View of Quality
“99.99966% Good” (6σ)
What is Entitlement?

Process Entitlement:
The expected performance level of a process when the major sources of variation are identified and controlled.

![Graph showing the stages of performance improvement](graph.png)
Process Capability: Lead Time is the Output

Lead-time (days)

4 7 14 11 7 7 14 3 3 4 8 8 5 6 10 11 8 9 6 9

Actual delivery over a 20 day period

Customer requires delivery in less than 12 days

We meet the customer’s requirement 90% of the time – is this acceptable?

Challenge:

Entitlement

Average
Variation

► Variation is in everything
  ■ We cannot eliminate it, but we can reduce it or its effects

► One negative effect of variation is poor process capability
  ■ Increased non-conformances
  ■ Increased inventory
  ■ Increased cycle time
  ■ Increased cost

► Let’s review when variability is an issue…
The Nature of Variation

► First, Not all variation is bad
  ● New products
  ● New services

► Unintentional variation degrades performance

► Variation buffers
  ● Inventory
  ● Time
  ● Capacity

► Six Sigma focuses on reducing
  ● Variation due to process
  ● Variation due to flow
Defect and Defective vs. Project Defect

What is a defect?
► Anything that results in customer dissatisfaction. Anything that results in a non-conformance. It is possible to have multiple defects. For example: missing address and wrong price on an invoice.

What is a defective?
► Anything defect that results in customer dissatisfaction. Anything that results in a non-conformance. For example: either the missing address or wrong price would make the invoice defective.

It must be measurable!
► Time
► Quantity
► Cost
► Quality

What is a Six Sigma Project defect?
► The measurable level at which a defect occurs.
  • Yields < 97.3%
  • Call answered in >4 rings
  • Invoice taking > 30 minutes to process
  • Any time shipping cost > 2% of total invoice
  • An audit report in <= 14 days

The measurable defect level where the project is complete (you no longer have a project defect). For example: Invoice Accuracy < 98% would not imply that all invoices are not defective but that 98% of them are.

A TASK is the defect you are fixing….a PROJECT is when you are changing something to prevent the defect!
7 Simple Questions (for all projects)

1. What is wrong?
2. How wrong is it?
3. Why should we fix it?
4. How can we fix it?
5. When can we fix it?
6. Did it really get fixed?
7. What can we do so that we don’t need to fix it again?
The Process Improvement Methodology

D  Define Phase
  1. What is wrong?

M  Measurement Phase
  2. How wrong is it?
  3. Why should we fix it?

A  Analysis Phase
  4. How can we fix it?
  5. When can we fix it?

I  Improvement Phase
  6. Did it really get fixed?

C  Control Phase
  7. What can we do so that we don’t need to fix it again?

Acknowledgement: R. Tanner in, “Six sigma unchaining the beast within”
VOC

The Voice Of the Customer

I want ...
Voice of the Customer (VOC)

**Voice of the Customer**

Not designed by customers, **inspired** by customers

Listening to Customers means getting beyond the features or solutions or specifications they ask for or want to understand the **need** these things represent.

Differentiate between **Needs** and **Solutions** or **Wants**
Gather VOC and translate them into Customer CTQs

1. Gather Key Needs of the Customers (VOC)
   1. Product/Services provided were identified in SIPOC/Process Map
   2. Customers – internal & external were identified in SIPOC/Process Map

2. Translate VOC into our language
   1. Specific
   2. Measurable

3. Specify Customer CTQs
Translate Expectations into Requirements ….

- Requirements add clarity by assigning a measurable value

**Expectation** (Need)  **Measure**  **Requirement**
- Hot  Temperature  Greater than 50 C
- Good  Taste  4 or more 1 to 5 scale
- Full Cup  Volume  No less than 10 oz
- Cheap  Price  No more than $1.00

- Work with the customer to structure these requirements so they are:
  - **Specific**
  - **Quantifiable**
  - **Understandable in our language**
### Specifying Customer CTQs
- Organizing VOC Data - Example

#### Structure of Requirements Tree - Ordering Process for Materials

<table>
<thead>
<tr>
<th>First Level Need</th>
<th>Second Level Need (Requirement)</th>
<th>Third Level Specific Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need to place orders easily</td>
<td>Convenient access to order placement</td>
<td>Place orders when customer wants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Place orders from any location</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Place orders using different technologies</td>
</tr>
<tr>
<td></td>
<td>Simple process for order placement</td>
<td>Easily understandable process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process with few steps</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Confirm order immediately</td>
</tr>
<tr>
<td></td>
<td></td>
<td>On-line help available</td>
</tr>
</tbody>
</table>

... Be Sure to Express Needs as Requirements
Specifying Customer CTQs

- Establishing Measures, Targets & Specification Limits

- Customer Need
  - Quick Delivery
  - Business Speak
    - World Class Performance

CTQ

- Time to Deliver
  - Order time to Receipt time (Hours)
  - 48 Hours
  - 72 Hours
  - < 3.4 DPMO

- Product/Service Characteristic

- Measure

- Target/Nominal Value

- Specification/Tolerance Limit(s)

- Allowable Defect Rate
The Basic Measures

► **Types of Data**
  ● Continuous
  ● Attribute

► **Measures of the Center of the Data**
  ● Mean
  ● Median

► **Measures of the Spread of Data**
  ● Range
  ● Variance
  ● Standard Deviation

► **Properties of a Normal Distribution**
Types of Data

► **Attribute Data (Qualitative)**
  - Categories
  - Good / Bad
  - Machine 1, Machine 2, Machine 3
  - Shift number
  - Counted things (# of Errors in a document, # units shipped, etc.)

► **Variable Data (Quantitative)**
  - Continuous Data (Decimal subdivisions are meaningful)
    - Time (seconds)
    - Pressure (psi)
    - Conveyor Speed (ft/min)
    - Rate (inches)
    - etc.
Tools

Subjective – as warm and fuzzy as I get
C&E Matrix
FMEA

Process Mapping
SIPOC
Fishbone

Statistical – not so fuzzy and warm
ANOVA
T-tests
Regressions
A fishbone is a structured brainstorming tool designed to identify possible root causes for problems.
Building a Fishbone Diagram

1. Draw Fishbone on Flip Chart

2. Define your Problem Statement (List the effect or defect you are trying to influence and make sure it is measurable)

3. Label with Branch Categories appropriate to your problem.
   1. Manpower, Machine, Method, Measures, Materials, Environment
   2. People, Plant, Procedures, Policies
   3. What Ever Classification Makes Sense

4. Categorize Possible Causes.

5. Add impact numbers.

6. Brainstorm possible causes by asking the 5 Whys
   - 1st Why = Excuse
   - 2nd Why = Symptom
   - 3rd Why = Blame
   - 4th Why = Cause
   - 5th Why = Root Cause
Example of a Fishbone Diagram

- **Measures**
  - Training
  - Selection
  - Document
  - Forms
  - Bar Code Scanner
  - Dirty Sensor
  - Cracked Lens

- **Manpower**
  - Experience
  - Hearing
  - Vision
  - Near-Sighted
  - Far-Sighted

- **Methods**
  - Change Notice
  - Inaccurate Count
  - Under-issue
  - Over-issue
  - Late Entry
  - Wrong Location
  - Inaccurate Inventory

- **Physical**
  - Dirty Sensor
  - Cracked Lens
  - Bar Code Scanner
  - Forms

- **Environmental**
  - Bins Blocked
  - Dirty Sensor
  - Cracked Lens

- **Materials**
  - Illegible
  - Duplicate
  - Document

- **Machinery**
  - Bar Code Scanner
  - Dirty Sensor
  - Cracked Lens

Impact
- Easy: 1 2
- Hard: 3 4

Implementation
- High
- Low
Fishbone: Freight Audit

Procedures
- CY/DR usage
- Variation in pay process
  - Training
  - Key Combinations
  - Currency
- Buyer and Coordinator not aligned
  - Global variation in data entry
  - Accessorial rates
  - Procurement cycle

Technology
- Manual service pref calculation
  - Timely data entry
    - One at a time entry
    - Manual Process
- Tzone
- Contract Storage
- Point
- Route Guide Weight Breaks
  - UN Code
  - SAP

People
- Vendors
- Sourcing Manager
  - Human Error
- Rate Route Coordinator
  - Legal

Environment
- Rate and Route entered late
  - Resource constraints
  - Workload
  - Receiving contract data late
    - Market
      - Inaccurate/non standard contract data
A SIPOC is used to capture the relationships between the inputs, outputs, suppliers and **CUSTOMERS** of the Process. (Note the focus)
Start with Process Name (A) next the Description (B) then Customer (C), then Outputs (D), next Inputs (E) then Suppliers (F) and finally Scope (G)
# As-Is SIPOC Freight Audit

## SIPOC

<table>
<thead>
<tr>
<th>Supplier(s)</th>
<th>Inputs</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract administrator</td>
<td>Complete bid and service preference assignments</td>
<td>Liner Guide</td>
</tr>
<tr>
<td>Contract administrator</td>
<td>Information from quote response</td>
<td>Updated Liner Guide</td>
</tr>
<tr>
<td>Rate and Route Coordinator</td>
<td>Information from quote response</td>
<td>Completed route request</td>
</tr>
<tr>
<td>Contract administrator</td>
<td>Complete bid and service preference assignments</td>
<td>Liner Guide</td>
</tr>
<tr>
<td>Contract administrator</td>
<td>Information from quote response</td>
<td>Updated Liner Guide</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>Quote response</td>
<td>Information from quote response</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>New business need</td>
<td>Route request email</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>Consolidated forecast</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>New business information</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Supply Chain</td>
<td>New business need</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>Volume forecasts</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Rate and Route Coordinator</td>
<td>Route request email</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Liner Carrier</td>
<td>New bid request</td>
<td>Rate and Route Coordinator</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>Quote response</td>
<td>New business information</td>
</tr>
<tr>
<td>Strategic sourcing manager</td>
<td>New bid data</td>
<td>New business information</td>
</tr>
<tr>
<td>Rate and Route Coordinator</td>
<td>Liner Guide</td>
<td>New business information</td>
</tr>
</tbody>
</table>

## Process Name

<table>
<thead>
<tr>
<th>Process Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liner rate route maintenance</td>
<td>Liner rate and route master entry after new bid, and new business request.</td>
</tr>
</tbody>
</table>

## Process Description

**Process Boundaries**

- **The process starts:**
  - Submission of supply chain forecast of liner shipment volume
- **The process ends:**
  - Rate and route master data entered in SAP master data

**What is included:**

- Liner rate and route master data entry upon new liner bid; rate and route master entry as a result of new business request; Global
- Forecast creation, bid creation process on GT nexus website, order and shipment creation and/or resolution, invoice resolution

**What is excluded:**

- SAP Master Data
SIPOC to Identify Outputs and Customers…

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Inputs</th>
<th>Process</th>
<th>Outputs</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hiring Manager</td>
<td>JON Form</td>
<td>Professional Recruitment</td>
<td>New Hire</td>
<td>Hiring Manager</td>
</tr>
<tr>
<td>Interviewing Team</td>
<td>Open Position</td>
<td>Recruiting candidates for</td>
<td>Payroll Notification</td>
<td>Candidates</td>
</tr>
<tr>
<td>Candidates</td>
<td>Applications</td>
<td>open positions</td>
<td>Refusal Letters</td>
<td>Executive Team</td>
</tr>
<tr>
<td>Search Firm</td>
<td>Interviewers</td>
<td></td>
<td>Interview Summaries</td>
<td></td>
</tr>
<tr>
<td>Releasing Manager</td>
<td>Job Vacancy Description</td>
<td></td>
<td>Compensation &amp; Benefits Package</td>
<td></td>
</tr>
</tbody>
</table>

The chosen objective is the “Process”
Start Creating Project Pipeline by…

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Inputs</th>
<th>Process</th>
<th>Outputs</th>
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<tr>
<td>Hiring Manager</td>
<td>JON Form</td>
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<td>Open Position</td>
<td>Recruiting candidates</td>
<td>Payroll Notification</td>
<td>Candidates</td>
</tr>
<tr>
<td>Candidates</td>
<td>Applications</td>
<td>for open positions</td>
<td>Refusal Letters</td>
<td>Executive Team</td>
</tr>
<tr>
<td>Search Firm</td>
<td>Interviewers</td>
<td></td>
<td>Interview Summaries</td>
<td></td>
</tr>
<tr>
<td>Releasing Manager</td>
<td>Job Vacancy</td>
<td></td>
<td>Compensation &amp; Benefits</td>
<td></td>
</tr>
</tbody>
</table>

- Raise job opportunity notification
- Source int. & ext. candidates
- Organize candidate interviews
- Select suitable candidate
- Establish & agree salary
- Bring new hire on-board

...Identifying Problem Areas in Business Processes
Process Mapping

There are usually 3 versions of a Process Map

What you **Believe it is...**

What it **Actually is...**  What you **Want it to be...**
A Swim Lane Is …

► A detailed process map.

► Shows task sequence and decision points.

► Shows hand offs between functions or departments.
Example: Cycle Time Documentation

- The example below shows an order generation, invoicing, and delivery process.

```
Customer
Order Generated (1,5,10)

Sales
Order Received (1,2,3) -> Check Credit (.5,1,2)
Credit Problem Addressed (1,2,5) -> OK ?

Credit & Invoicing
Credit OK Split (.1,.2,.3) -> Invoice Prepared (2,3,4) -> Invoice Sent (.2,.3,.5)

Order Stopped

Production Control
Order Entered (.4,6,1) -> Production Scheduled (.5,6,2) -> Compact Discs Copied (1,2,10) -> Order Shipped

Max

Min

CT
```
Where can it be applied

Only in places where there is a process. Manufacturing was traditional. Transactional is norm now.

Look around. Hospitals, military anywhere efficiency is needed or cost and risk is an issue.

In other words, it is easier to say where it can not be applied because the list is short.
Audit Application

So, how have we used it in Audit...no, I have not forgotten the audience.

I want ...
Brainstormed

Audit Process Brainstorming

Technology (P/F)
- Use of Data Tools 3
- Electronic Workpapers 3
- CCM 4

Scope (P)
- Broad / Narrow / Risk Based 1
- Fraud 1
- Sufficiently Detailed APG 1
- Communicated timing up-front 1

Client (R)
- HR 3
- IT 3
- Matrix Org 3
- Regional Turnaround 3
- Number of Distribution 1
- Business or Function In Scope 1
- Method of Communications 1
- - Email
- - Face-to-Face
- - Blackberry

Staff (P/F)
- Experience 3
- Skills 2
- CIA / CPA 4
- Data Analytics 3
- Writing 3
- All US Based 4
- Scheduling 2

10 Day Audit Report

Audit Phase
- P = Planning
- F = Fieldwork
- R = Reporting

Impact
- Easy: 1 2
- Hard: 3 4
<table>
<thead>
<tr>
<th>Audit Number</th>
<th>Name of the Audit</th>
<th>Days between announcement and fieldwork</th>
<th>Difference in days between end of fieldwork and start of field meeting</th>
<th>Days start draft of field report and end field work</th>
<th>Draft Start to Director</th>
<th>Time taken from Director to Client</th>
<th>Draft Start to Client</th>
<th>Time taken from Client to Director</th>
<th>Draft from Director to VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-001</td>
<td>Brazil (Audit)</td>
<td>14</td>
<td>25</td>
<td>5</td>
<td>2</td>
<td>15</td>
<td>3</td>
<td>12</td>
<td></td>
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<tr>
<td>2000-002</td>
<td>US Power Generation</td>
<td>19</td>
<td>85</td>
<td>-12</td>
<td>3</td>
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<td>13</td>
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<td>10</td>
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<td>2000-003</td>
<td>Huawei (Audit)</td>
<td>27</td>
<td>15</td>
<td>-15</td>
<td>2</td>
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<td>6</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>2000-004</td>
<td>Japan (Audit)</td>
<td>13</td>
<td>23</td>
<td>-3</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>17</td>
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<tr>
<td>2000-005</td>
<td>India (Audit)</td>
<td>31</td>
<td>11</td>
<td>-2</td>
<td>5</td>
<td>2</td>
<td>8</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>2000-006</td>
<td>UK (Audit)</td>
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<td>11</td>
<td>-1</td>
<td>0</td>
<td>13</td>
<td>11</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2000-007</td>
<td>Brazil (Audit)</td>
<td>18</td>
<td>15</td>
<td>6</td>
<td>2</td>
<td>41</td>
<td>53</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>2000-008</td>
<td>Mexico (Audit)</td>
<td>14</td>
<td>53</td>
<td>-24</td>
<td>30</td>
<td>1</td>
<td>34</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2000-009</td>
<td>New Zealand (Audit)</td>
<td>15</td>
<td>9</td>
<td>42</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2000-010</td>
<td>EPO (Audit)</td>
<td>17</td>
<td>11</td>
<td>7</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>2000-011</td>
<td>EPO (Audit)</td>
<td>18</td>
<td>16</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>13</td>
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Start to Analyze Data

Scatterplot of Distribution of Final Re vs Draft from VP to Issuance

Scatterplot of Distribution of Final Re vs Draft Start to Director

Scatterplot of Distribution of Final Re vs Draft from Director to V

Scatterplot of Distribution of Final Re vs Turnaround from Director
Start to Analyze Data

Scatterplot of Distribution of Final Re vs Days start draft after close me

Scatterplot of Distribution of Final Re vs Report Grade (1=Strong, 2=Satisfactory)
Start to Analyze Data

The regression equation is
Distribution of Final Report - = 9.64 - 0.304 Days between announcement letter + 1.23 Days start draft after close me + 0.872 Draft Start to Client + 1.35 Draft from Director to VP + 0.906 Draft from VP to Issuance

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<th>Predictor</th>
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S = 16.4849   R-Sq = 86.9%   R-Sq(adj) = 84.0%

Analysis of Variance

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The regression equation is
Report Grade (1=Strong, 2=Satisfactory) = 1.11 + 0.00989 Distribution of Final Report -
- 0.0066 num of Observations
+ 0.543 num of Critical Observations
+ 0.176 num of Moderate Observations
+ 0.0994 num of Process Improvements

Predictor: Coef SE Coef T P
Constant: 1.1127 0.2607 4.27 0.000
Distribution of Final Report: 0.009895 0.002922 3.39 0.003
num of Observations: -0.00657 0.08079 -0.08 0.936
num of Critical Observations: 0.5427 0.2916 1.86 0.076
num of Moderate Observations: 0.17575 0.09518 1.85 0.078
num of Process Improvements: 0.09935 0.07095 1.40 0.175

S = 0.612461 R-Sq = 59.0% R-Sq(adj) = 49.6%

Analysis of Variance

Source DF SS MS F P
Regression 5 11.8548 2.3710 6.32 0.001
Residual Error 22 8.2524 0.3751
Total 27 20.1071

Source DF Seq SS
Distribution of Final Report: 1 4.1453
num of Observations: 1 4.8098
num of Critical Observations: 1 0.8034
num of Moderate Observations: 1 1.3608
num of Process Improvements: 1 0.7355
Audit

So, what were the results?

Where all is in our control, we are doing well. Still not perfect but, much better. We continue to lose time when reports are out of our hands. Meaning, a report with sit with an OTC member or GM for long periods of time. I feel good however that we are controlling the process on our side. Sitting generally at about 15 days (which is about industry average) We have hit the 10 day goal about 35-40% of the time. Up from less than 5% last year.
Where else applied by audit to drive value?

Treasury: Reduce number of banks making audit process easier and thereby cheaper

General reporting: streamlined process reducing resources required

Within each of the process steps to reduce travel and associated costs

Inside the Audit Department.....and with the Customers of the Audit Department in their processes