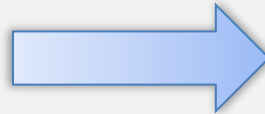# Avoiding Common OBIEE Mistakes

Learning from Post-Implementation Assessments

Agenda

- Agenda
- BI First Impressions
- BI Defined
- Transformation Components
- Case Studies
  - Data Storage
  - Metadata Definitions
  - Dashboards & Reports
  - User Analysis
- Summary
- Questions

MANAGEMENT CONSULTING	SYSTEMS IMPLEMENTATION	MANAGED SERVICES

business intelligence is

Raw Data → **Better Business Decisions**

brilliant!

Lets install it right away!

A Closer look at BI

business intelligence is defined as:

Strategic Insights · Operational Insights · Tactical Insights

Transformation
occurs through:
- ✓ Methodologies
- ✓ Processes
- ✓ Architectures
- ✓ Technologies

+ ✓ **Best Practices** **=** BI Success

BI Transformation Components

How it all comes together

User Analysis

Dashboards
& Reports

Metadata
Definitions
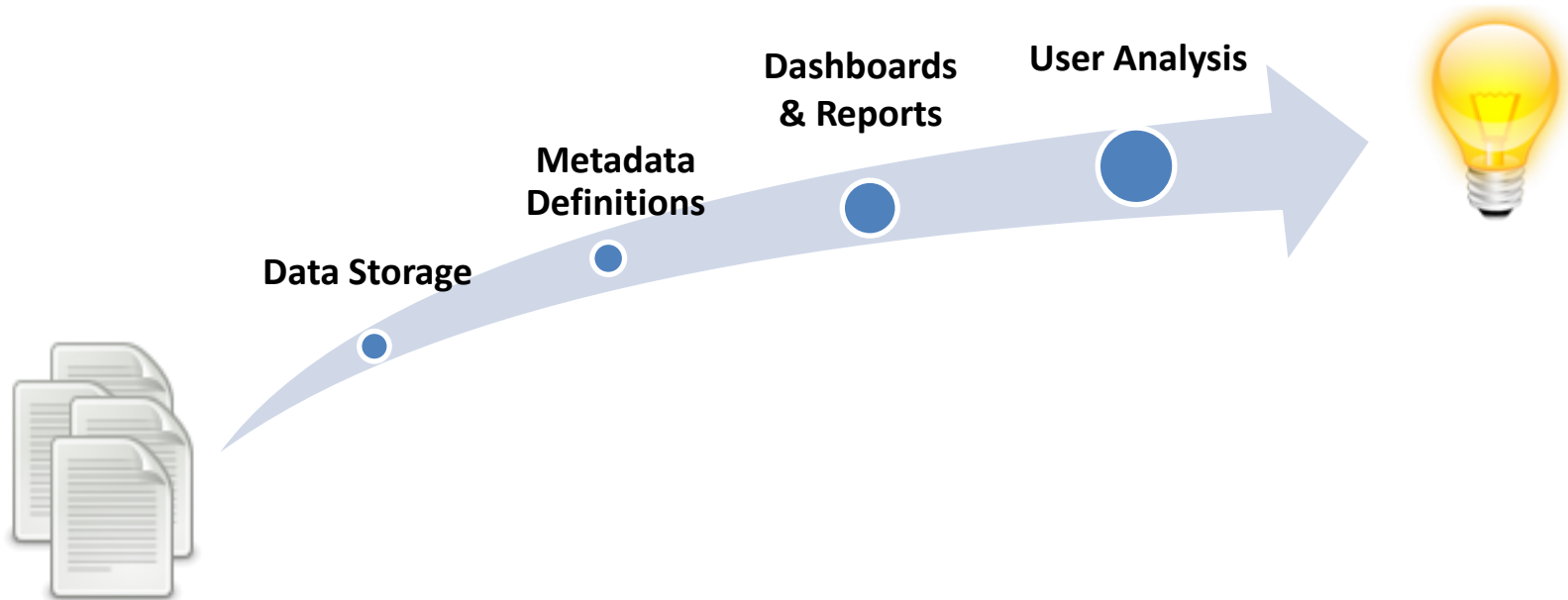
Data Storage

Data Storage

Wayne Enterprises

An Overview

Applications	Siebel Marketing, Call Center & Analytics
Business Unit	Marketing

The Problem

Wayne Enterprises' marketing department could not execute their 20 daily email campaigns within 24 hours

The Cause

Frequently requested, 3rd party data was being stored in a remote area of the marketing database causing slow running marketing programs

The Catch

The 3rd party data was correctly being stored in a proven Oracle "out of the box" data schema.

Technical Terms often heard at Wayne Enterprises

Target Level

- a list of fields that can be used to create a segment

```
Inbound Request Target Level

📁 Inbound Requests
   📁 Consumers
      📁 Profile Information
         • First Name
         • Last Name
         • Date of Birth
         • Company
      📁 Address Information
         • Email Address
         • Address Line 1
         • Address Line 2
         • City
         • State
         • Zip
         • Country
      📁 Consumer Keys
         • Consumer ID
         • Address ID
         • Company ID
   📁 Request Surveys
      • Request Date
      • Request Answer ID
      • Request ID
   📁 Brands
      • Brand Name
      • Brand ID
```

Segment

- contains business logic that describes the required criteria of a marketing campaign

> **Segment**

> email is not null
> **AND** Request = 'Brand A'

Qualified List Item (QLI)

- the targeted entity of a segment

- Email address as Qualified List Item

MC_TARGET_LEVEL	
QLI	**GUID**
MichaelTGriffith@example.com	2801WQS
CharlesFVazquez@example.com	2801WQS
LarryDSchulte@example.com	2801WQS
MiriamRDietz@example.com	2801WQS

Marketing Cache

- Data that satisfies segment criteria will be store the QLI value into a temporary Marketing Cache table

Campaign Load Format

- The layout of campaign data exported to the transactional application system

Example Fields
- First Name
- Last Name
- Email Address
- Request ID
- Package ID
- Consumer ID

Uncovering the Issue

Tracing the Campaign Execution

1. Marketing Campaign Segment is scheduled in Siebel Marketing (OLTP) and a query is executed against OLAP database (Siebel Analytics)
2. Query results are stored in MC_Target_Level table
3. Attributes are added to the segment results in MC_Target_Level defined in the campaign load so that it can be loaded into OLTP (Call Center, Siebel Marketing)
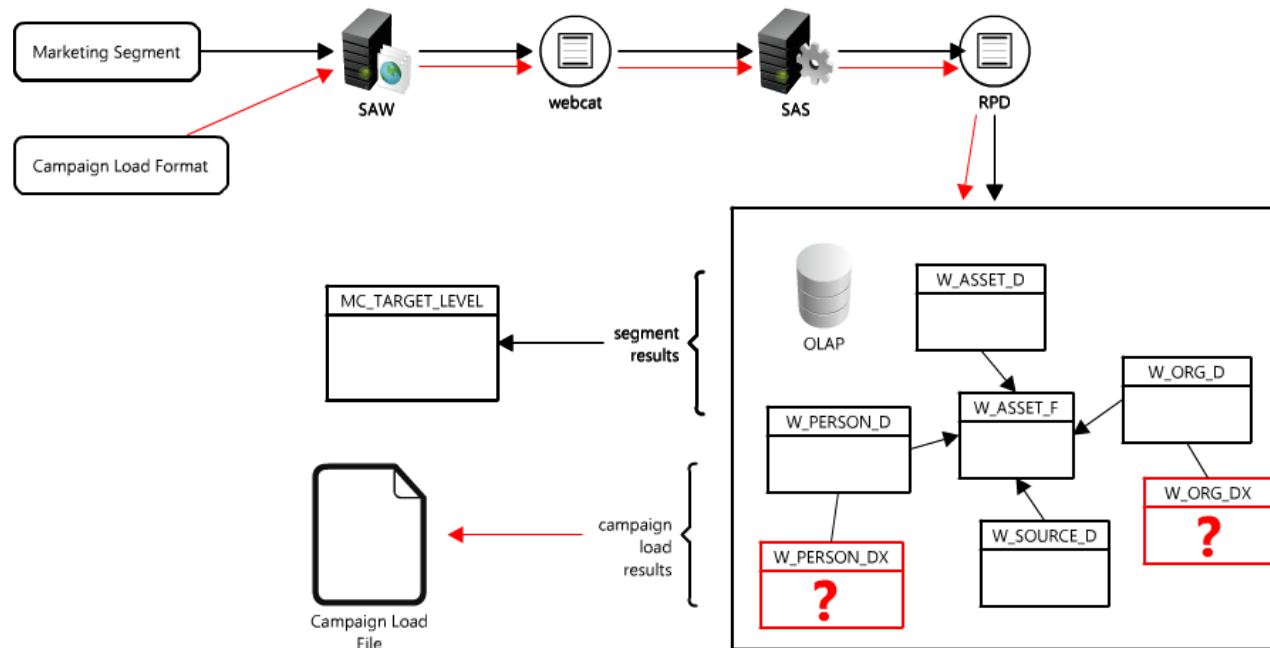
Capturing the SQL

Campaign Load Format

DISCOVERIES

Poor SQL

RED highlights show
- Outer joins to dimension extension tables (_DX)
- Out of the box 3rd party assigned columns

This SQL statement executes for each of the 20 daily campaigns

```
(select distinct T259560."ROW_WID" as c1,
     T259555."LAST_NAME" as c2,
     T259555."FST_NAME" as c3,
     T259555."PRSP_CON_UID" as c4,
     T259551."INTEGRATION_ID" as c5,
     T259555."INTEGRATION_ID" as c6,
     T259574."ADDRESS_KEY" as c7,
     T259574."PERSISTENT_ID" as c8,
     T259555."ROW_WID" as c9,
     concat(coalesce(cast(T259555."INTEGRATION_ID" as  VARCHAR ( 20 ) ) , ''), coalesce('~' , '')) as c10,
     T259552."ADDRESS_KEY" as c11,
     T259551."ROW_WID" as c12,
     T259551."ST_ADDRESS" as c13,
     T259552."ST_ADDRESS2" as c14,
     T259551."CITY" as c15,
     T259551."STATE" as c16,
     T259551."ZIPCODE" as c17,
     T259551."COUNTRY" as c18,
          T259557."INTEGRATION_ID" as c20,
     T259558."PROVIDED_MODEL_NUM" as c21,
     T259557."SERIAL_NUM" as c22,
     T259557."ROW_WID" as c23,
     concat(coalesce(cast(T259557."INTEGRATION_ID" as  VARCHAR ( 20 ) ) , ''), coalesce('0' , '')) as c24
from
     "SIEBEL"."W_PERSON_D" T259555,
          "SIEBEL"."W_PERSON_DX" T259574,
     "SIEBEL"."W_ORG_DX" T259552,
     "SIEBEL"."W_ORG_D" T259551,
          "SIEBEL"."W_ASSET_D" T259557,
     "SIEBEL"."W_ASSET_F" T259560
where  (
                    and "SIEBEL"."W_PERSON_D"."ROW_WID"                     +=
     "SIEBEL"."W_PERSON_DX"."ROW_WID"
                    and "SIEBEL"."W_ASSET_D"."ROW_WID"           =        "SIEBEL"."W_ASSET_F"."ASSET_WID"
                    and "SIEBEL"."W_ORG_D"."ROW_WID"             =        "SIEBEL"."W_ASSET_F"."ACCNT_WID"
                    and "SIEBEL"."W_ORG_D"."ROW_WID"             +=       "SIEBEL"."W_ORG_DX"."ROW_WID"
                    and "SIEBEL"."W_PERSON_D"."ROW_WID"          =
     "SIEBEL"."W_ASSET_F"."CONTACT_WID"
                    and "SIEBEL"."W_PERSON_D".FST_NAME is not null
                    and "SIEBEL"."W_PERSON_D"."PRSP_CON_UID" is not null
                    and "SIEBEL"."W_PERSON_D"."LAST_NAME" is not null
```
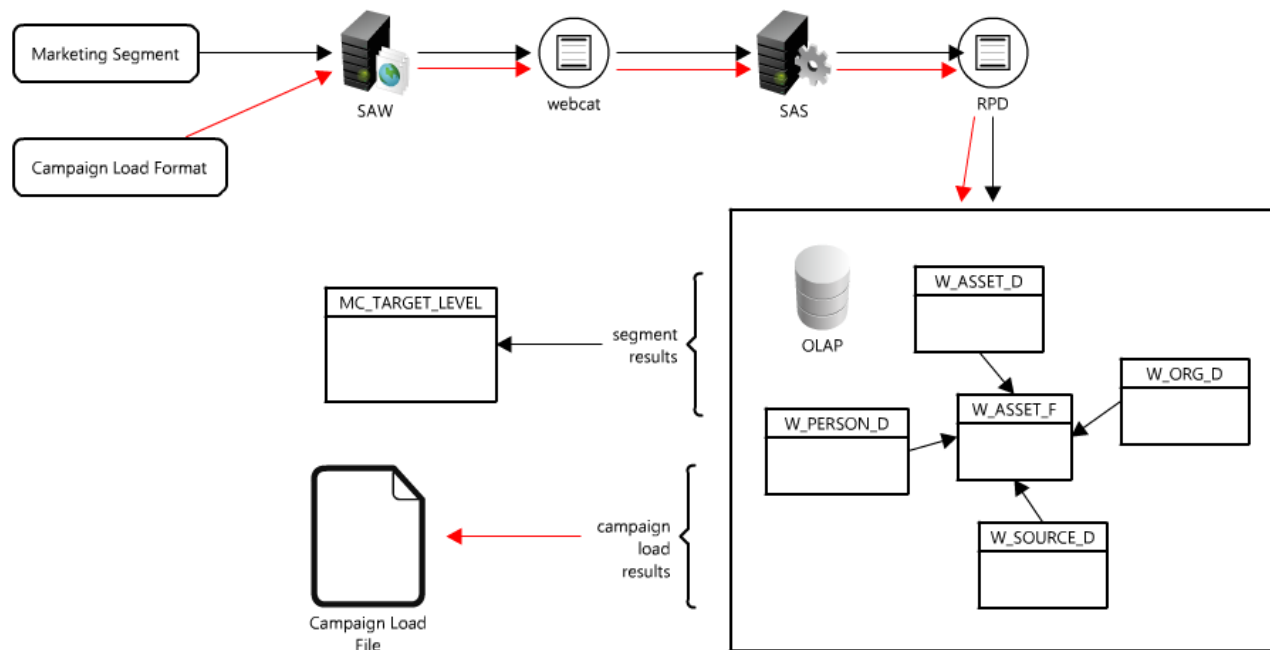
Technical Solution

Moving the 3rd Party data

- All 3rd party data in the campaign load format was moved from the dimension extension tables to the dimensions themselves.
- Wayne Enterprise's marketing programs were completing in 1/3 of the original execution time, allowing for all daily campaigns to be completed

The Origin of the Problem

Preventative measures

Both Business and IT failed to communicate

Business	IT
The Business failed to communicate workload of marketing campaigns. The Business also felt IT's first priority was not to help the enable business activities	IT followed best practices by limiting any customization to out of the box data mappings IT failed to understand how 3rd party was going to be used

Organizational Solution

SME's from IT and business created weekly check in meetings to more closely understand each other's issues and discover areas for improvement

Metadata Definitions

Vandelay Industries

Problems with the Metadata

The Problem

Dashboard reports are showing that customers are requesting movies from one trilogy but receiving movies from another trilogy

The Cause

The dashboard reports were comparing consumer requests (at the request level) to consumer fulfillment (at the consumer level).

The Catch

The issue occurred when segment results of two target levels with different granularity are stored in the same history table

MOVIE TRILOGY SPECIAL!

3 FOR THE PRICE OF 1

START NOW BY PICKING A MOVIE TRILOGY

receive your **1**st movie in a few days	your **2**nd movie will arrive in a week	in two weeks, you'll receive the **3**rd

Keanu Reeves entered 'The Matrix'... Trilogy

OLAP DATA WAREHOUSE
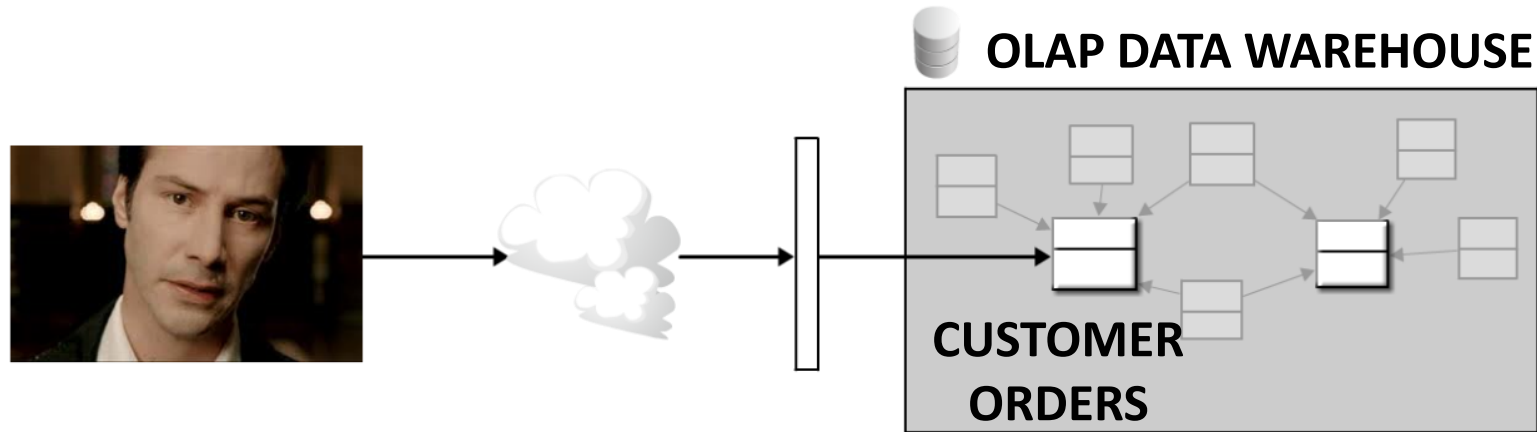
CUSTOMER ORDERS

Data stored in customer order fact

ORDER ID	ORDER DATE	CUSTOMER ID	CUSTOMER	SOURCE	REQUEST
1000	1/12/2011	34	SEAN ASTIN	TRILOGY PROMO	LORD OF THE RINGS
1001	3/8/2011	14	KEANU REEVES	TRILOGY PROMO	THE MATRIX
1002	2/20/2011	27	HARRISON FORD	TRILOGY PROMO	INDIANA JONES
1003	2/18/2011	27	HARRISON FORD	TRILOGY PROMO	STAR WARS

MANAGEMENT CONSULTING	SYSTEMS IMPLEMENTATION	MANAGED SERVICES

The Matrix Segment Chooses Keanu

How Keanu gets his first movie

OLAP DATA WAREHOUSE

CUSTOMER ORDERS

SEGMENT: Matrix 1

Target **Order ID**'s where

SOURCE = 'TRILOGY PROMO'
REQUEST = 'THE MATRIX'
ORDER ID NOT IN **MOVIES SHIPPED**

Order ID triggers the first movie to be sent

ORDER ID	CUSTOMER	SOURCE	REQUEST
1001	KEANU REEVES	TRILOGY PROMO	THE MATRIX

Marketing Cache (segment results)

QLI	GUID
1001	SEGMENT: Matrix 1 20110308

Saving the History

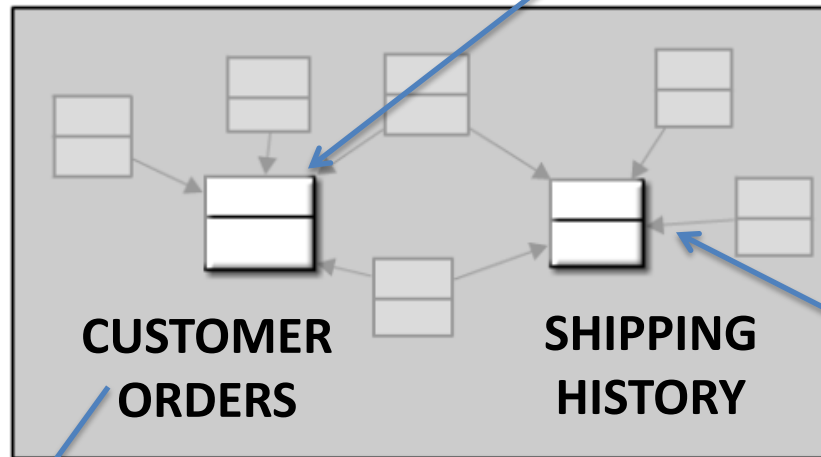How Keanu gets his first movie

Vandelay Industries

Campaign Load Format

First Name | Last Name | Source | Order Id | Movie

Marketing Cache (segment results)

QLI	GUID
1001	SEGMENT: Matrix 1 20110308

Using the Order ID, the Campaign Load Format adds Order Attributes

CUSTOMER ORDERS

SHIPPING HISTORY

Shipping Vendor

Campaign Load File

SHIPMENT DETAILS

SHIP ID	CUSTOMER	ITEM	SEQUENCE	ORDER ID
1021	KEANU REEVES	THE MATRIX	1 of 3	1001

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3/16/2011 · www.archetypeconsulting.com · Archetype Consulting, Inc – Confidential > 18

A Different Matrix Segment Chooses Keanu

... One Week Later

OLAP DATA WAREHOUSE
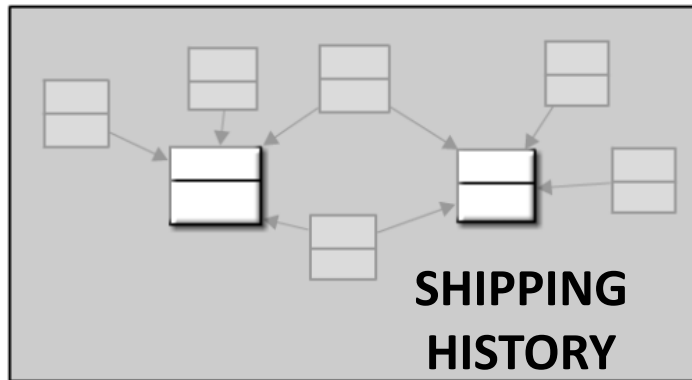
SHIPPING HISTORY

SEGMENT: Matrix 2 (Reloaded)

Target **CUSTOMER IDs** where

ITEM = 'THE MATRIX'
SHIP DATE = TODAY() – 7

Customer ID in Shipping History triggers the 2nd movie to be sent

SHIP ID	SHIP DATE	CUSTOMER ID	CUSTOMER	ITEM	SEQUENCE	ORDER ID
1021	3/8/2011	**14**	KEANU REEVES	THE MATRIX	1 of 3	1001

Marketing Cache (segment results)

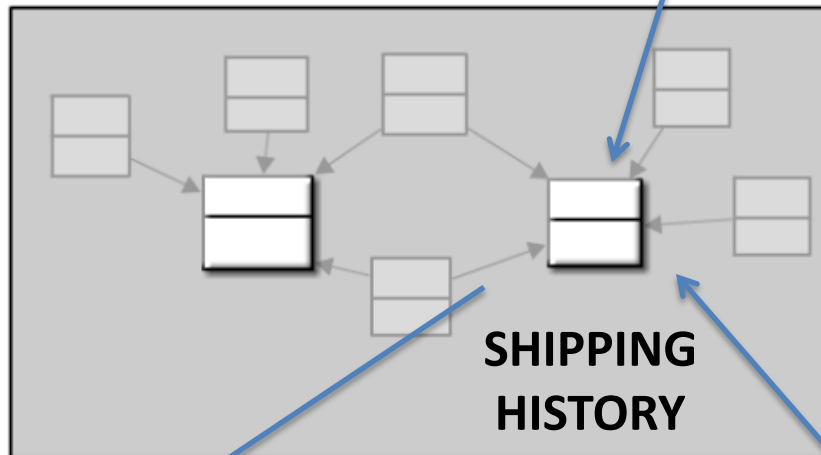| QLI	GUID
14	SEGMENT: Matrix 2 (Reloaded) 20110315

Saving the History

Campaign Load Format

First Name | Last Name | Source | Order ID | Movie

Marketing Cache (segment results)

QLI	GUID
27	SEGMENT: Matrix 2 (Reloaded) 20110315

Using the Order ID, the Campaign Load Format adds Order Attributes

SHIPPING HISTORY

Shipping Vendor
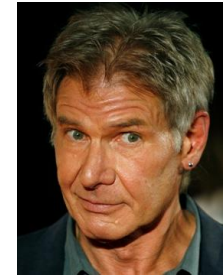
Campaign Load File

SHIPMENT DETAILS

SHIP ID	CUSTOMER	ITEM	SEQUENCE	ORDER ID
1021	KEANU REEVES	THE MATRIX	1 of 3	1001
1045	KEANU REEVES	THE MATRIX RELOADED	2 of 3	1001

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The Harrison Ford Problem

When a Customer Orders more than 1 Trilogy

Requests

ORDER ID	ORDER DATE	CUSTOMER ID	CUSTOMER	SOURCE	REQUEST
1002	2/16/2011	27	HARRISON FORD	TRILOGY PROMO	INDIANA JONES
1003	2/18/2011	27	HARRISON FORD	TRILOGY PROMO	STAR WARS

Shipping History

SHIP ID	SHIPPED DATE	CUSTOMER ID	ITEM	SEQUENCE	ORDER ID	ORDER REQUEST
957	2/17/2011	27	RAIDERS OF THE LOST ARK	1 of 3	1002	INDIANA JONES
962	2/19/2011	27	STAR WARS	1 of 3	1003	STAR WARS
989	2/25/2011	27	TEMPLE OF DOOM	2 of 3	1003	**STAR WARS**
992	2/27/2011	27	THE EMPIRE STRIKES BACK	2 of 3	1003	STAR WARS
1007	3/5/2011	27	THE LAST CRUSADE	3 of 3	1002	INDIANA JONES
1014	3/7/2011	27	RETURN OF THE JEDI	3 of 3	1002	**INDIANA JONES**

????!!!!

Using Customer ID to create Campaign Load File

The Harrison Ford Problem explained

Campaign Load Format

First Name | Last Name | Source | Order ID | Movie

Marketing Cache (segment results)

QLI	GUID
27	SEGMENT: IND. JONES 2 (Temple of Doom) 20110315

Customer ID cannot accurately select the Order ID if there are multiple. The system selects one, often times incorrectly.
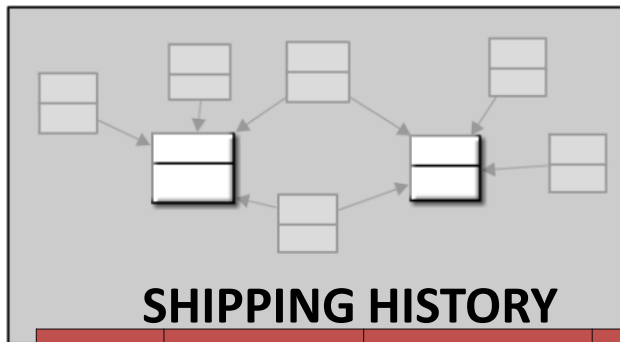
SHIPPING HISTORY

SHIP ID	SHIPPED DATE	CUSTOMER ID	ITEM	SEQUENCE	ORDER ID	ORDER REQUEST
957	2/17/2011	27	RAIDERS OF THE LOST ARK	1 of 3	1002	INDIANA JONES
962	2/19/2011	27	STAR WARS	1 of 3	1003	STAR WARS

Campaign Load File

CUSTOMER ID	ITEM	ORDER ID	ORDER REQUEST
27	TEMPLE OF DOOM	1003	**STAR WARS**

Fixing the Harrison Ford Problem

Change the Target of the Segment

SEGMENT: IND. JONES 2 (Temple of Doom)

Target ~~**CUSTOMER IDs**~~ **ORDER IDs** where ← **Change CUSTOMER ID to ORDER ID**

ITEM = 'RAIDERS OF THE LOST ARK'
SHIP DATE = TODAY() – 7

Marketing Cache (segment results)

QLI	GUID
1002	SEGMENT: IND. JONES 2 (Temple of Doom) 20110315

SHIP ID	SHIPPED DATE	CUSTOMER ID	ITEM	SEQUENCE	ORDER ID	ORDER REQUEST
957	2/17/2011	27	RAIDERS OF THE LOST ARK	1 of 3	1002	INDIANA JONES
962	2/19/2011	27	STAR WARS	1 of 3	1003	STAR WARS

The Other Issue

Preventative measures

Both Business and IT failed to communicate

Business

Business failed to express importance of requests to movie tracking functionality during implementation

IT

IT failed to recognize the inconsistencies within its own data and understand basic business need

Organizational Solution

Business started hiring more technical SME's for internal communications with IT

Dashboards & Reports

Quality KPI's

Everything else is misleading

The Myth	Brand Metrics – Year to Date

The Myth

KPI - Inbound Calls

Reaction
"Wow, Brand B is doing great!"
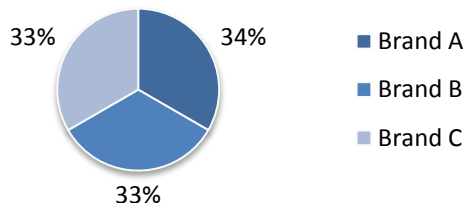
The Truth

KPI – Qualified Leads

Reaction
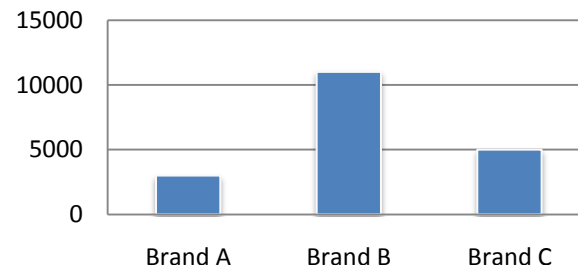"The automated messaging system for Brand B is not capturing leads!"

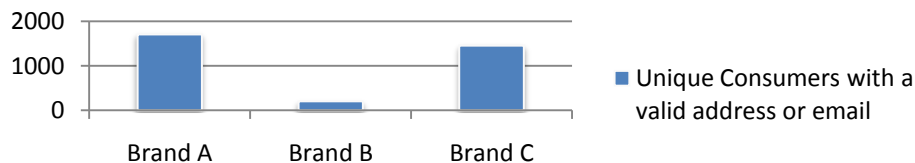## Brand Metrics – Year to Date

Marketing Spend

34% Brand A
33% Brand B
33% Brand C
33%

Total Marketing Spend	$30,000

Call Center Volume
(inbound calls)

15000
10000
5000
0

Brand A   Brand B   Brand C

Qualified Leads

2000
1000
0

Brand A   Brand B   Brand C

■ Unique Consumers with a valid address or email

Show Volume not just %
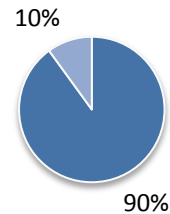
Comparing Similar Units

archetype

Which Brand is doing better?

Now what do you think?

Brand A

■ Qualified Leads ■ Unqualified

10%

90%

Brand B

■ Qualified Leads ■ Unqualified

49% 51%

Lead Types by Brand

	Qualified Leads	Unqualified
■ Brand A	72	8
■ Brand B	1734	1666

(Chart y-axis: 0, 500, 1000, 1500, 2000)
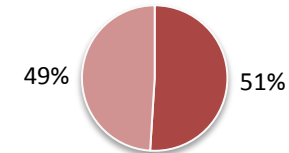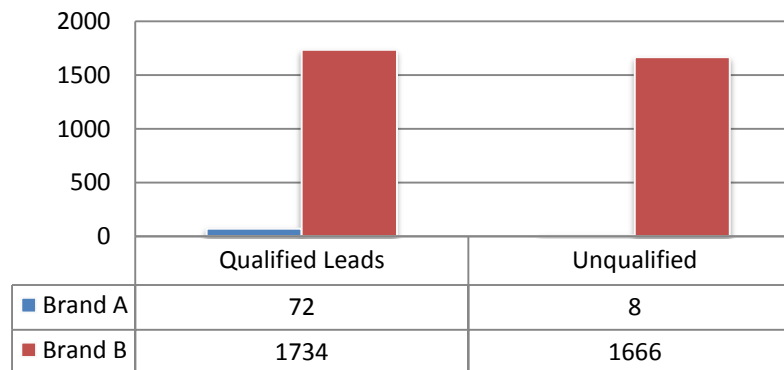
Rounding to the Millions

Remember the little guys

Example A shows expected scenario

Example B shows unexpected scenario

Example A.

	Rounded	Actual
Premiums earned	405	405,321,632.21
Net investment income	40	39,989,123.12
Net realized investment gains/(losses)	-	21,231.00
Fee and other revenues	3	3,018,897.43
Total Revenues	448	448,350,883.76

Example B.

	Rounded	Actual
Premiums earned	-	412,987.00
Net investment income	-	448,345.00
Net realized investment gains/(losses)	-	401,654.00
Fee and other revenues	-	422,987.00
Total Revenues	2	1,685,973.00

If needed, consider rounding to a lower value

User Analysis

Do you know your End Users?

A few questions to ask yourself

- Do you have smart/proactive end users?
  ## Yes
- Do they work in a fast, results driven climate?
  ## Yes
- Do you know what they are responsible for?
  ## I have an idea
- During their busy peaks do you see a big increase in requests?
  ## A little

Did you answer anything like this?

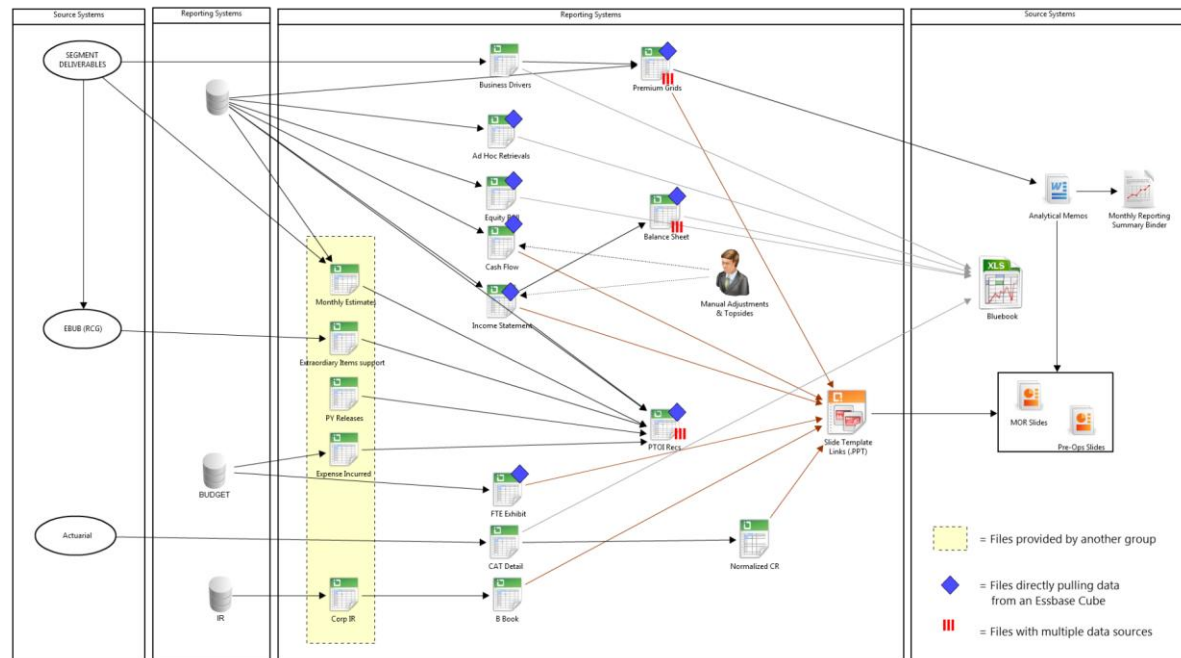**It might be time to conduct an internal assessment to uncover some areas for improvement and automation opportunities**

Discovering Offline Activities of your Users

Opportunity Gold Mine

Example Financial Reporting Process Map

Discoveries Included
- Group Handoffs
- Manual Calculations
- Reporting off Excel Files (5 Layers Deep)
- Multiple data sources
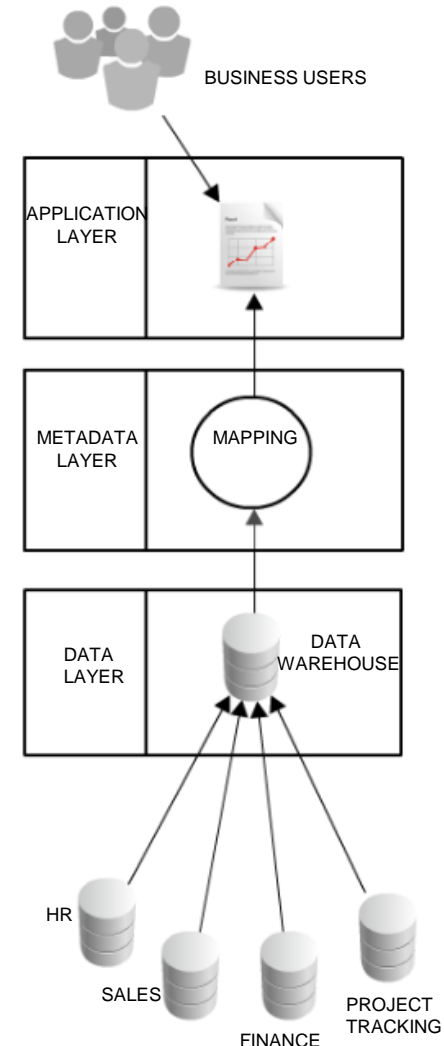
Solutions to the Madness

Technical Answers & Preventative Methods

Technical

- Push all manual activities to the data source & reporting tool
- Review reporting deliverables and make them available in the reports

Preventative Methods

- Determine an agreed upon review period and conduct workshops to expose activity opportunity areas
- Prioritize biggest impact areas first

BUSINESS USERS

APPLICATION LAYER

METADATA LAYER — MAPPING

DATA LAYER — DATA WAREHOUSE

HR

SALES

FINANCE

PROJECT TRACKING

Lessons Learned

In BI, most problems start because of a lack of understanding between Business and IT

Below are ways to remove the communication barrier between Business and IT and minimize risk in any Business Intelligence Project

Business	IT
• Open up communication with IT to help them understand Business Goals and Objectives • Give purpose behind all IT requests • Understand at a high level what the effort level is when asking something of IT	• Understand purpose behind all requests by the Business • Understand all activities of Business Users, even offline. • Enabling technology for Business activities is the first priority of IT, this outweighs all Best Practices

Questions?

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