The Happy Marriage of TM1 and SPSS at Australia Post

Armand Mizan – Manager Systems Support and Development

08/2013

In This Session…You Will See…

- The business challenge faced by Australia Post

- How to integrate SPSS and TM1

- The relative strengths of each product

- That thinking solutions, not products, is key to a great outcome

First, a bit about Australia Post

- The first letter to arrive in Australia was addressed to Governor Phillip in 1788.
- About 17 per cent of the Australian population changes their address each year.
- Over 10 million delivery points are serviced by Australia Post. Of these, more than 2.8 million are in rural areas, the outback, or on islands!
- Australia Post operates one of the world's longest mail runs, of **3,000 km**! It stretches from Port Augusta in South Australia to south-central Queensland, but delivers mail to only 88 addresses on that run.

Street posting boxes were introduced in Australia in 1844.

Stamps were not needed. The person who received the letter had to pay

There are over 15,000 street posting boxes around Australia

The most isolated post box is located on a dive platform on the
Great Barrier Reef.

SmarterAnalytics

The Business Objective at Australia Post

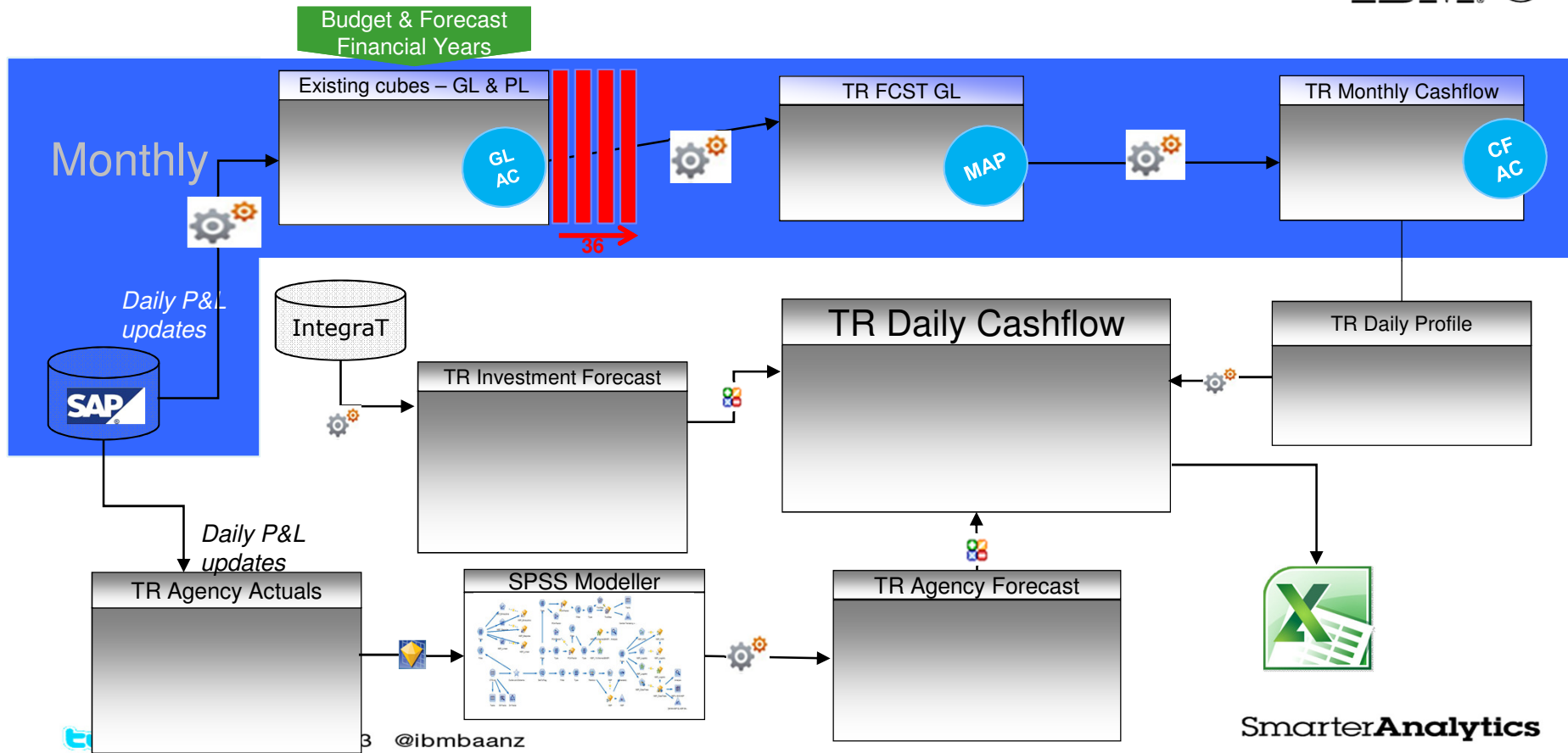- Accurately produce a rolling forecast of Australia Post's cash flows on a daily, monthly and annual basis

Historically…

- Monthly Cash Flow forecast was relatively accurate but manually intensive
- Time consuming daily cash flow model
- No integration between short and long term forecasting.
- Little visibility around gross movement of Agency cash flows, which could fluctuate daily.
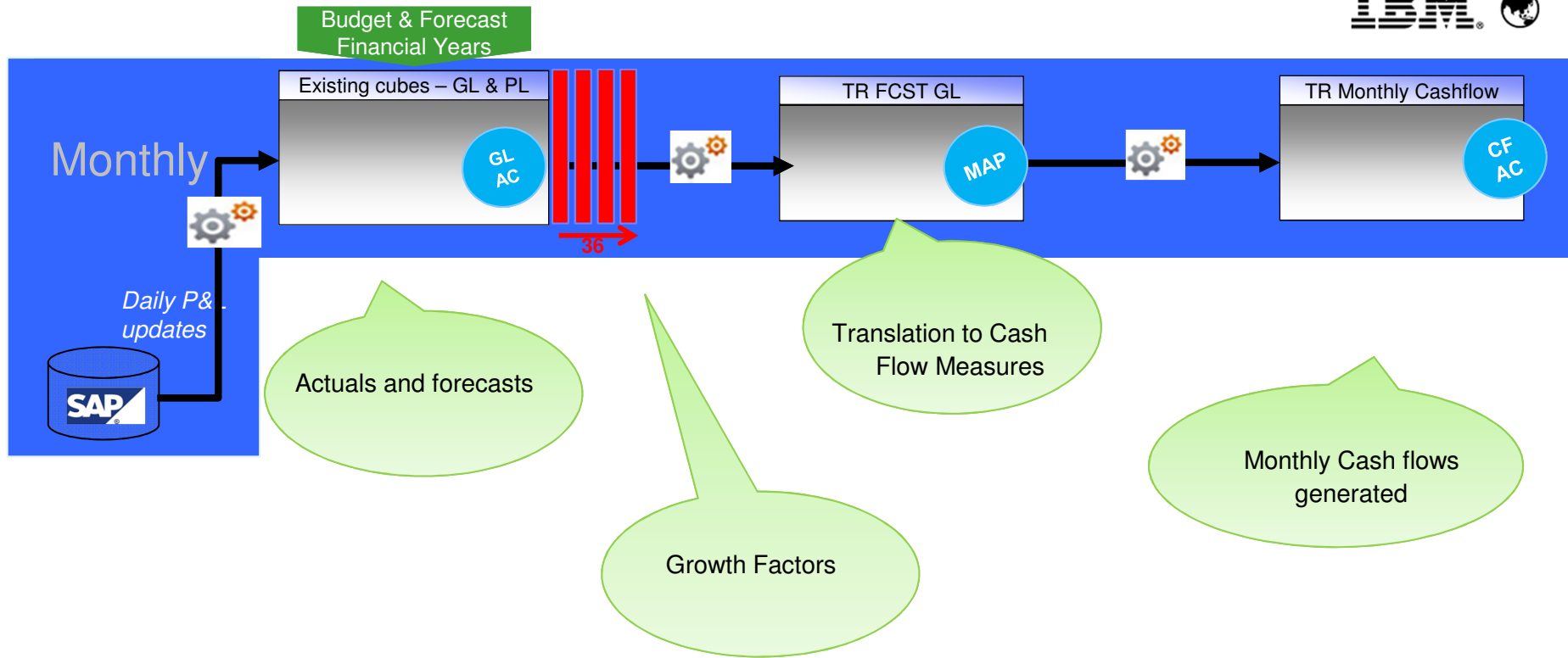
The Solution Overview

Australia Post - Treasury Cashflow

IBM

Budget & Forecast Financial Years

Monthly

Existing cubes – GL & PL

GL AC

36

TR FCST GL

MAP

TR Monthly Cashflow

CF AC

Daily P&L updates

SAP

IntegraT

TR Investment Forecast

TR Daily Cashflow

TR Daily Profile

Daily P&L updates

TR Agency Actuals

SPSS Modeller

TR Agency Forecast

@ibmbaanz

SmarterAnalytics

TI Process   TM1 Rules   SPSS

Monthly Treasury Cash Flow Forecasting Model

Budget & Forecast Financial Years

Monthly

Existing cubes – GL & PL

GL AC

36

TR FCST GL

MAP

TR Monthly Cashflow

CF AC

Daily P&L updates

SAP

Actuals and forecasts

Growth Factors

Translation to Cash Flow Measures

Monthly Cash flows generated

The Solution Overview

Australia Post - Treasury Cashflow

IBM

Budget & Forecast Financial Years

Existing cubes – GL & PL

GL AC

36

TR FCST GL

MAP

TR Monthly Cashflow

CF AC

IntegraT

SAP

TR Investment Forecast

TR Daily Cashflow

TR Daily Profile

Daily P&L updates

TR Agency Actuals

SPSS Modeller

TR Agency Forecast

X

Smarter Analytics

@ibmbaanz

TI Process   TM1 Rules   SPSS

The Solution Overview

Australia Post - Treasury Cashflow

IBM

SAP

Forecast Daily cash flow generated

TR **Monthly** Cashflow

CF AC

Actual daily cash flow generated using mappings in the monthly cash flow model.

TR Daily Cashflow

TR Investment Forecast

TR **Daily** Profile

Investment & Agency information overlaid

TR Agency Forecast

Smarter Analytics

The Solution Overview

Australia Post - Treasury Cashflow

IBM

Budget & Forecast Financial Years

Existing cubes – GL & PL

GL AC

36

TR FCST GL

MAP

TR Monthly Cashflow

CF AC

IntegraT

TR Investment Forecast

TR Daily Cashflow

TR Daily Profile

SAP

Daily P&L updates

TR Agency Actuals

SPSS Modeller

TR Agency Forecast

3   @ibmbaanz

Smarter**Analytics**

TI Process   TM1 Rules   SPSS
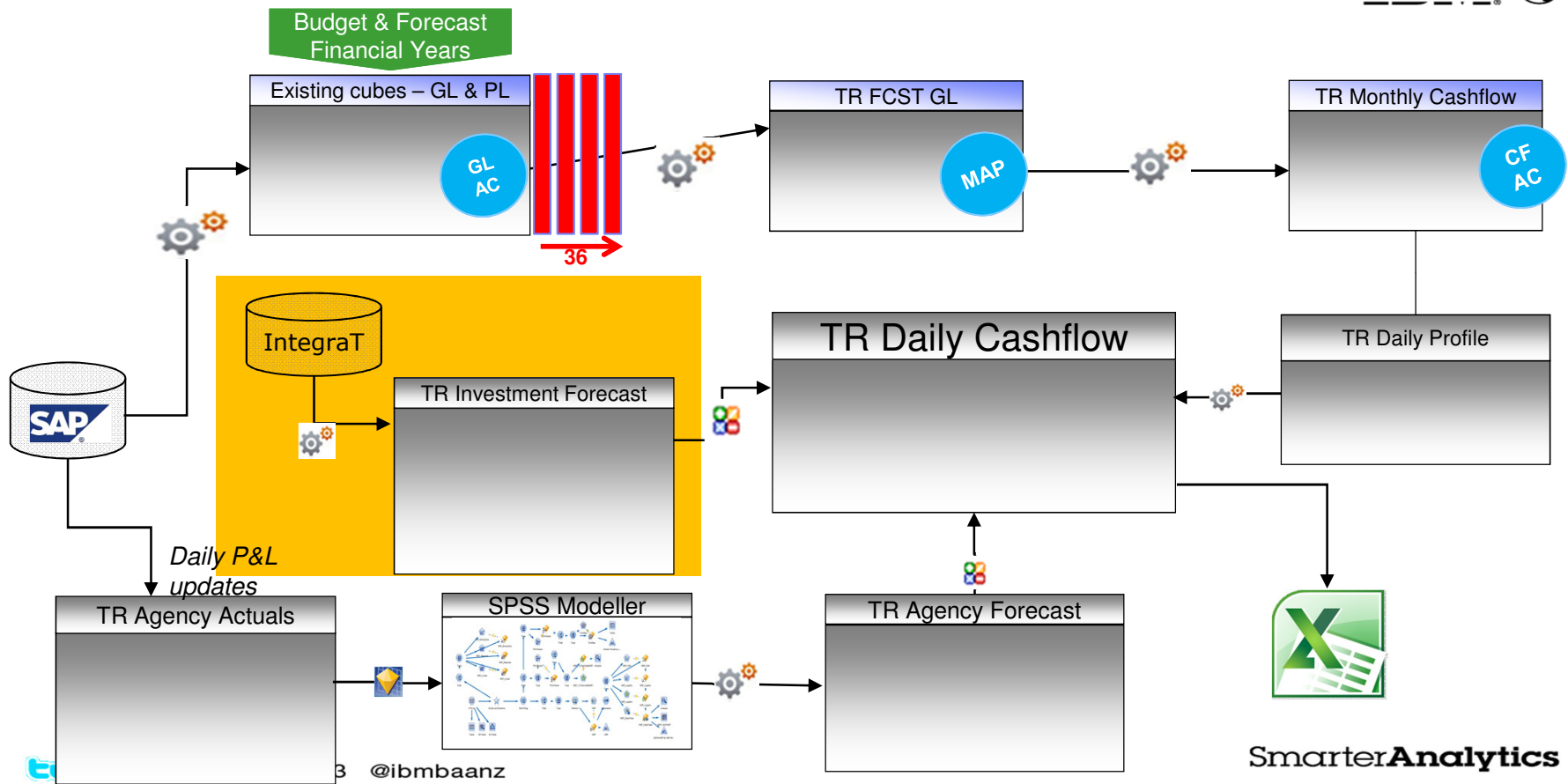
Investments Cash Flow Forecasting Model

IBM.

Actual and forecasted cash flows generated by investment type

Expected interest on bank account calculated

IntegraT

TR Investment Forecast

TR Daily Cashflow

TI Process TM1 Rules SPSS

The Solution Overview

Australia Post - Treasury Cashflow

IBM

Budget & Forecast
Financial Years

Existing cubes – GL & PL

GL AC

36

TR FCST GL

MAP

TR Monthly Cashflow

CF AC

IntegraT

TR Investment Forecast

TR Daily Cashflow

TR Daily Profile

SAP

updates

Daily P&L updates

TR Agency Actuals

SPSS Modeller

TR Agency Forecast

SmarterAnalytics

TI Process   TM1 Rules   SPSS
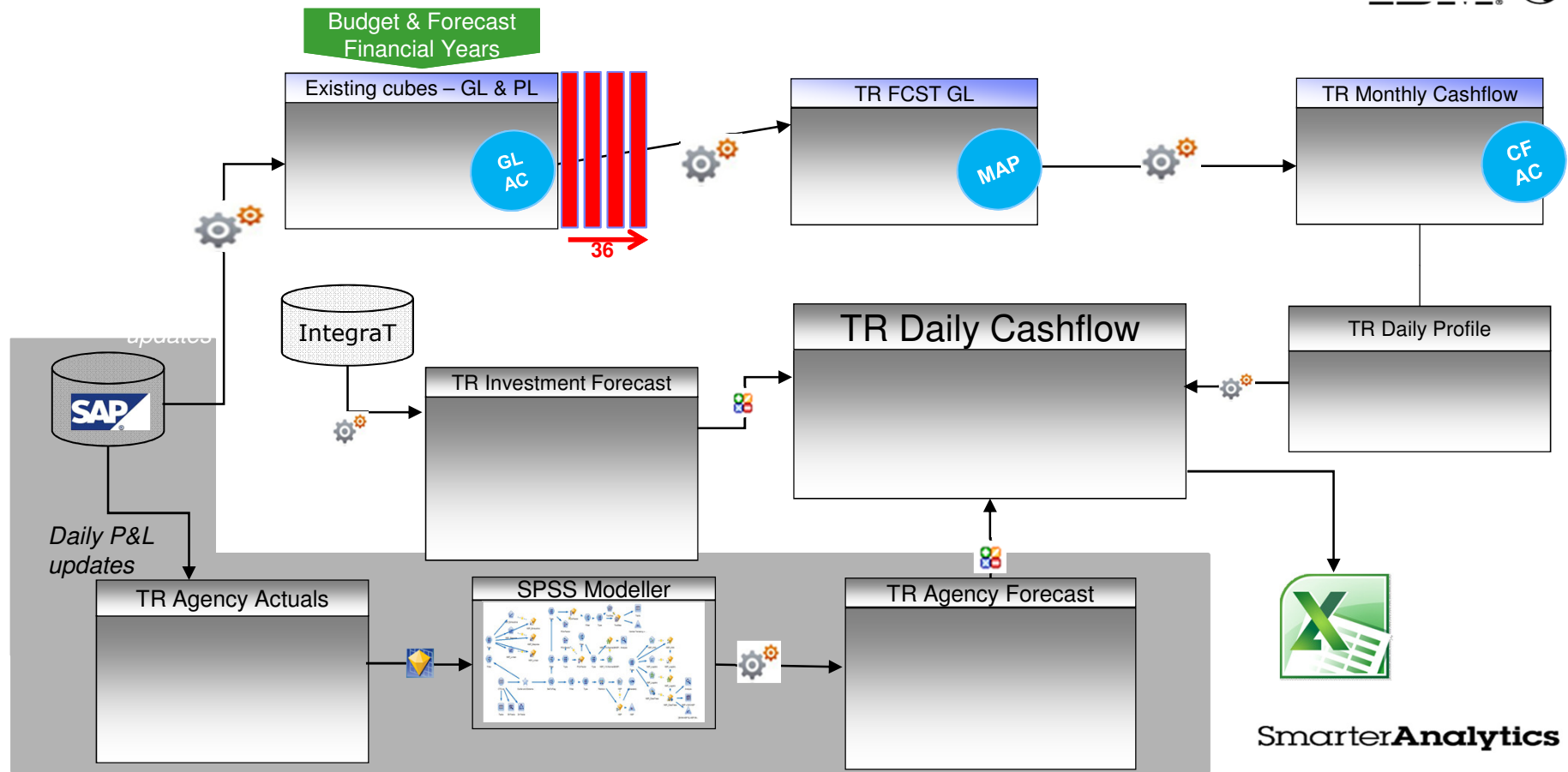
Agency Cash Flow Forecasting Model

SAP Agency data

Export data to SPSS

Import into TM1
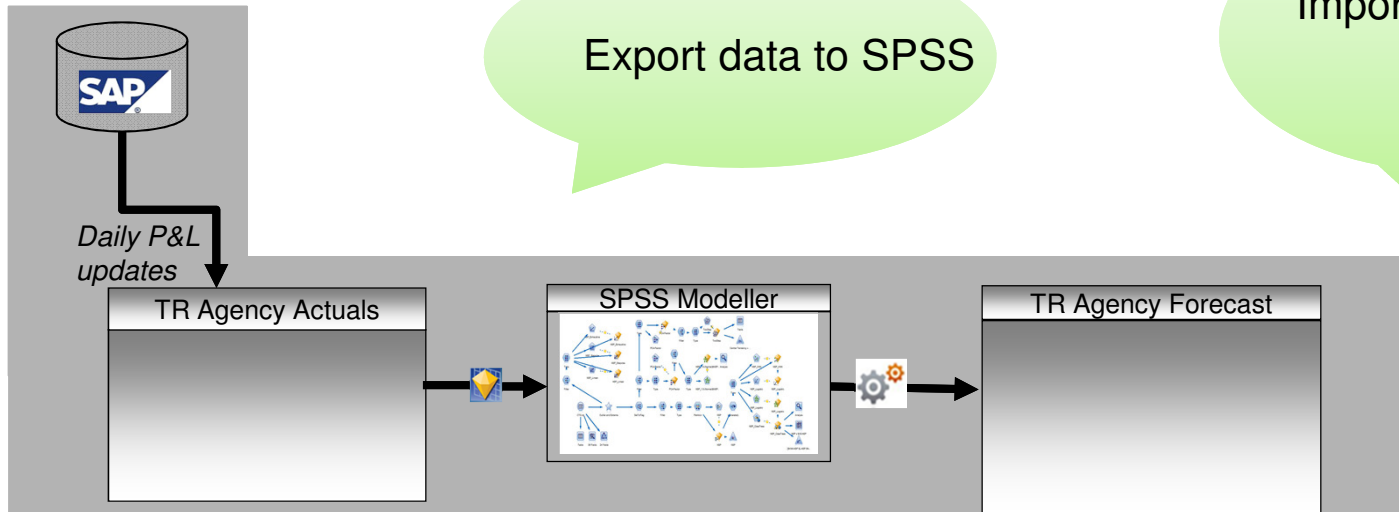
Daily P&L updates

TR Agency Actuals

SPSS Modeller

TR Agency Forecast

Smarter**Analytics**

TI Process   TM1 Rules   SPSS

Agency Cash Flow Forecasting Model
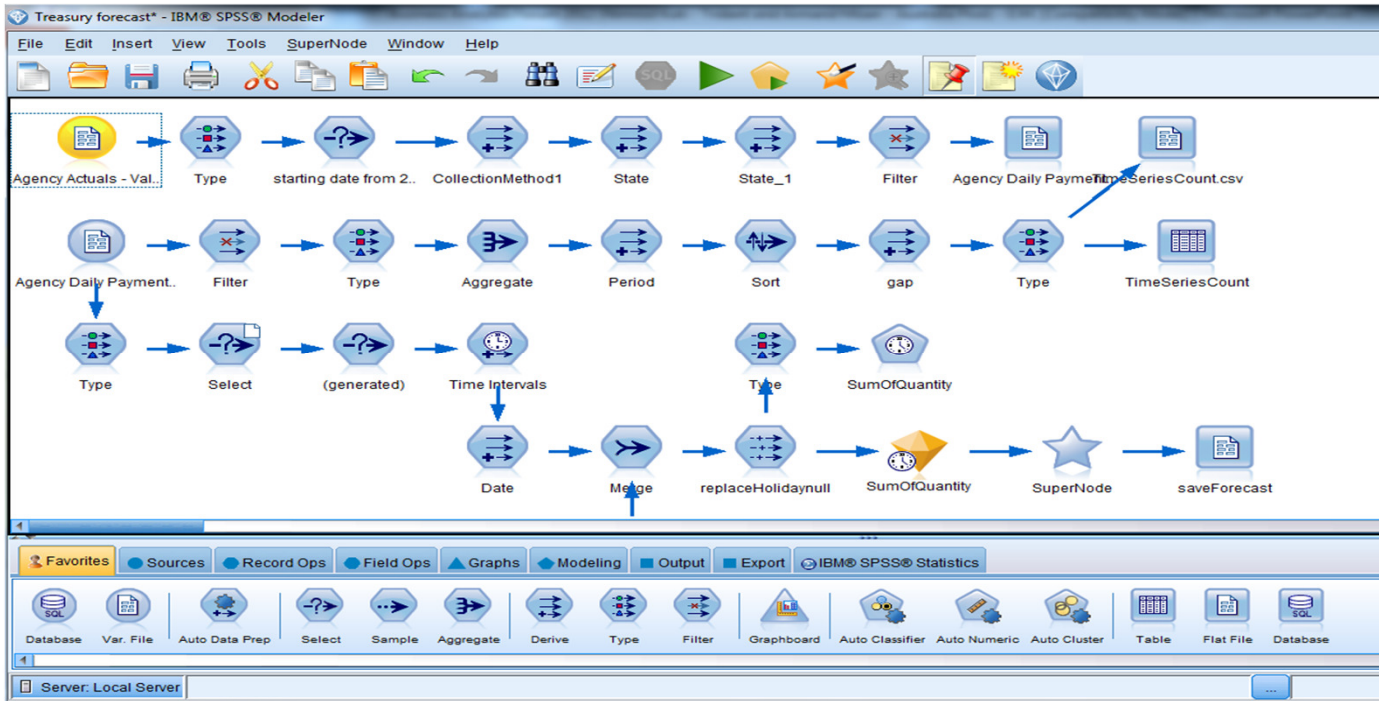
SPSS Modeller Time Series Component

Data manipulation

Data Segmentation

Model Development and Deployment (Repetitive Procedure using SPSS Script)

Time series model node

Time series model nugget
(developed model)
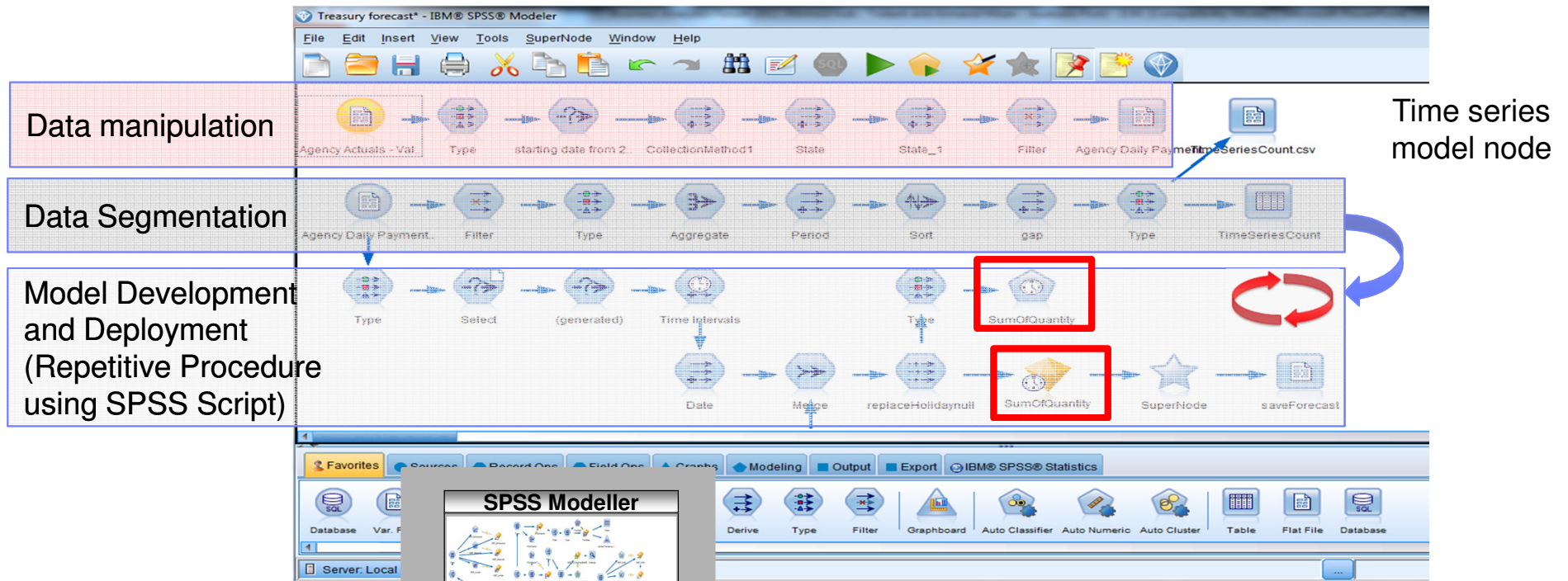
The Agency Model (Detailed)

Treasury Cashflow - Agency Forecast
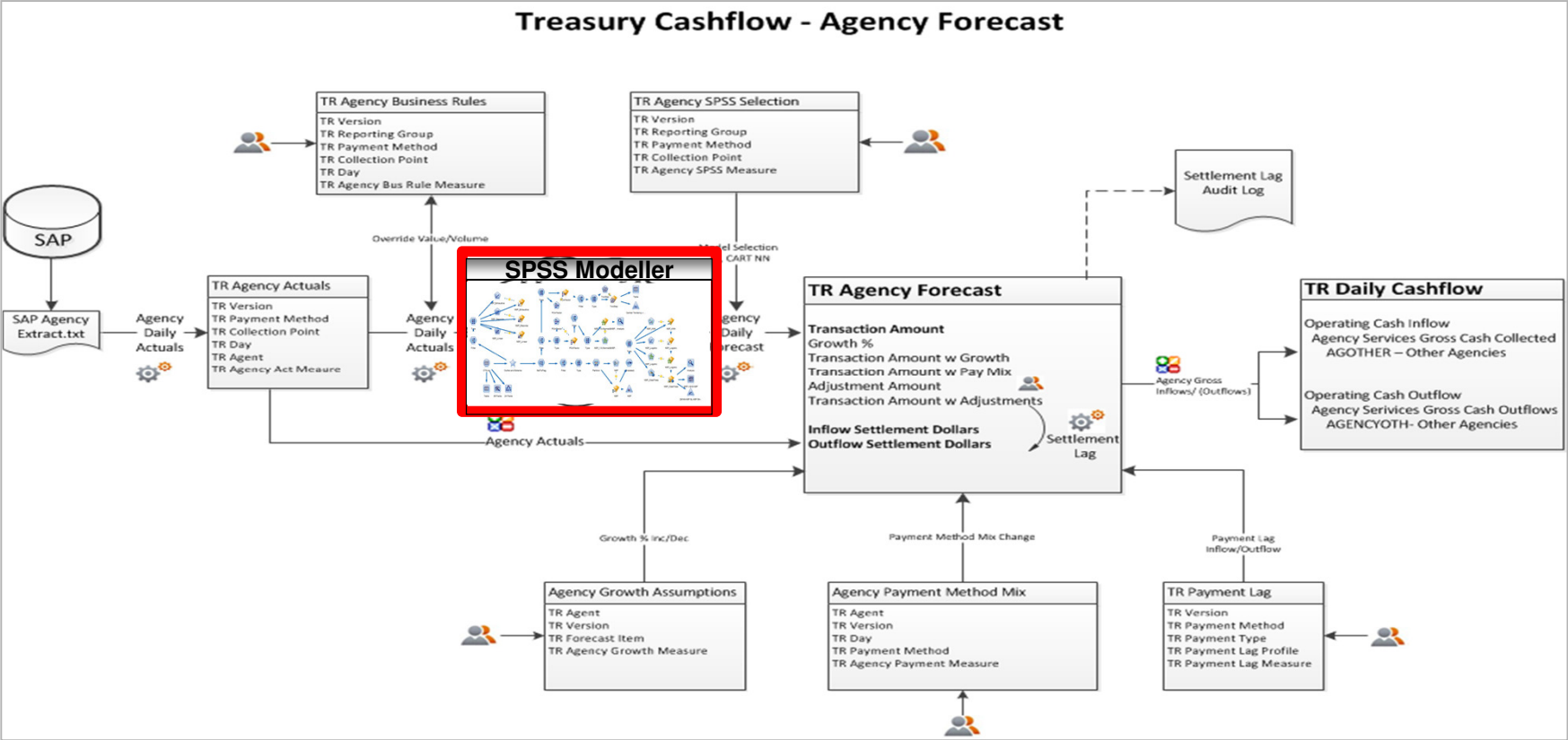
The Result

August- October 2011 Actual Vs Forecast
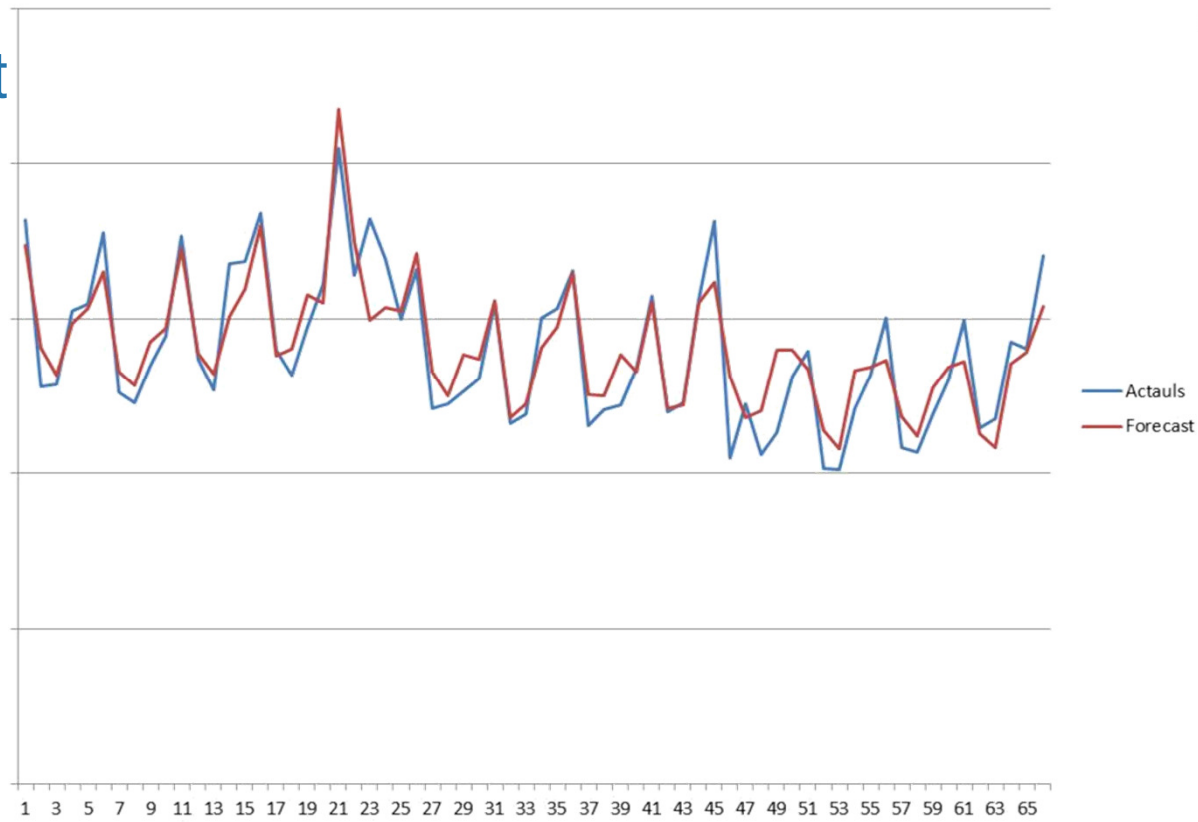
The Result

- Fully integrated actuals and forecasted monthly cash position for 4 years

- Transparency of Agency data flows

- Rule based cash flows and daily projections

- Cohesive platform across Finance, Treasury and Agency data

TECHNICAL
DIFFICULTIES:

1. Settlement vs. Transaction Dates

2. Impact of state based Public Holidays and special events

3. Identifying different trends for Agency payments

4. Forecasting for Agents with gaps in historical data sets.

Solution:

Lags applied to transactions to estimate cash settlement dates.

Solution:

A calendar of state based holidays is maintained in the forecasting model.

Solution:

Use of 24 months of historical data to enable the SPSS model to pick up seasonal trends.

Solution:

Consolidating agents with sparse data into groups.
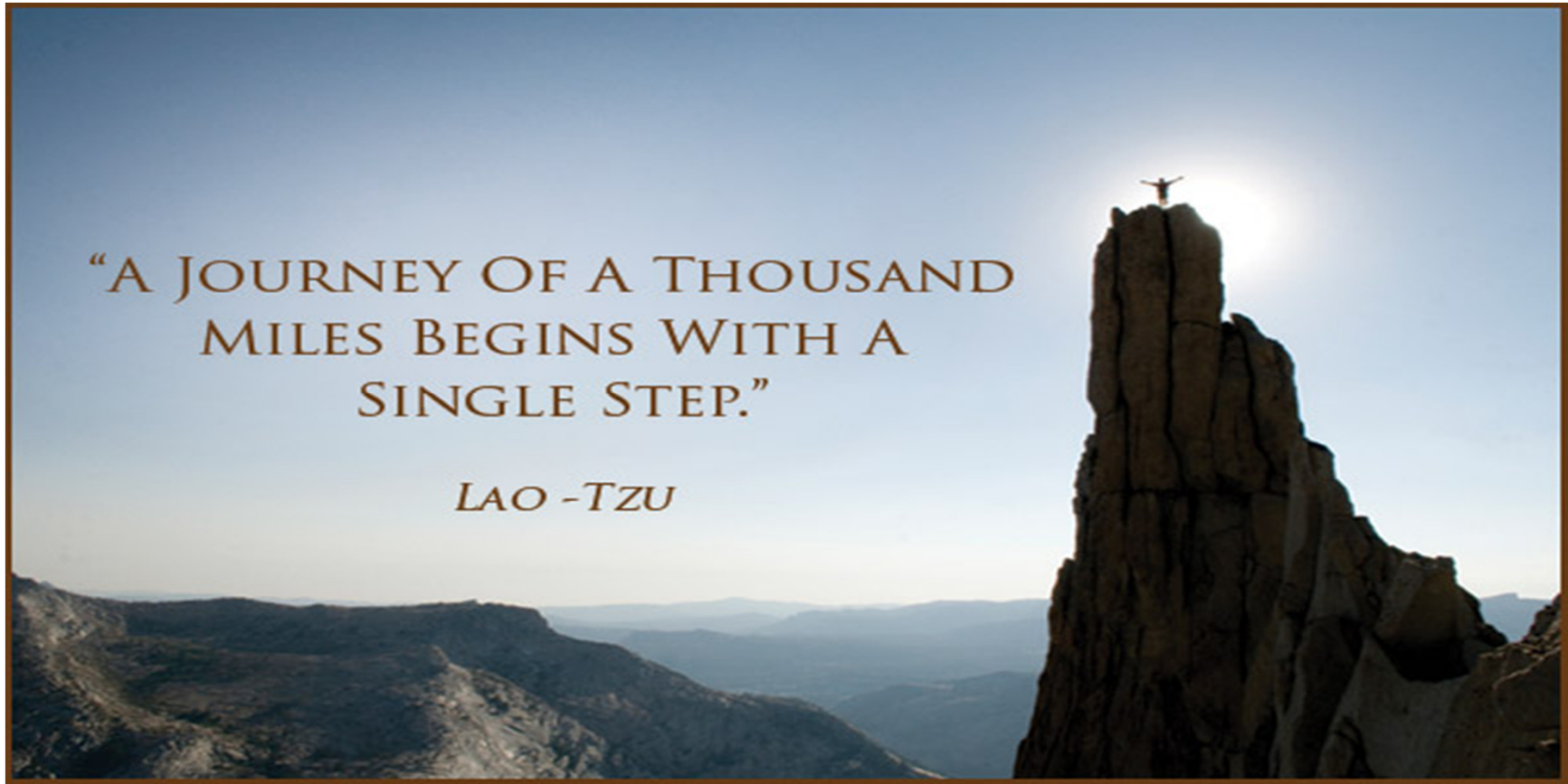
"A JOURNEY OF A THOUSAND MILES BEGINS WITH A SINGLE STEP."

LAO -TZU

The Future
NEXT EXIT

SOCIAL MEDIA

IBM

RFM Heat Map

Recency

Frequency

Mean Monetary Value per RF Category

- 1000.00
- 800.00
- 600.00
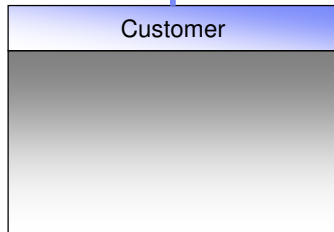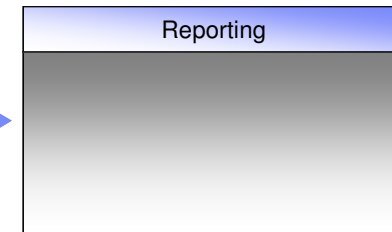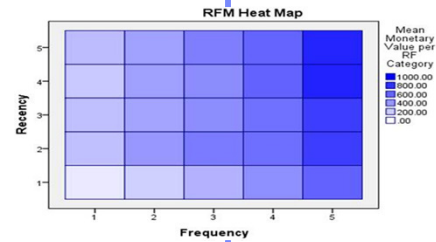- 400.00
- 200.00
- .00

SPSS

Customer

Reporting

SmarterAnalytics

The Takeaways

Thinking solutions, not products, is key

Believe it or not, TM1 cannot do everything

IBM's BA solutions are most potent when used in combination
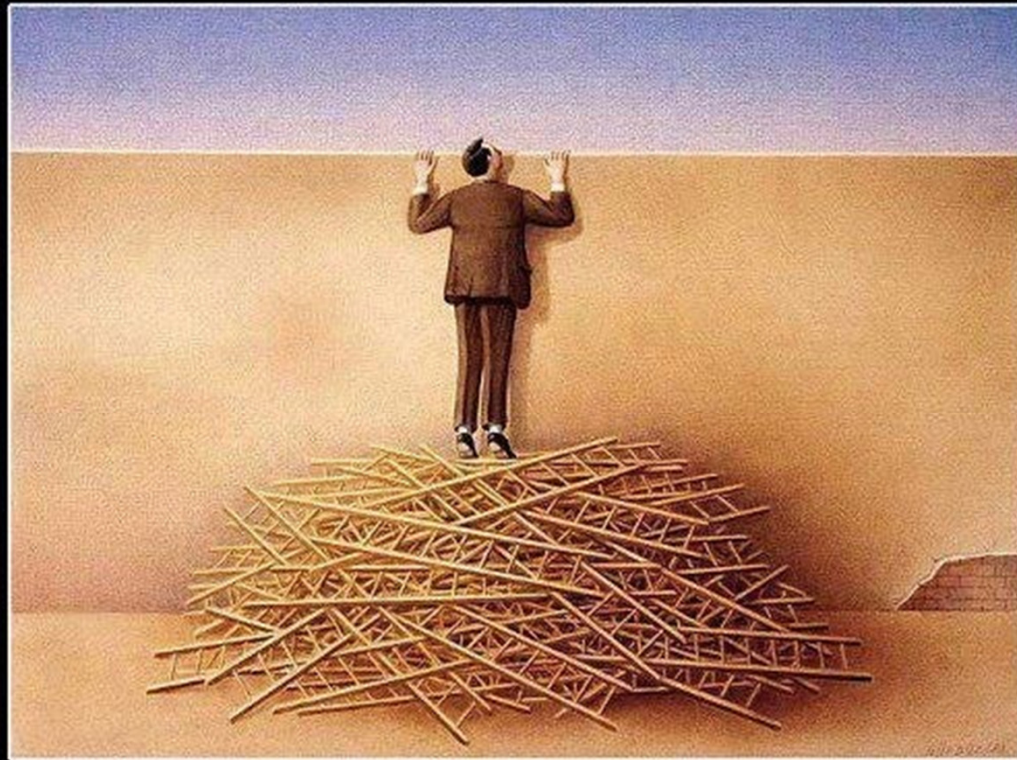
Smarter**Analytics**

Jessie and Marriage

#SALive2013   @ibmbaanz

1. Don't 'build a hammer and then look for a nail
2. Define the project around a foundation your data can support. Predictive analytics cant create information from nothing
3. Don't wait for the perfect data
4. Gigo
5. Predictive analytics relies on analysis of historical data
6. Don't underestimate how long it takes to clean your data. 60-80 % of the project
7. Small steps. Set small realistic goals
8. Find your sme's about the data
9. You need C level support
10. You need to consider how the results will be served ? Visualisation tools ?
11. Define within business context, what the models are supposed to be doing

Slide Heading

- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point
- Bullet Point