



Data Analytics in the Public Sector

16th October, 2009



Agenda

- 10.00 Introduction
- 10.15 Survey design and data collection
- 10.45 Customer case study
- 11.15 *Refreshment Break*
- 11.30 Turning data into information
 - *Easily identify groups and predict outcomes*
 - *Tables, charts and reporting*
- 12.15 Customer case study
- 12.45 Conclusion followed by buffet lunch



SPSS Fundamentals

- Founded 1968, 250,000 customers world wide
- Over 1200 employees providing software, training, consultancy & support
- Enabling Public Sector organisations to improve service and efficiency through learning from their data
- ✓ **100% of Police Forces in the UK use SPSS**
- ✓ **95% of Local Government in the UK use SPSS**
- ✓ **90% of Healthcare organisations in the UK use SPSS**



What actions need to be taken?

Capture

Predict

Act

What actions need to be taken?

Capture

Predict

“Interesting”

Act

Impact!

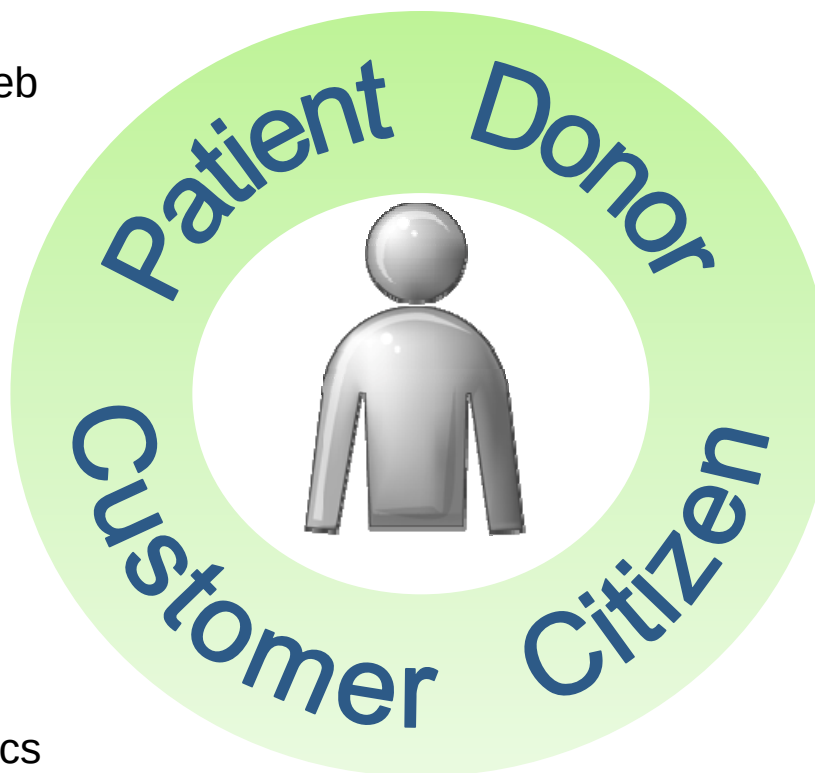
Data is at the heart of Citizen insight

Interaction data

- Offers
- Results
- Context
- Clickstreams/Web
- Notes
- Call Centre

Attitudinal data

- Opinions
- Preferences
- Survey research
- Satisfaction



Descriptive data

- Attributes
- Characteristics
- Self-declared info
- (Geo) demographics

Behavioral data

- Orders
- Transactions
- Payment history
- Usage history
- Historical



The potential benefits of better data use

- **Improved public services**
 - to produce more effective, targeted, citizen centric public services.
- **Government Accountability**
 - by empowering citizens access to public sector information
- **Smarter data driven decisions**
 - improves development, delivery and monitoring of policies.



The potential benefits of better data use...cont.

- **Protect vulnerable groups**
 - By better targeting services to those most in need.
- **Better regulation**
 - Controlled methodologies, processes and collaboration reduce duplicated requests to citizens and business.
- **Visibility and innovation**
 - through greater access to public sector data.

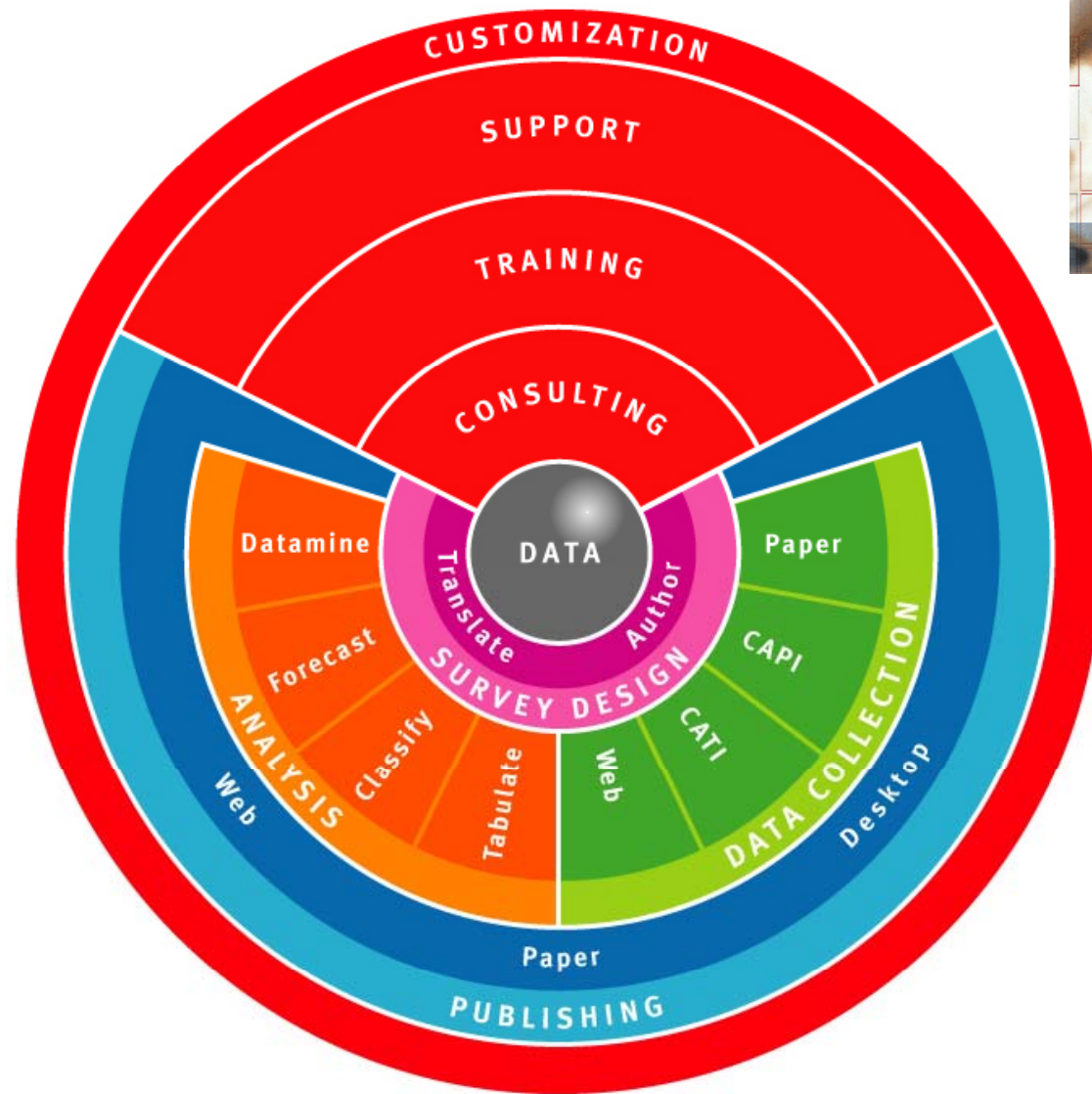
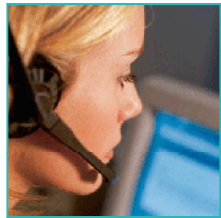


IBM SPSS Data Collection Overview

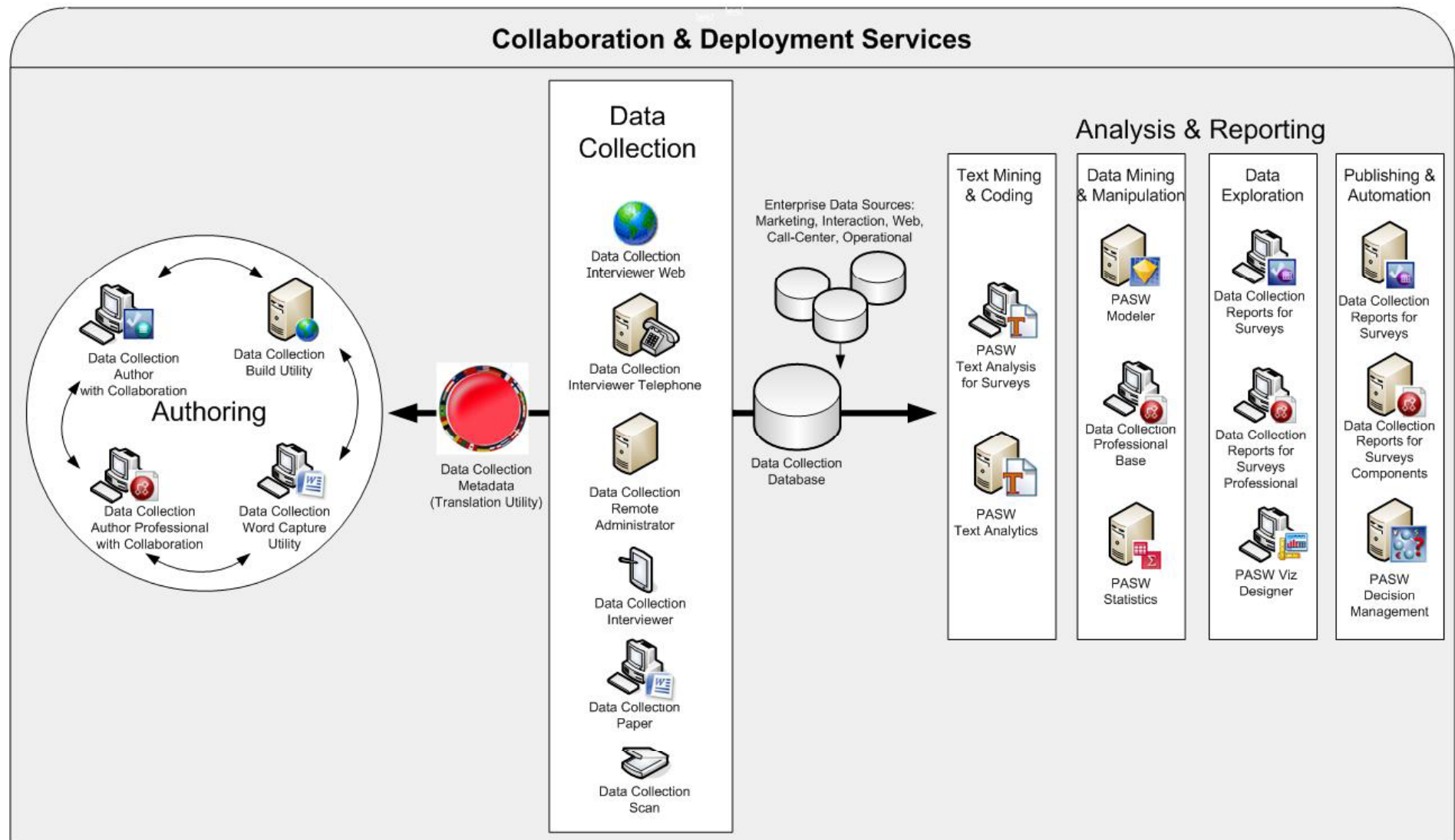
Kevin Lancashire
UK Pre-Sales Manager



Data Collection Overview



Data Collection Workflow





Data Collection in the Public Sector

Robert Martin
Account Manager



Case Study – Clic Sargent



- **Background**

- CLIC Sargent is the UK's leading children's cancer charity
- Only organisation in the UK to offer all round care and support to children and young people with cancer, as well as to their families.
- The charity provides support to over 2,500 families with varying levels of need, for as long as a few weeks to several years.



Case Study – Clic Sargent



- **Challenge**

- Enable improvements in data collection and analysis of service user feedback.
- Using word processing and spreadsheet tools, but found that turning raw data into reports was taking too long.
- Wanted to be able to analyse patterns in the data for broader analysis.



Case Study – Clic Sargent



- **Solution**

- Implementation of Data Collection software for online and paper surveys

- **Results**

- Faster data entry
- Quicker turnaround collecting feedback to reporting
- Easier extraction of data
- Effective sharing of information across departments
- Increased frequency of surveys
- Significant time savings on analysis and subsequent reporting
- Increase in reporting capabilities



Case Study – Greater Manchester Police



- **Background**

- Formed in 1974, Greater Manchester Police (GMP) has a workforce of more than 7,000 police officers and 3,500 support staff.
- Serving some 2.5 million people covering an area of 500 square miles and 10 metropolitan boroughs

- **Challenge**

- GMP sent a survey to 9,000 households in order to establish a community-based policing program.
- Non-automated data input procedure proved too resource-hungry.
- Make data entry faster and more reliable



Case Study – Greater Manchester Police



- **Solution & Results**
 - Keith Bentley Speaks





Turning Data into Information

Emma Grundy
Associate Sales Engineer



IBM SPSS Technologies

Portfolio aligned under one new over-arching product portfolio name:

Predictive Analytics Software

▪ Data Collection

- Survey creation and multi-modal dissemination to deliver an accurate view of customer/citizen attitudes and opinions.

▪ Statistics

- Analytical reporting and advanced statistics to drive confidence in your results.

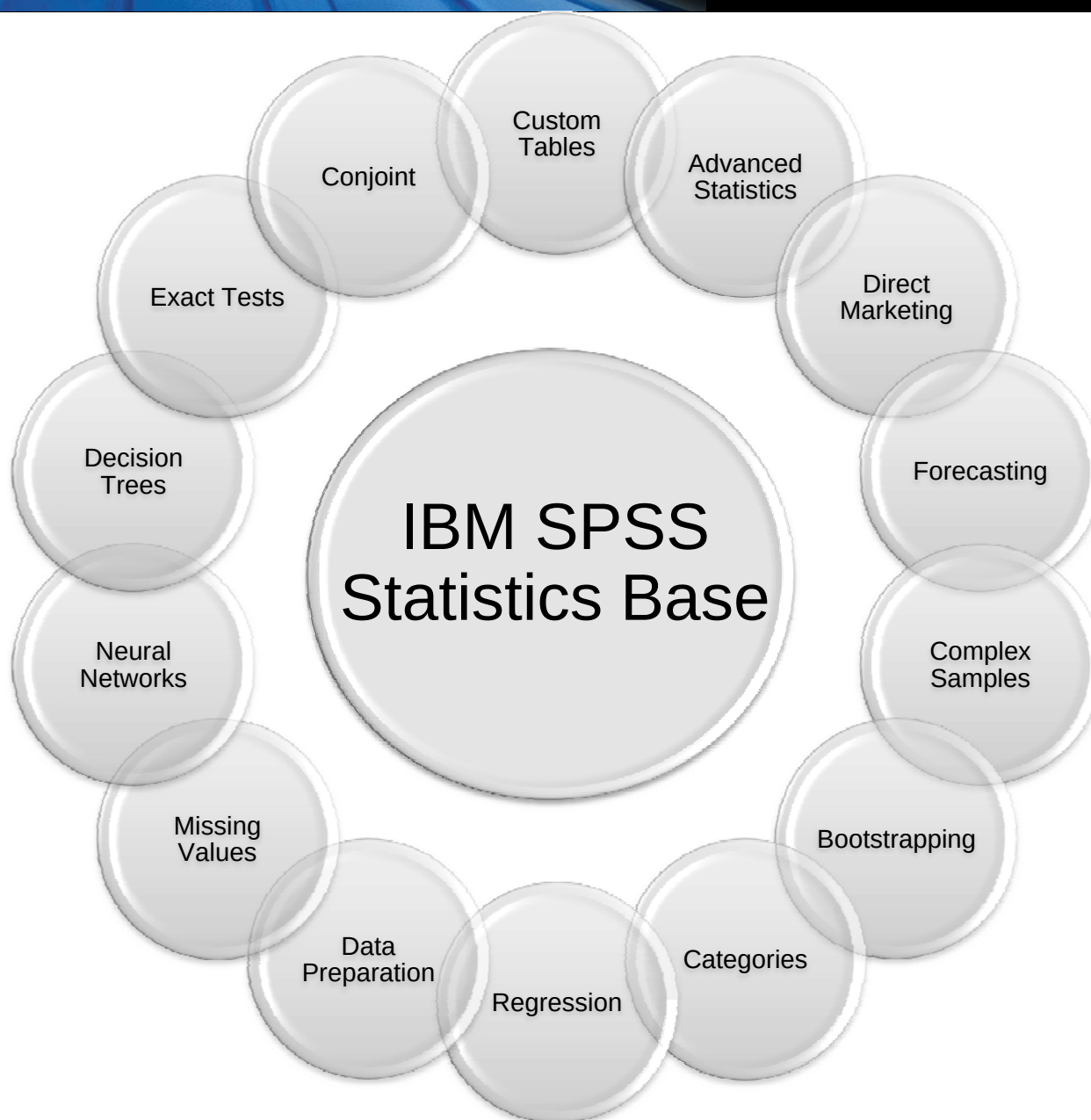
▪ Modeling

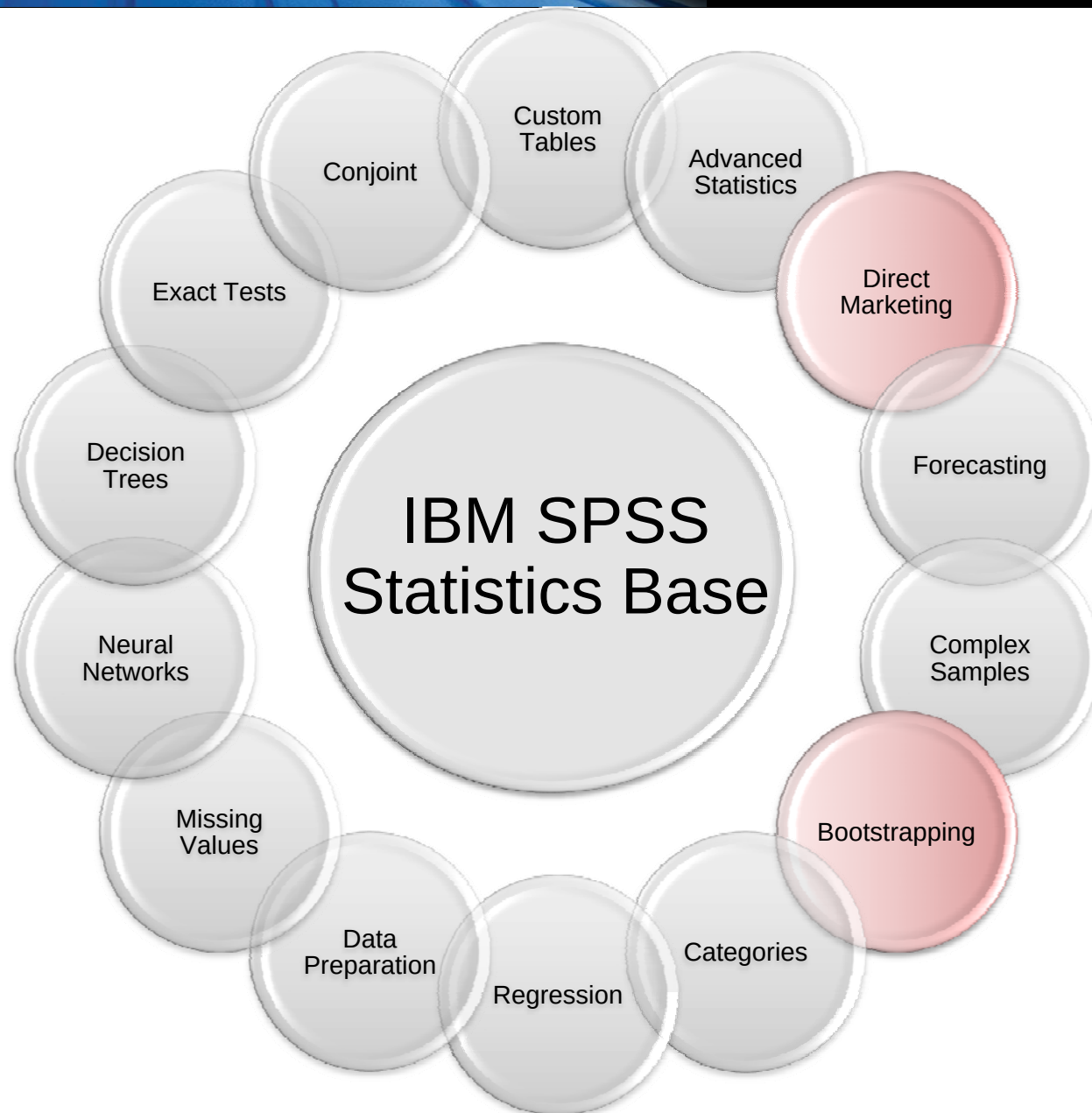
- Advanced modelling to quickly discover patterns and trends in your data, and inform your decision making.

▪ Deployment

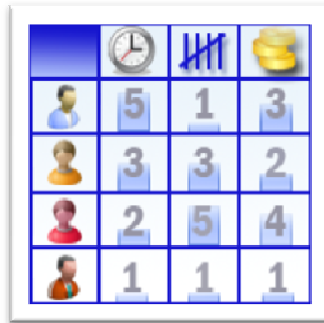
- Integrate analytics into your operations to improve business processes and efficiently deliver results to decision makers across the enterprise.







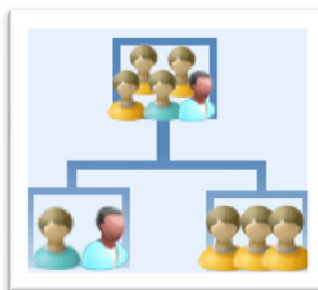
Understand my contacts



Identify my best contacts.



Segment my contacts into groups.



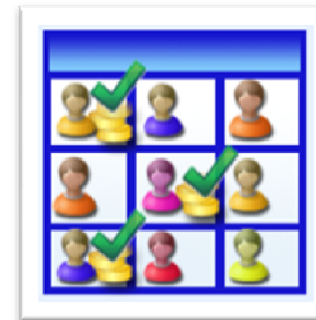
Group together profiles of my customers who responded to an offer.

Improve my marketing campaign

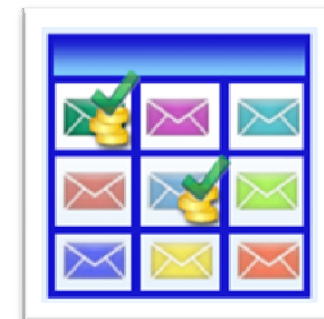
Identify the top responding postal codes.

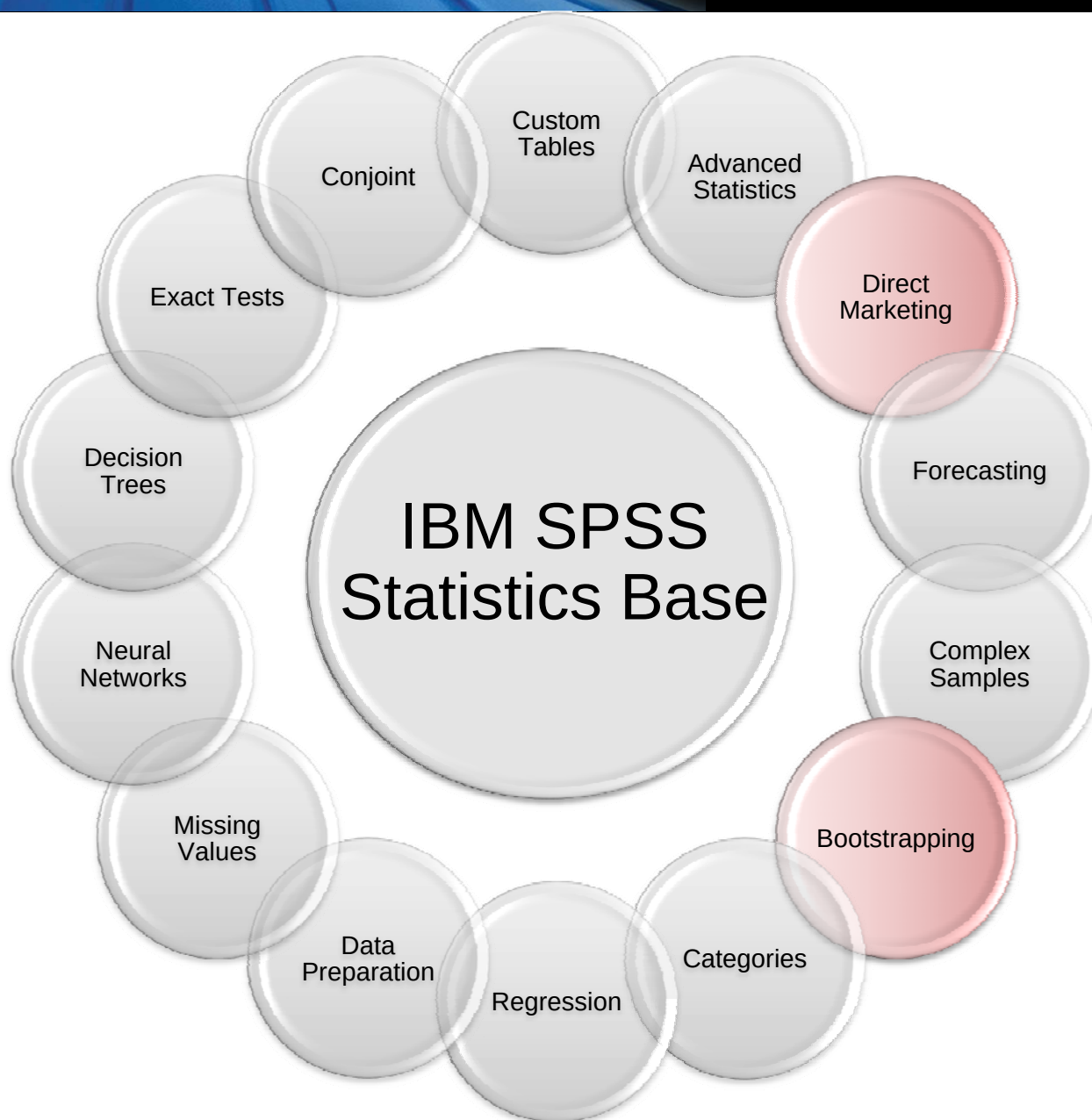


Select contacts most likely to purchase.



Compare effectiveness of campaigns.

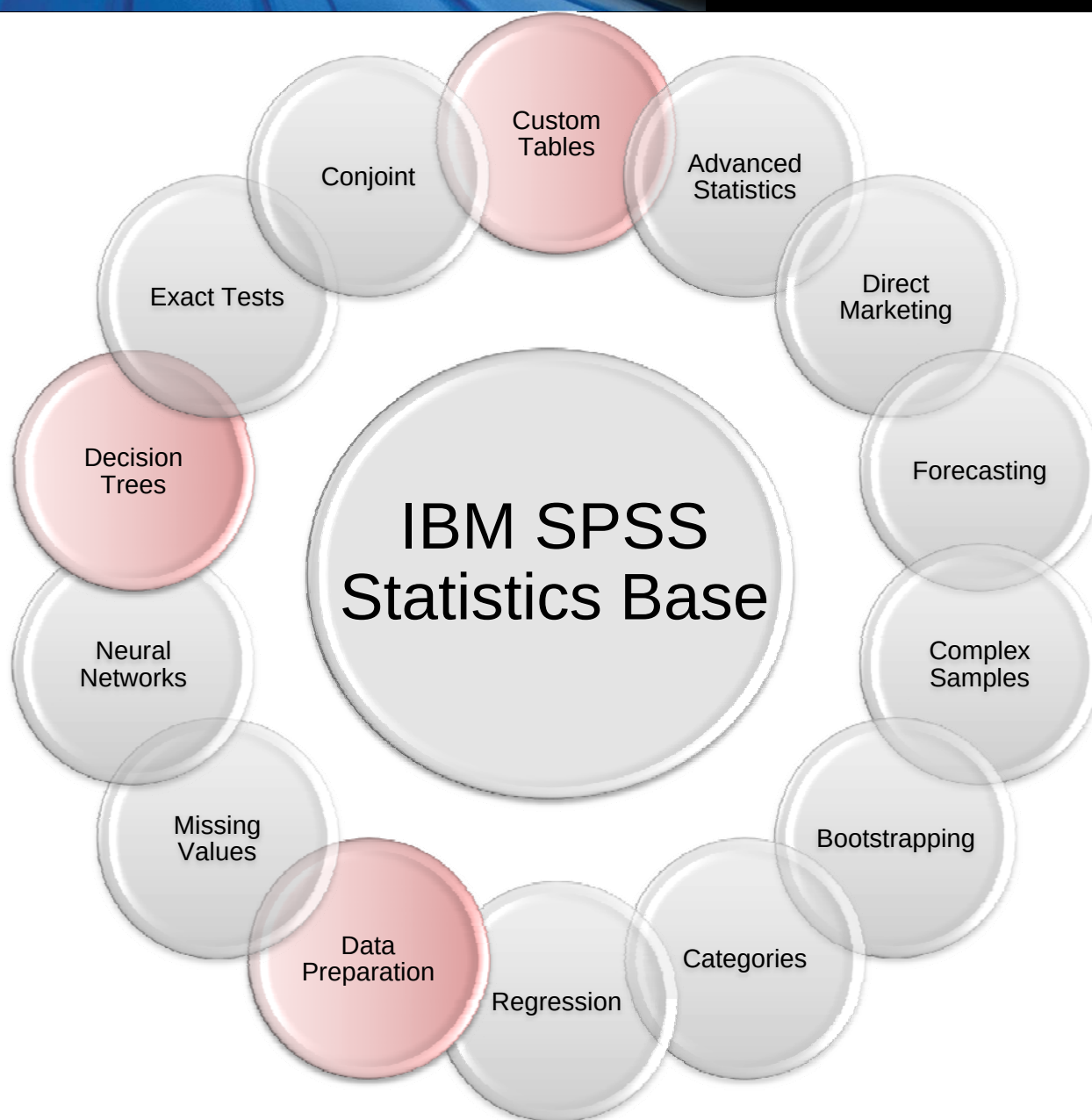




Bootstrapping



- **Bootstrapping uses multiple sampling within your own data to increase the sample size.**
- **This increases accuracy within your model by decreasing the variation of any statistics estimated.**
- **It integrates with several techniques in PASW Statistics, PASW Regression and PASW Advanced Statistics.**

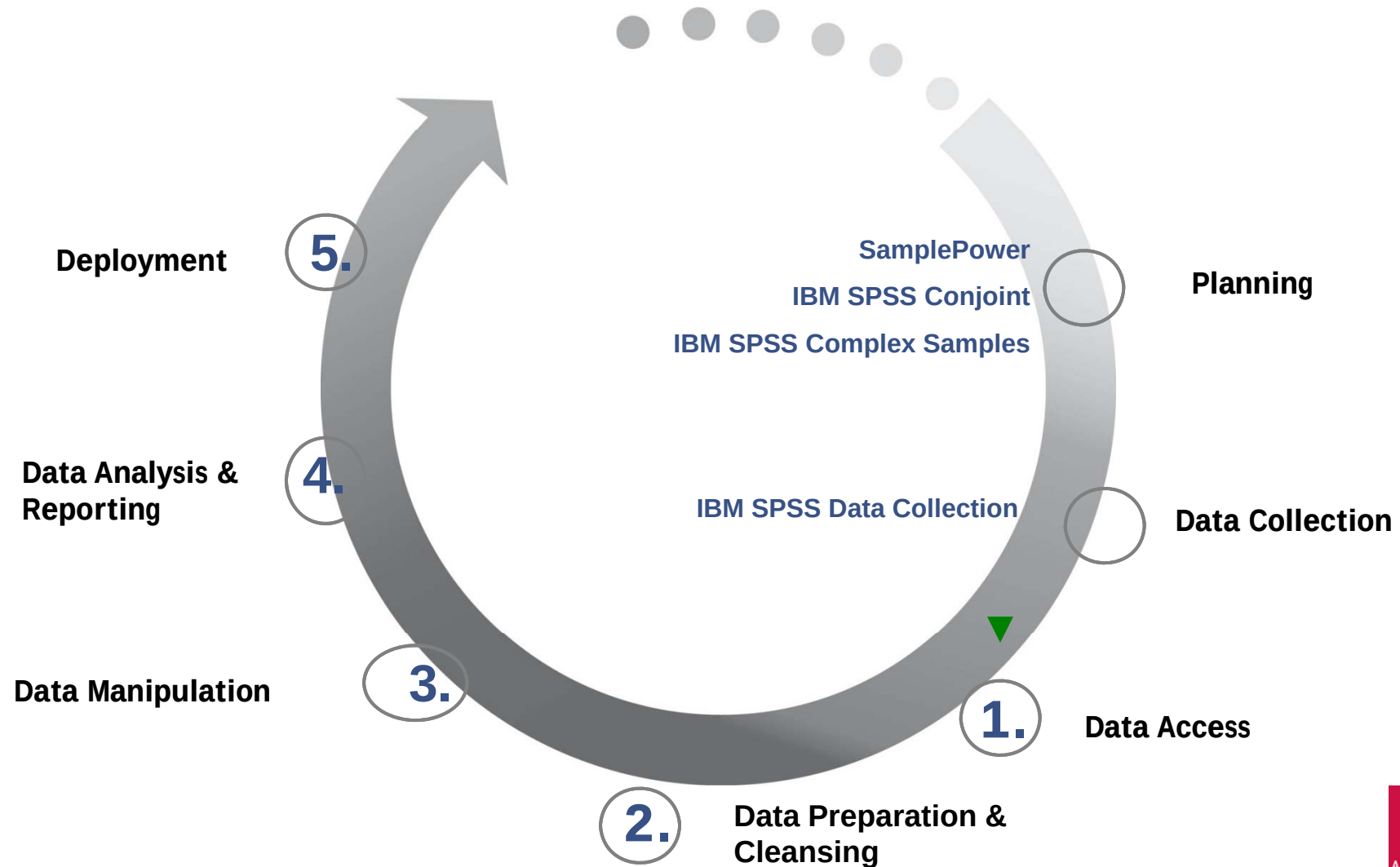


IBM SPSS Statistics: Example applications

- **Citizen satisfaction**
- **Survey Analysis**
- **Profiling**
- **Reporting**
- **Staff retention**
- **Planning and Forecasting**
- **Social and Medical research**



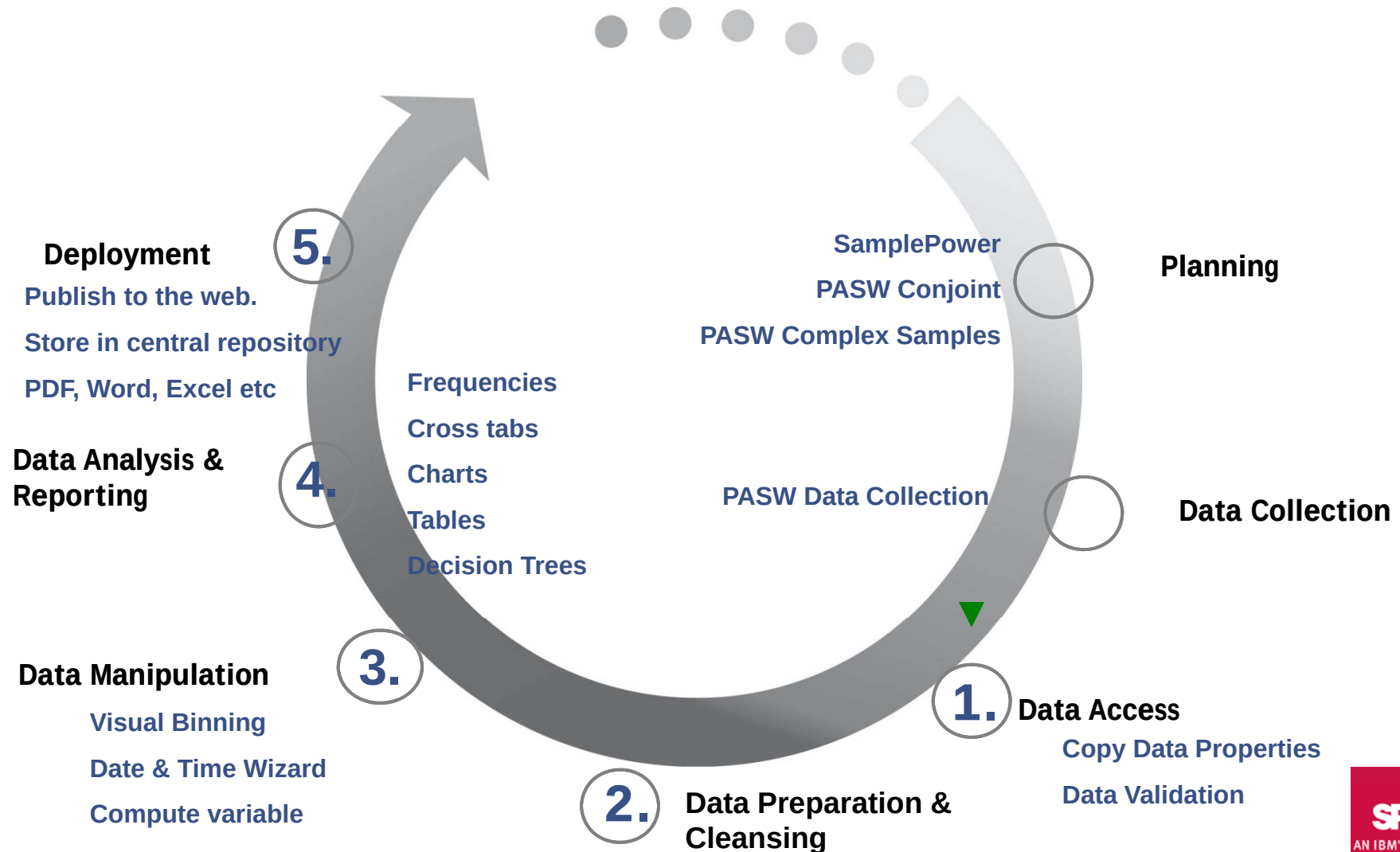
What we will cover today...



Demonstration Background

- **National Indicator Set Survey Data.**
- **Demographic and survey data on our citizens.**
- **We will uncover which indicators are the most important for citizens when looking at overall satisfaction.**

What we have covered today...



Turning Data into Information





Data Analytics in the Public Sector

Ed Porter
Account Manager



Case Study – NSPCC



Background

- Leading charity that has been established for over 100 years
- Rely on donations from public and corporate enterprises

Challenge

- Historically been successful in recruiting new donors, however traditional segmentation methods have not given them sufficient discrimination
- Needed another method to segment their growing number of donors



Case Study – NSPCC



Solution

- Previously outsourced their analysis which was very expensive
- Used SPSS to undertake their whole regular donor segmentation project

Results

- Enabled the NSPCC to discover key predictors of response to their donor mailings, saving money and improving response rates
- Outsourcing a one off project would have cost twice as much as the SPSS option. Estimated that they would reduce their costs by approx 35% and improve retention rates



Case Study – St George's Healthcare

St George's Healthcare **NHS**
NHS Trust

Overview

- One of the largest teaching hospitals in the UK with over 6000 staff and around 1000 beds
- Serves a population of 1.3 million across South West London whilst carrying out advanced medical research

Challenge

- Proving that patients "at risk" should stay in intensive care for longer periods.
- Identifying those more at risk & who should stay in ICU for a longer period



Case Study – St George's Healthcare

St George's Healthcare **NHS**
NHS Trust

Solution

- Able to utilise our technology to predict who is most at risk or in danger by building models based on patient's age, disease, length of stay in the unit and whether had heart/lung surgery

Results

- “This is the first study to pinpoint a major cause of post ICU deaths in the UK & it would have been difficult, time consuming and expensive without the use of SPSS software” Dr. Rene Chang Consultant Transplant Surgeon
- “Mortality after discharge from ICU could be reduced by 39% if these patients stayed another 2 days before discharge” Dr Chang, Consultant Transplant Surgeon



Case Study – PDSA



Overview

- Founded in 1917, PDSA is the UK's leading veterinary charity and provides more than 6,880 free treatments to sick and injured pets every day. The charity also works to promote responsible pet ownership

Challenge

- Legacy funding can be one the most cost effective methods of fundraising. Finding the right person to make a pledge is difficult and 76% of people that make a pledge will go on to leave a legacy



Case Study – PDSA



Solution

- Improve direct marketing legacy campaigns using predictive analytics. They were able to profile and group who was likely to respond from previous campaign data

Results

- Achieved a higher response rate and this represented a significant improvement whilst saving time on putting the campaign together



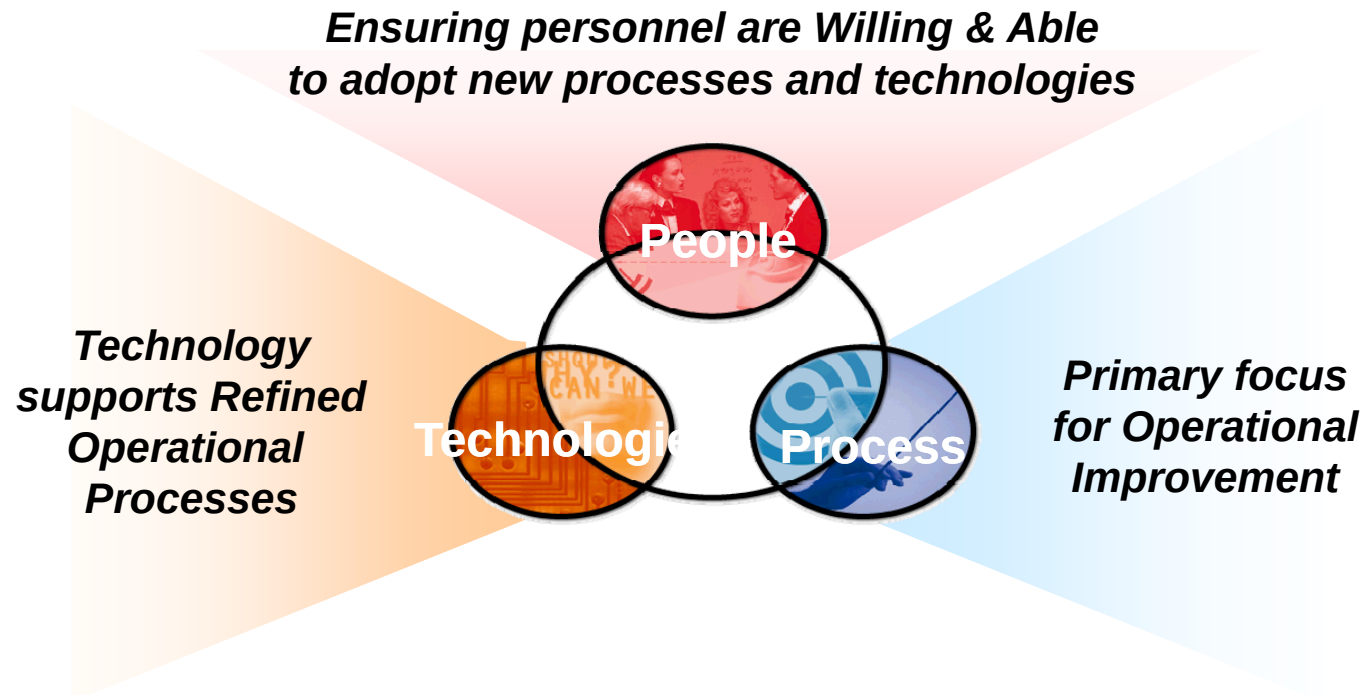
SPSS Professional Services Overview



IBM SPSS Professional Services



The three key inter-related areas for success



SPSS Professional Services helps you achieve success across all three areas



Why Use SPSS Professional Services?

Global team of Consultants, Trainers and Project Managers with years of industry experience using SPSS technology

• **Training:**

- Public Training
- Onsite
- Web Based Training (live/On-Demand)
- Customised Training
- One-to-one, in-person training
- Corporate Cards
-

Consulting Services:

Installation Migration & Upgrades

Best Practices Guidance

At-Elbow Support

Quick Starts & Health Checks

Complete deployments from start to
finish to realise value rapidly
(incl Project Management)



SPSS Training Delivery Options

Choose the method of delivery that best fits your needs:

- **Public courses taught at our training facilities in Woking and venues across the UK**
- **Flexible tailor made training to meet your organization's requirements**
 - Your choice of venue
 - Your choice of date
 - Your choice of content
- **One-to-one, in-person training**
- **Live instruction via the Web for individuals or groups**
- **Web-based training for on-demand learning**
- **Training packages available for both the organization and individuals**



Why Use SPSS Training Services?

- **Benefits**

- Trained customers are 60% more successful in achieving benefits.
- Untrained users require 3 – 6 times more support than trained users.
- Untrained users take up to 4.5 times longer than trained users to reach a competent level of skill.
- 76% of users ranked substandard skills as the reason for failed software implementations.





Customer quotes

“Without the SPSS Private Training Programme I don’t think we would have been able to get everyone to an appropriate skill level in such a short space of time and at a minimal cost to the organisation”

Terry Chappell, Learning and Development Consultant, Learning and Skills Council

“Very good. A sensible pace and really good that we got to use SPSS after each chapter. Very helpful and relaxed.”

James Robards, Ecotec

“Instructor was very professional and spent time with individuals to make sure our needs were met.”

Gail Oglanby, Cumbria Constabulary





Conclusion & Q&A

