# IBM Performance 2011

## Smarter Decisions. Better Results.

# What's new in IBM SPSS Statistics 20

Laila Fettah

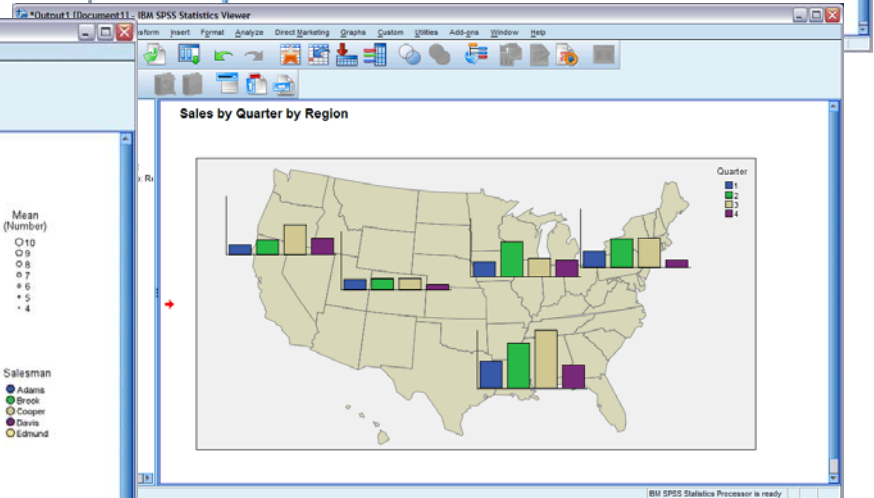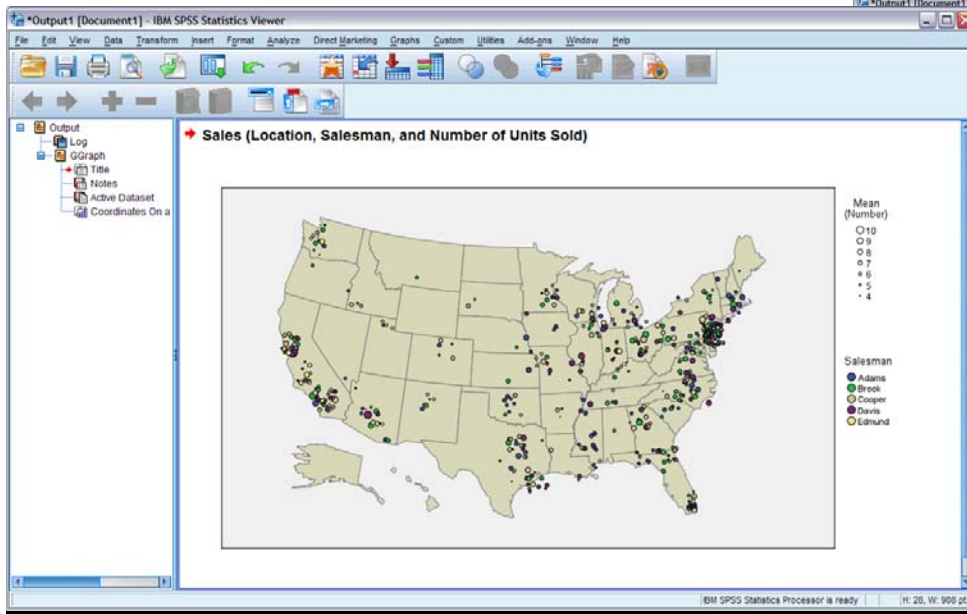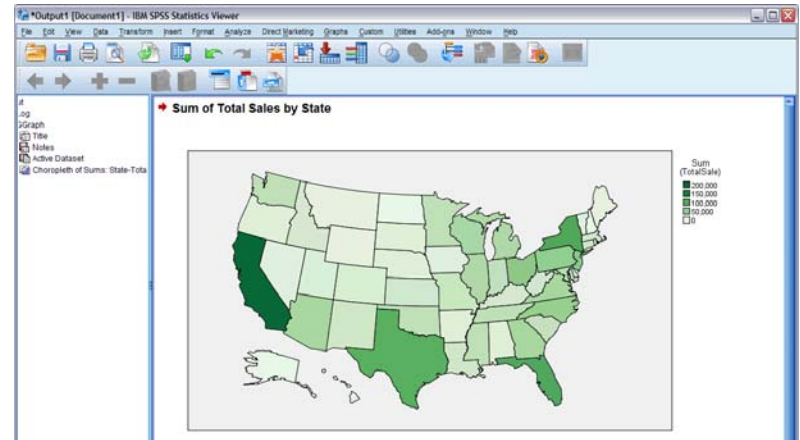Client Technical Professional

09 November 2011

# Themes of IBM SPSS Statistics 20

- **Mapping Visualization**
  - Adding geographic dimensions to analysis and reporting capabilities to gain better insight into data

- **Improved Analytics**
  - Improvements to existing analytics, gives users more options to improve the accuracy of their analysis

- **Increased Productivity and Architecture**
  - Faster output and flexible technology allow users to increase production and not be restricted by software limitations

# Mapping Visualization

Plot analysis results on geographic maps (IBM SPSS Statistics Base)

# Improved Analytics

Generalized linear mixed
models for ordinal targets
(IBM SPSS Advanced Statistics)

Combination of *Generalized Linear*
*(GENLIN)* and *Linear Mixed*
*(MIXED)* models
- Simplified user interface (For subjects, repeated measures, effects)
- Role use
  (for targets and fixed effects)
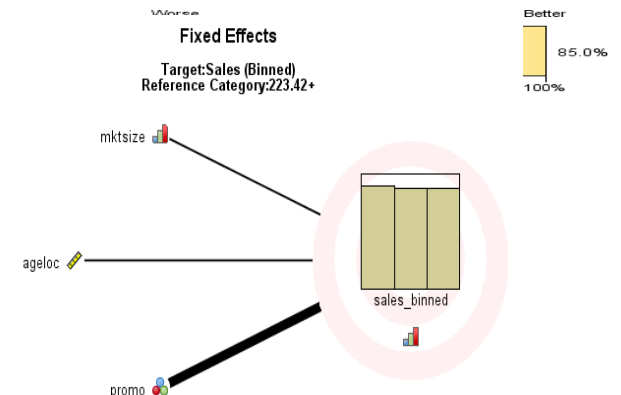- New kinds of visualizations in output

**Classification**
Target:Sales (Binned)
Overall Percent Correct =85.0%

| Observed | Predicted | | | Row Percent |
|---|---|---|---|---|
| | <= 185.52 | 185.53 - 223.41 | 223.42+ | 100.00<br>80.00<br>60.00<br>40.00<br>20.00<br>0.00 |
| <= 185.52 | 86.7% | 13.3% | 0.0% | |
| 185.53 - 223.41 | 18.2% | 75.0% | 6.8% | |
| 223.42+ | | | | |

**Model Summary**
Target: Sales (Binned)

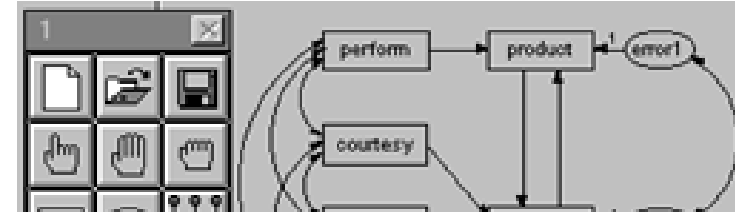| Target | Sales (Binned) |
|---|---|
| Probability Distribution | Multinomial |
| Link Function | Cumulative logit |
| Information Criterion — Akaike Corrected | 1,808.135 |
| Information Criterion — Bayesian | 1,810.939 |

Information criteria are based on the -2 log pseudo likelihood (1,806.102) and are used to compare models. Models with smaller information criterion values fit better. When comparing models using pseudo likelihood values, caution should be used because different data transformations may be used across the models.

Worse — Better
85.0%
100%

**Fixed Effects**
Target:Sales (Binned)
Reference Category:223.42+

mktsize

ageloc

sales_binned

promo

Corporation

# Improved Analytics



Non-graphical method of model specification in IBM SPSS Amos

- – Improves accessibility
- – Useful for large, complicated models
- – Helpful if you need to generate a lot of similar models that differ only in some details.

# Improved Analytics

SPSS Text Analytics for Surveys 4.0.1:
*Categorize open text to produce additional categories (new variables)*

Support for hierarchical categories

# Increase Productivity

Faster tables output

(All Statistics Modules)

- – Tables are instant, interactive and fully editable
- – No longer have to wait while the output table renders
- – How much faster?
  Up to 7x faster than existing tabular generation

→ **Regression**

[DataSet1] C

## Tasks Perform up to 65x faster with Statistics Version 20

| Task | | Speed |
|------|------|-------|
| EXPORT TO EXCEL OF LARGE TABLE | ● | 3x Faster |
| SCROLL TO LAST TABLE | ● | 33x |
| SAVE OUTPUT FILE | ● | 5x |
| PRINT LARGE TABLE | ● | 3x |
| PIVOT LARGE CROSSTAB | ● | 10x |
| GENERATE LOTS OF SMALLER TABLES | ● | 7x |
| GENERATE LARGE PIVOT TABLE | ● | 54x |
| ACTIVATE LARGE CUSTOM TABLE | ● | 17x |
| ACTIVATE LARGE CROSSTAB | ● | 65x |

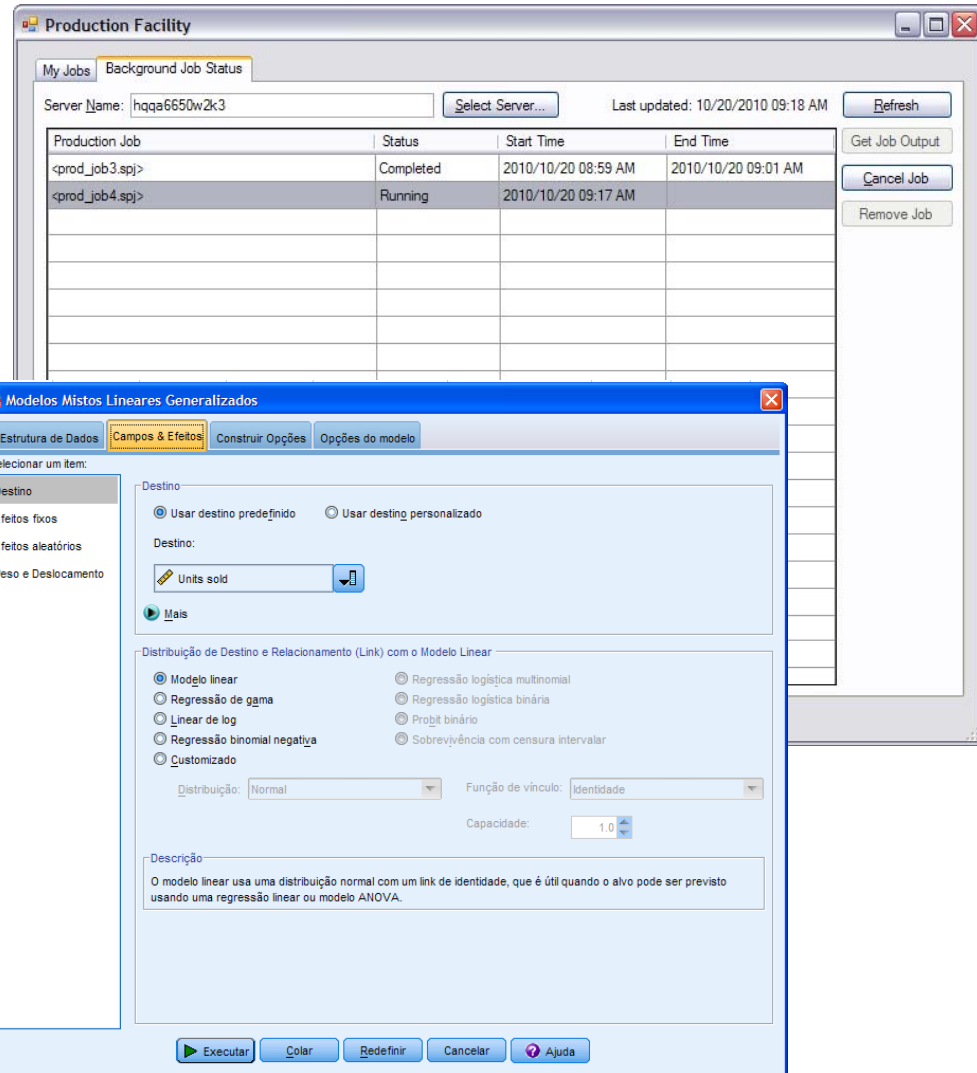● PREVIOUS VERSIONS OF STATISTICS  ○ STATISTICS VERSION 20

# Increased Productivity

Running server jobs

disconnected

(IBM SPSS Stastistics Server)

Improved file saving and

sorting

(Client and Server)

Brazilian Portuguese user

interface

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# Questions