spconsulting

A Division of The Scott Practice, LLC

Exceptional Fundraising using Analytics

Applying Quantitative Solutions to Expand Your Capacity and Reach

Presented by :

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Today's Journey

Who We Are

What is Analytics

Evolution of Predictive Analytics

Predictive Analytics v. Business Intelligence

Machine Learning

What the Machine Can Do For Me

Today's Journey

Understanding Data

Modeling & Scoring

Cluster Algorithms

Classification Decision Trees

Logistic Regression with Case Analysis

Conclusion

now…. let’s talk ….

About Us

Company Introduction

Brief introduction about us

Welcome

SP CONSULTING is a new division of The Scott Practice, LLC, an Atlanta based law firm. The Scott Practice, LLC has provided services for more than a decade. Our focus is on providing long-term funding solutions for midsized and small nonprofit organizations that help expand capacity and reach. We help organizations diversify funding so that they are not dependent on variable short-term funding methods.

This presentation highlights one of the services we preform by assisting clients with donor acquisition solutions using analytical approaches. We hope you enjoy this webinar.

What is Analytics?

Hmm… Why Am I Being Surveyed So Much?

Helps Organizations Make Decisions

Development of data warehouses coupled with ability to exact better system queries ushered in a wave of powerful analytical capabilities revolutionizing business decision-making

Applies Statistical & Quantitative Methods

Uses pattern recognition, statistical methods, and mathematical modeling to answer questions about the world we live in

Form of Knowledge Discovery

Larger nonprofits have used analytics to discover new donors, develop fundraising strategies and improve marketing efforts based upon new insights obtained

Minimizes Time & Maximizes Resources

Data is analyzed by statistical or machine learning algorithms which dramatically decrease time needed to identify likely major gift donors, enabling fewer resources to be spent

Optimizes Relationship Building

Improves ability to understand donors and provides additional insight to build long-lasting relationships – sustainable funding

Used within Major Gift Campaigns

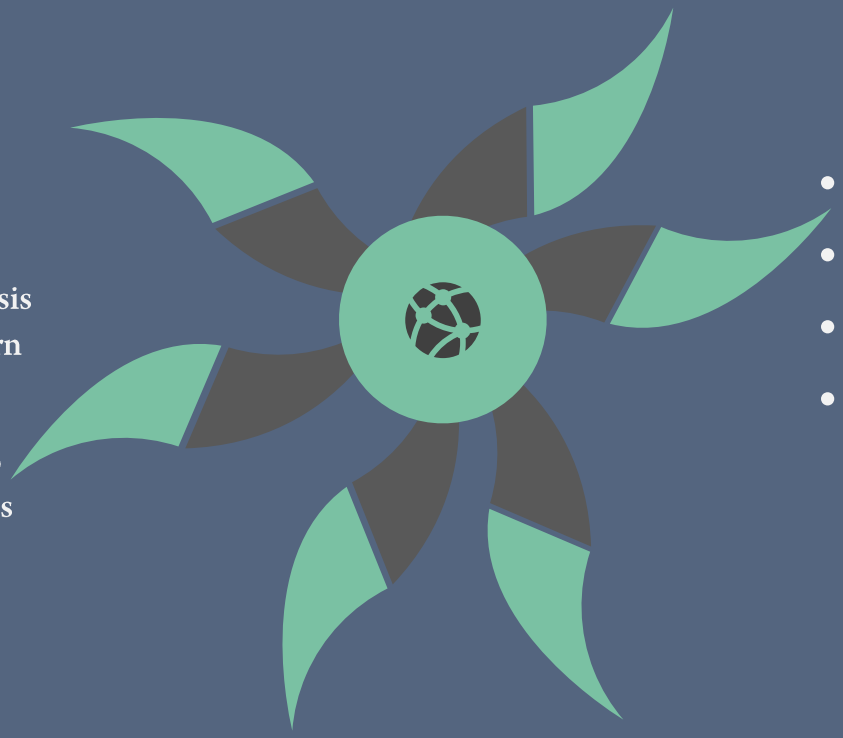
Multiple uses possible including improving donor retention rates, scoring prospects, analyzing capacity to give, tailoring marketing messages

Evolution of Predictive Analytics

What's all this talk about predicting the future?

Evolution

- Predictive analytics evolved from a broader discipline called data mining
- Data mining uses a combination of data analysis techniques such as exploratory analysis, pattern and rule discovery and data retrieval methods
- Predictive analytics uses statistical methods to construct algorithms and mathematical models to answer the unknown



Data is King

- Historical data is highly valuable
- Survey, Survey and More Surveys
- Structured vs. Unstructured Data
- Preparing Data for Modeling

Predictive Analytics v. Business Intelligence

How do they match up?

Uses Historical Data

Analysis of relationships within data

Looks for Trends and Patterns

Interested in trends that can predict future outcomes

Predicts Events Unknown

Used to predict events or behavior that is currently unknown

Uses Historical Data

Analysis of key characteristics of data also known as Key Performance Indicators (KPIs)

Measures Past Performance

Organization leaders determine key indicators

Answers Questions About Past Performance

Used to Improve Future Performance

Machine Learning

Think – why do we use calculators?

Humans

Intuition to make predictions

Experience difficulty reviewing, analyzing and summarizing large sums of data

Several observations to discern behavior

Spend considerable time to acquire donors

Result in higher per donor acquisition cost

The Machine

Machine-learning algorithms to make predictions

Analyzes complex & unrecognizable patterns in large sums of data

Identifies difficult attitudinal and behavioral patterns through data

Decreases time spent to acquire donors

Lowers per donor acquisition cost

What Can the Machine Do for Me

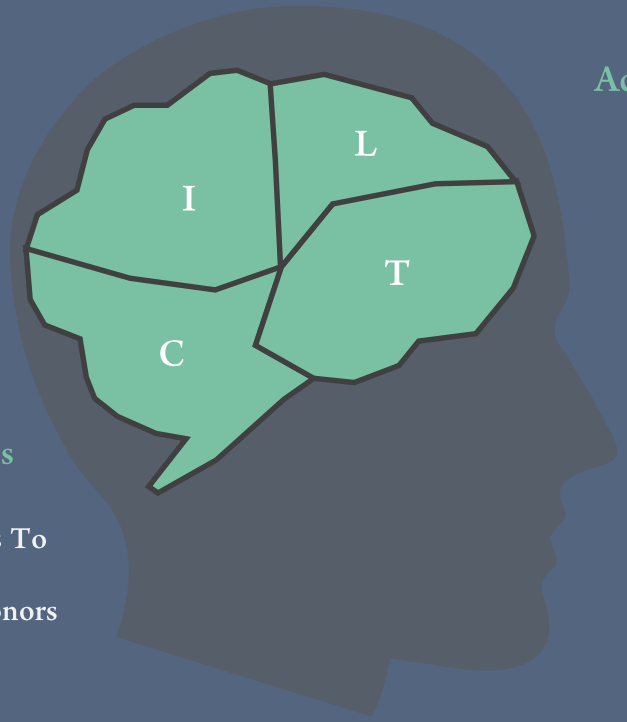
Yes it Can!

Predict

- Predict Which Donors Most Likely to Gift Big
- Determine How Much a Donor Can Likely Give

Optimize Organization Time and Resources

- Show Which Donors To Allocate More Resources To
- Show What Strategies Work Best with Certain Donors
- Minimize Time and Effort Building Relationships



Achieve Long-Lasting Relationships

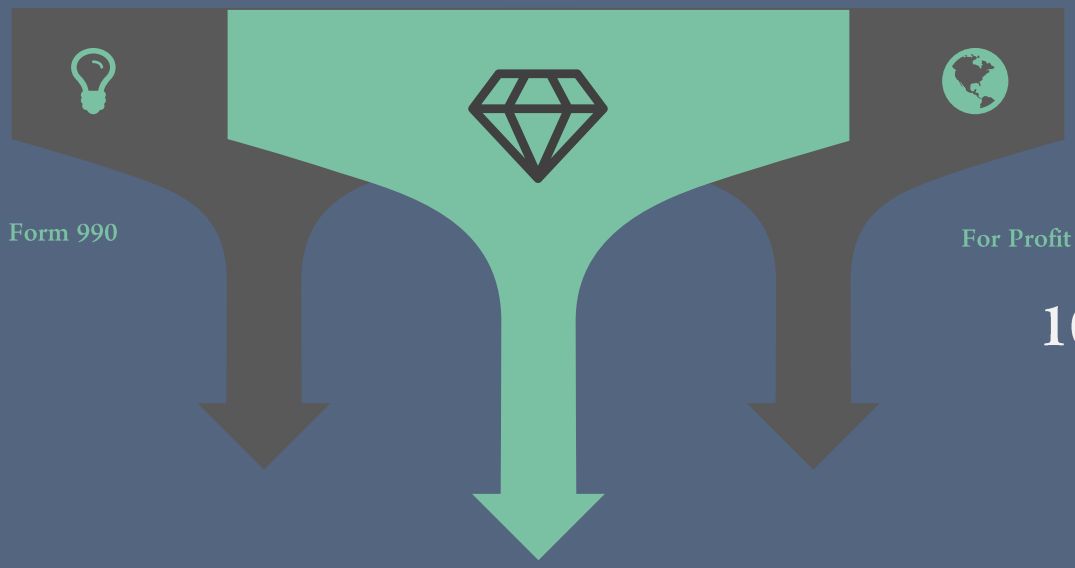
- Insight on Donor Preferences and Behaviors
- Recognize Patterns on Motivation to Give
- Provide Insight for Better Marketing Strategies

Improve Major Gift Campaigns

- Improves Major Gift Campaigns with Targeted Messages
- Anticipate Donor Needs To Prevent Donor Flight

Cost of Fundraising

What's Going On?



Average Fundraising Cost Reported on Form 990

4.6%

For Profit Cost (Marketing & Sales)

10%-12%

Estimated True Cost of Fundraising

18%-20%

CASE ANALYSIS

Youth Program for Children with Autism

Not Actual Data Information for Analysis Only

Total Campaign Costs

Cost to Raise a Dollar

Cost to Acquire Donor

Direct Mail - 2015 Annual Campaign

Cost Per Mailing is $1.00 with Mailers to 3,381 Donors

Total Cost $3,381

Response Rate of 1% or 34 Donors

Average Gift $72.00

Total Raised for Annual Campaign Mailings $2,448

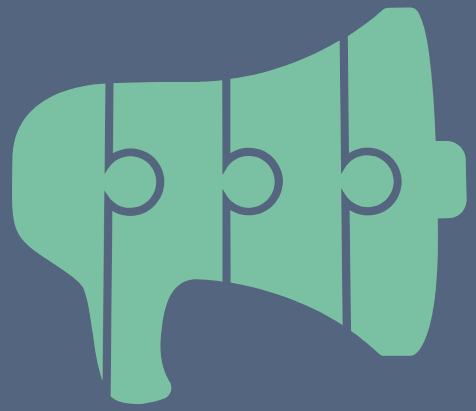
Net Cost of Campaign $552 ($3,381 -$2,448)

Cost to Raise a Dollar = $1.38 (Total Cost/Amount Raised) Spent More than Started With

Cost to Acquire Donor (Acquisition Cost) $16.23 (Net Cost/Number Donors)

Cluster, Classification and Regression Analysis

How Does It Work



Cluster Analysis

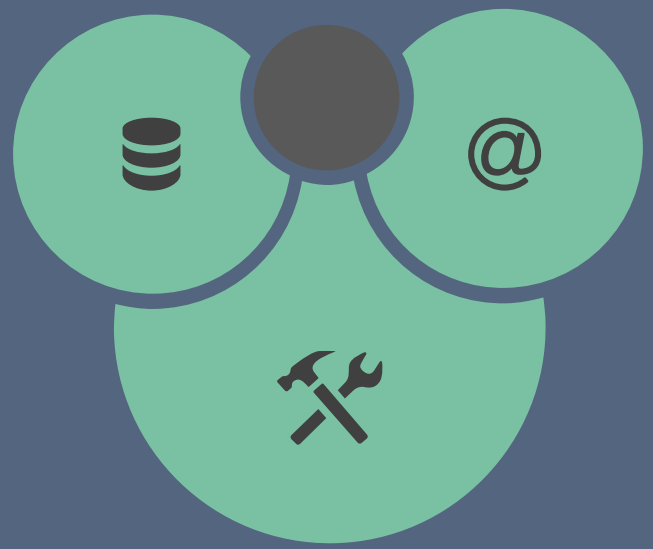
Classification Decision Trees

Logistic Regression

Clustering

What is It?

Clustering is a method of grouping objects of similar kind into one cluster



Mathematical Algorithms

The machine finds correlations in the data that may otherwise be unrecognizable using a mathematical algorithm

K-Means Clustering

Forms clusters and places objects within the cluster based on a mathematical computation calculated to minimize variability within the cluster but maximize variability outside of the clusters

Classification

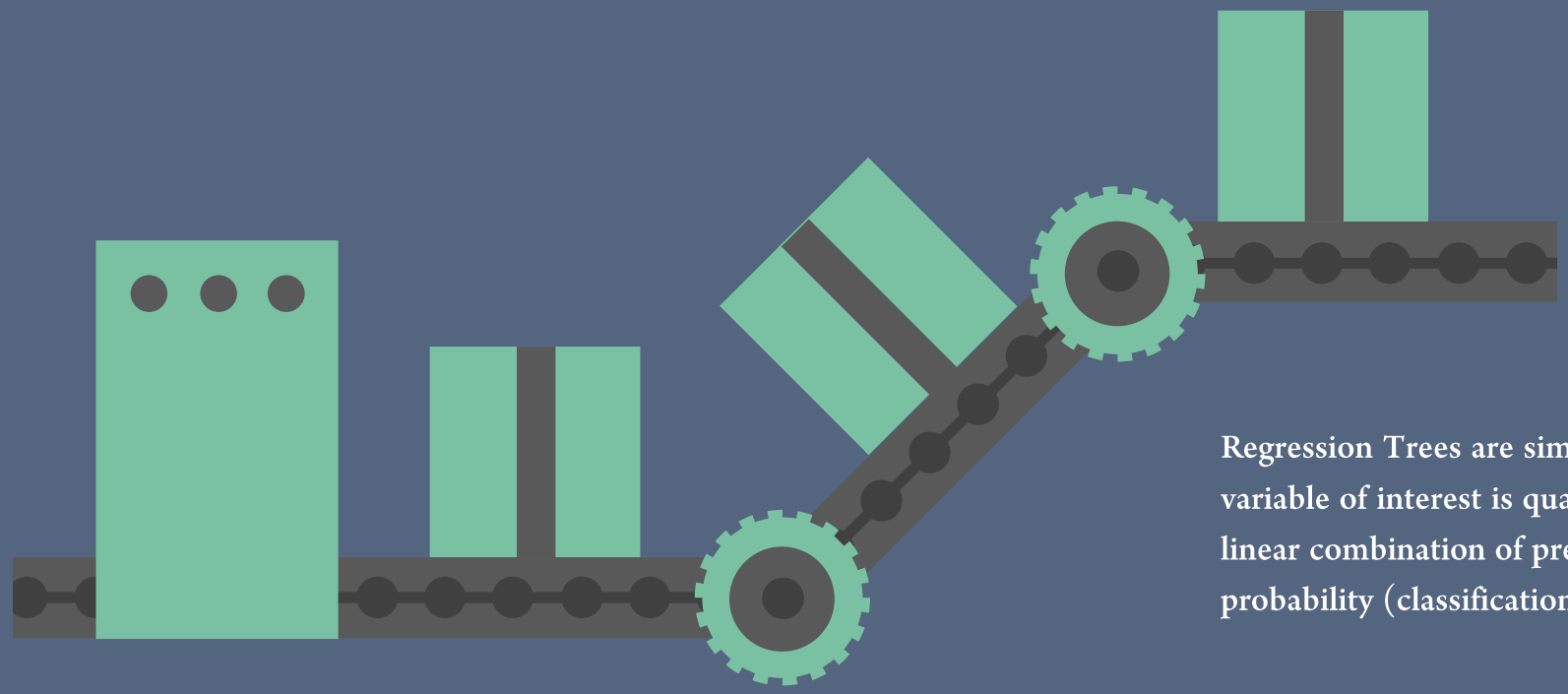
Solve and Predict
Similar to Flow Chart

Binomal Decisions
Yes/No Will Give Major Gift

Classifies Based on Predictors
Variables May Be Behavioral

If/Then Senerios
Runs Until Receives Prediction

Regression Analysis



Regression Trees are similar to classification trees except the variable of interest is quantitative and the approach uses a linear combination of predictor variables for computing probability (classification) scores

CASE ANALYSIS

Youth Program for Children with Autism

Not Actual Data Information for Analysis Only

Donor Base

4099 Total No. of Current Donors

3,381 Donors Total Lifetime Amount Under $5K

Average Annual Gift ~$72

Current Needs

Want to Increase the Number of Major Gift Donors Donations Giving Above $5,000.00

Maintains Data File on Donors

Maintains an Internal Data File with Data Donor Address, Years Donated, Amount of Contribution, Events Attended During Year, and Total Lifetime Contributions

Small No. Donors Carry Organization

82% of Donors Gave Under $5,000 in Total Lifetime Contributions

18% of Donors Provide Majority of Support

Limited Resources

Would like to use their time and resources more efficiently

Understanding Data

Quantitative Data

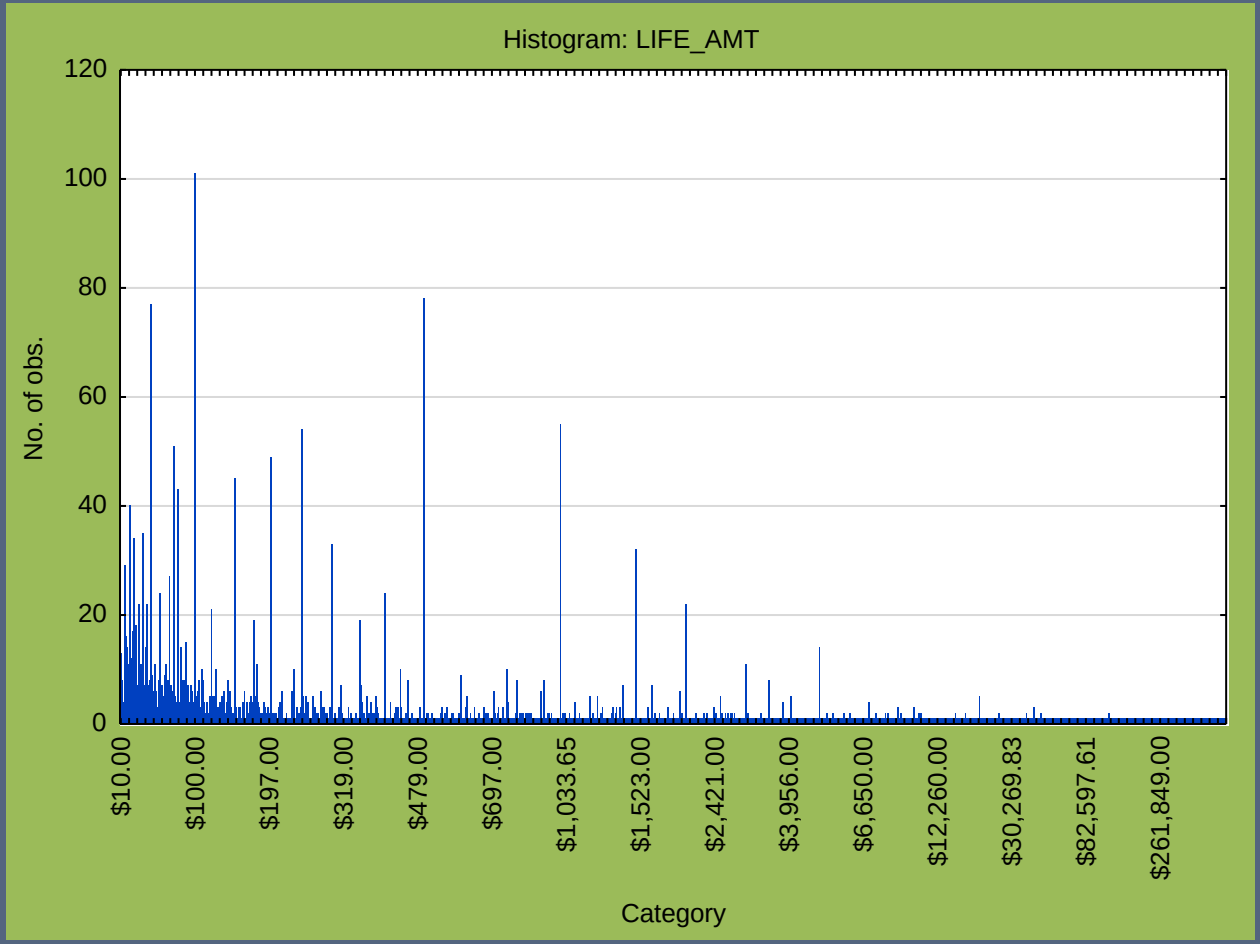
	Mean	Std.Dev	Minimum	Maximum	N	No.cases Missing
YRS_GAVE	2.01	1.35	1.00000	6.0	3278	0
2014_EVENTS	0.97	1.10	0.00000	4.0	3278	0
2014_AMT	1974.14	9370.67	0.00000	143232.0	3278	0
2015_AMT	2822.18	14195.25	0.00000	243494.4	3278	0
LIFE_AMT	18737.02	80488.06	10.00000	944118.5	3278	0

Qualitative Data

JOB	STATE	AGE	M_F	Number of cases	Percentage(%)
Insurance	CA	50	Male	1675	51.09823
Insurance	CA	50	Female	1331	40.60403
Local & State Govt	NY	30	Female	272	8.29774

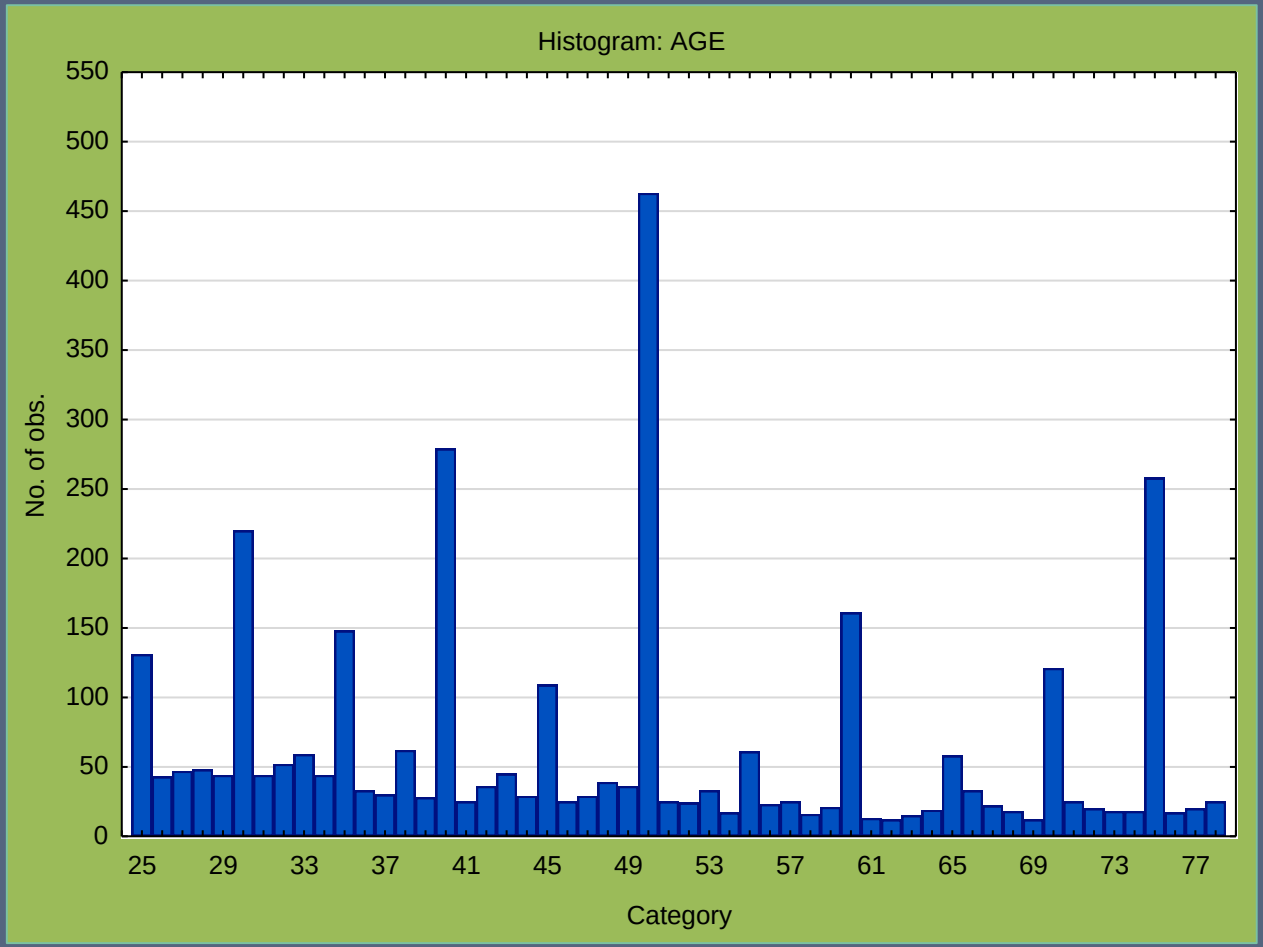
Understanding our Data

What Matters When Conducting An Analysis



Understanding Data

What Matters When Conducting An Analysis



Predictors

There are so many possibilities

1. Gender
2. Offspring
3. Martial Status
4. Life Changing Events
5. Growth Rate of Wealth
6. Social Network
7. Trust versus Will as Estate Plan

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