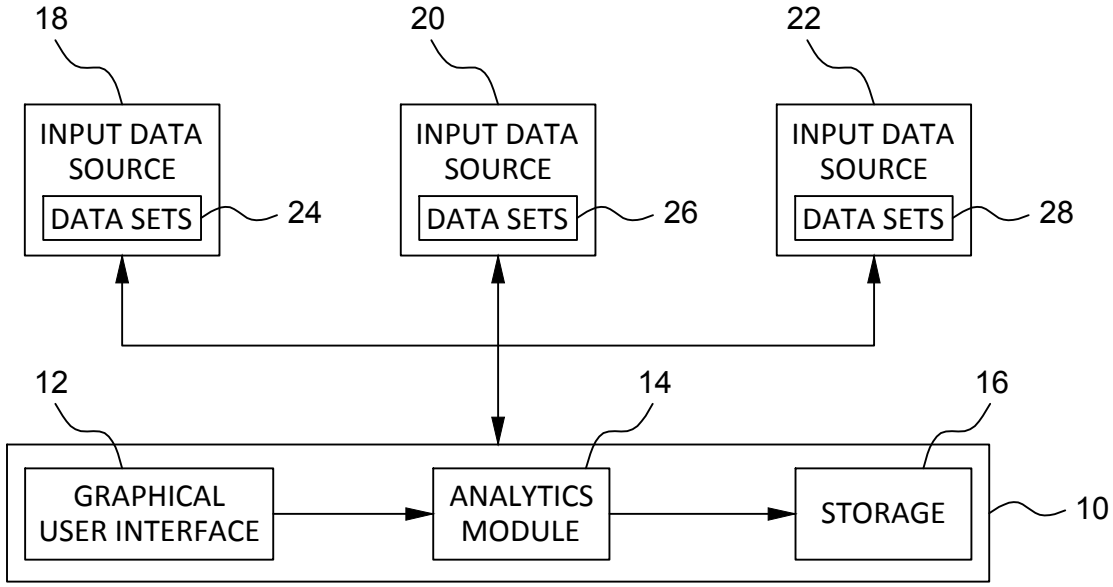

18
20
22
INPUT DATA SOURCE
DATA SETS
24
INPUT DATA SOURCE
DATA SETS
26
INPUT DATA SOURCE
DATA SETS
28
12
14
16
GRAPHICAL USER INTERFACE
ANALYTICS MODULE
STORAGE
10

FIG. 1

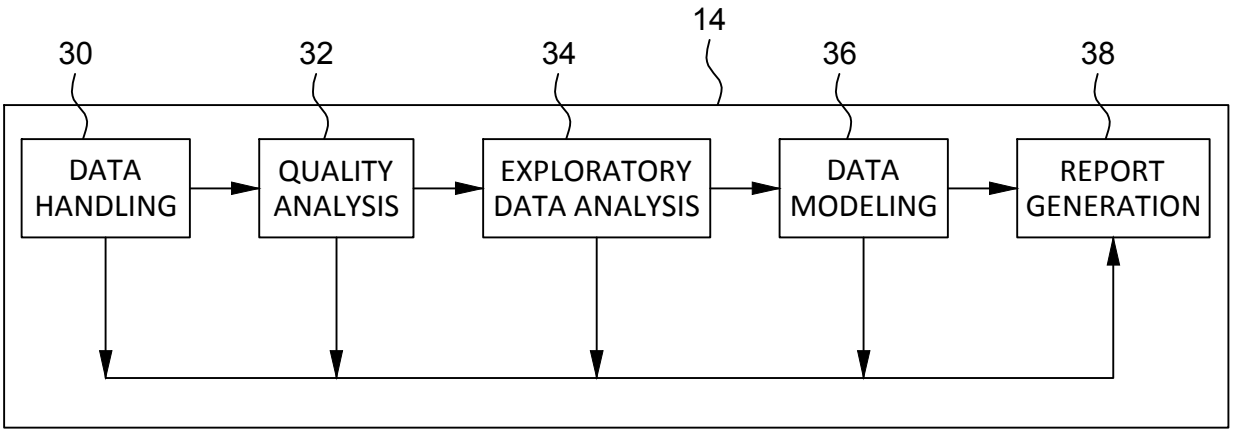

14
30
32
34
36
38
DATA HANDLING
QUALITY ANALYSIS
EXPLORATORY DATA ANALYSIS
DATA MODELING
REPORT GENERATION

FIG. 2

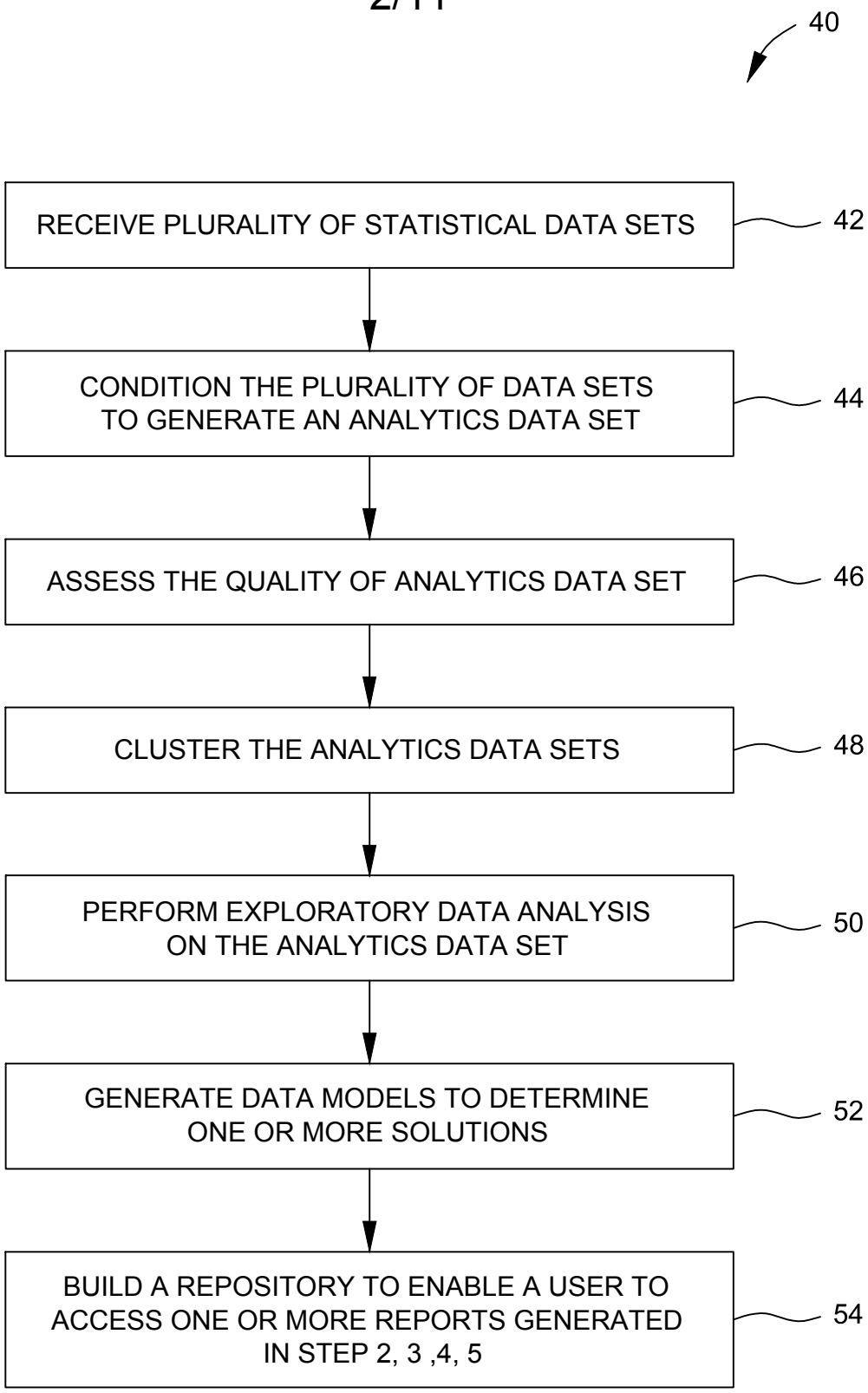

40
RECEIVE PLURALITY OF STATISTICAL DATA SETS
42
CONDITION THE PLURALITY OF DATA SETS TO GENERATE AN ANALYTICS DATA SET
44
ASSESS THE QUALITY OF ANALYTICS DATA SET
46
CLUSTER THE ANALYTICS DATA SETS
48
PERFORM EXPLORATORY DATA ANALYSIS ON THE ANALYTICS DATA SET
50
GENERATE DATA MODELS TO DETERMINE ONE OR MORE SOLUTIONS
52
BUILD A REPOSITORY TO ENABLE A USER TO ACCESS ONE OR MORE REPORTS GENERATED IN STEP 2, 3 ,4, 5
54

FIG. 3

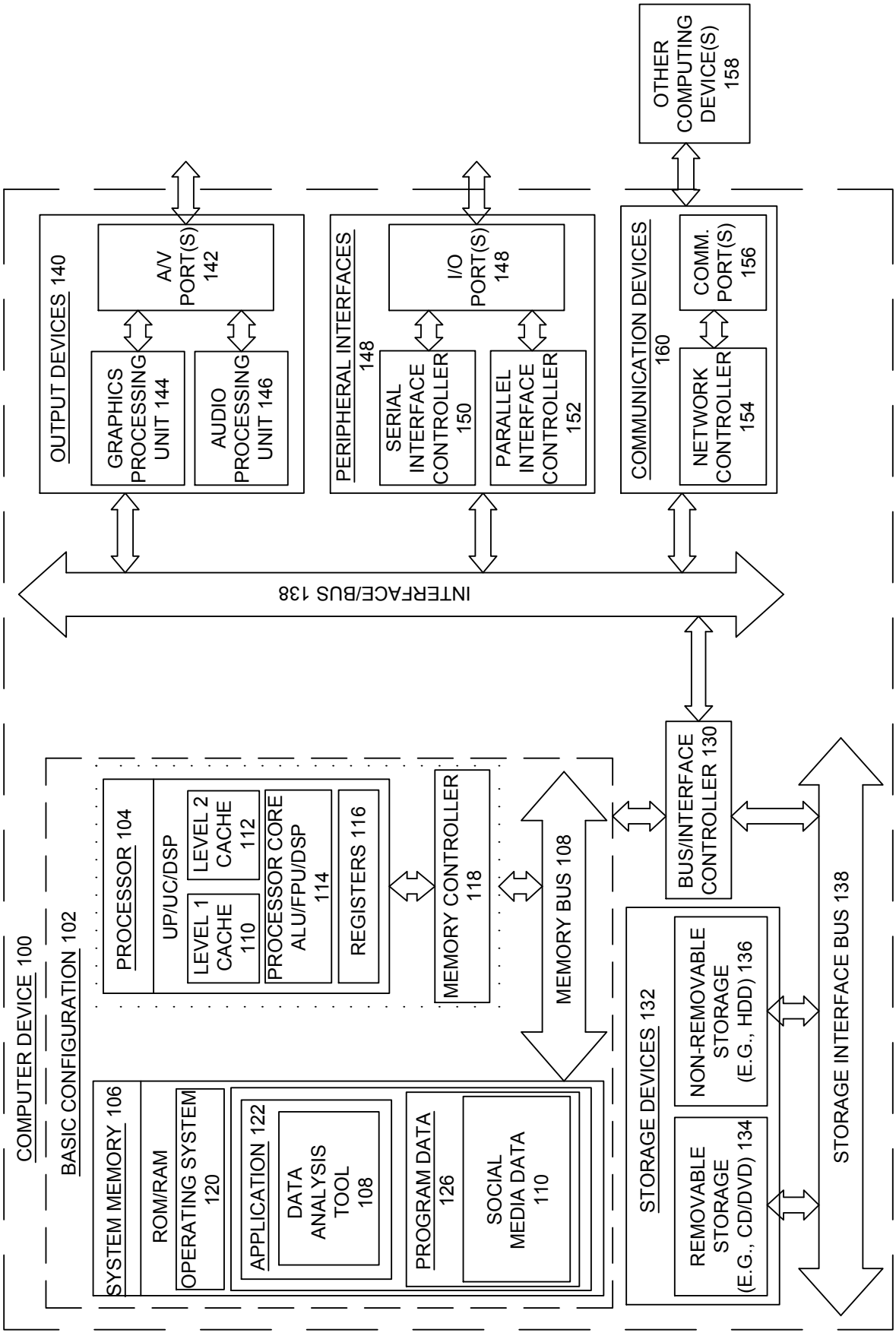

COMPUTER DEVICE 100
BASIC CONFIGURATION 102
PROCESSOR 104
UP/UC/DSP
LEVEL 1 CACHE 110
LEVEL 2 CACHE 112
PROCESSOR CORE ALU/FPU/DSP 114
REGISTERS 116
MEMORY CONTROLLER 118
SYSTEM MEMORY 106
ROM/RAM
OPERATING SYSTEM 120
APPLICATION 122
DATA ANALYSIS TOOL 108
PROGRAM DATA 126
SOCIAL MEDIA DATA 110
MEMORY BUS 108
BUS/INTERFACE CONTROLLER 130
STORAGE DEVICES 132
REMOVABLE STORAGE (E.G., CD/DVD) 134
NON-REMOVABLE STORAGE (E.G., HDD) 136
STORAGE INTERFACE BUS 138
INTERFACE/BUS 138
OUTPUT DEVICES 140
A/V PORT(S) 142
GRAPHICS PROCESSING UNIT 144
AUDIO PROCESSING UNIT 146
PERIPHERAL INTERFACES 148
I/O PORT(S) 148
SERIAL INTERFACE CONTROLLER 150
PARALLEL INTERFACE CONTROLLER 152
COMMUNICATION DEVICES 160
COMM. PORT(S) 156
NETWORK CONTROLLER 154
OTHER COMPUTING DEVICE(S) 158

FIG. 4

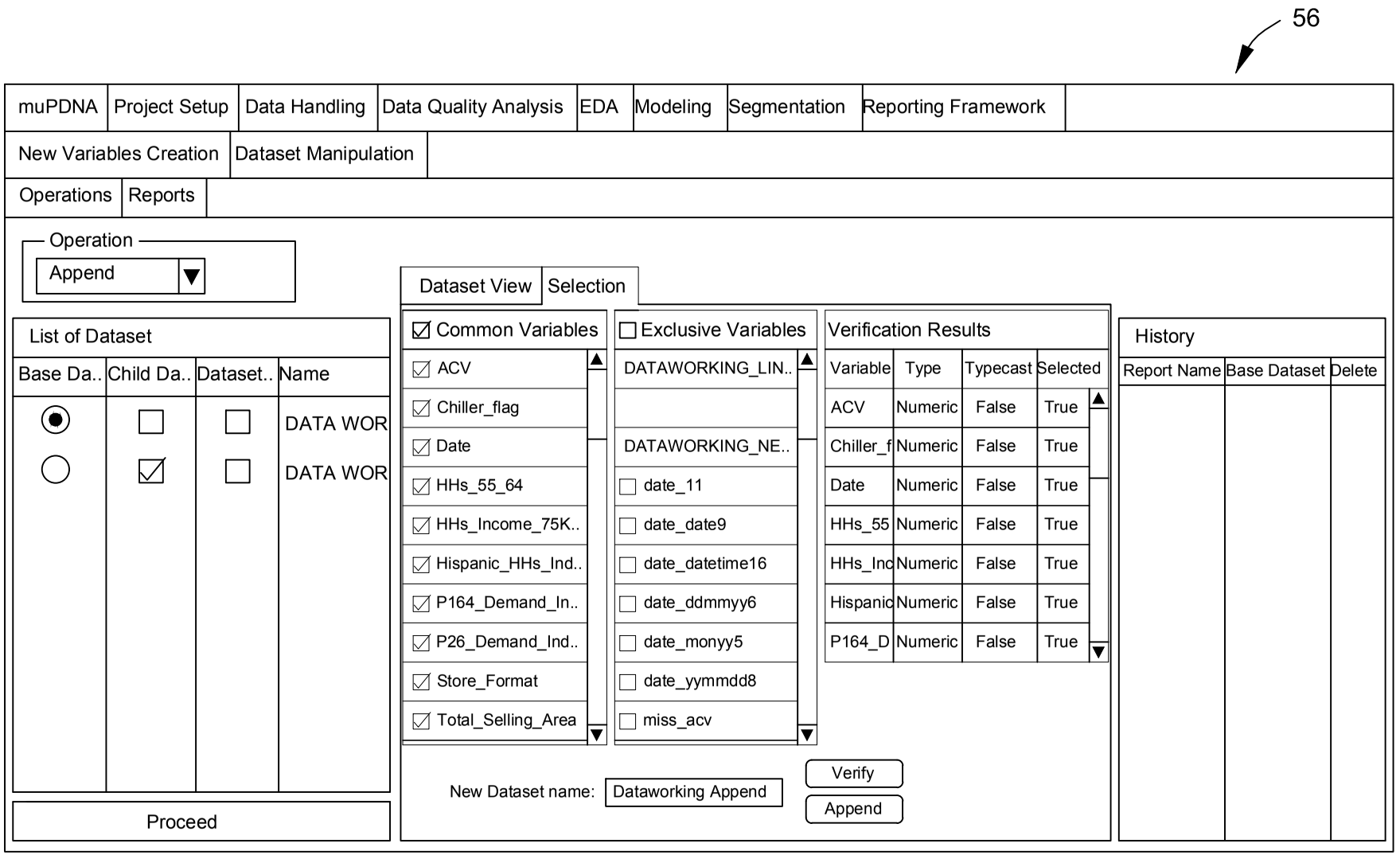

56
muPDNA
Project Setup
Data Handling
Data Quality Analysis
EDA
Modeling
Segmentation
Reporting Framework
New Variables Creation
Dataset Manipulation
Operations
Reports
Operation
Append
List of Dataset
Base Da..
Child Da..
Dataset..
Name
DATA WOR
DATA WOR
Proceed
Dataset View
Selection
Common Variables
ACV
Chiller_flag
Date
HHs_55_64
HHs_Income_75K..
Hispanic_HHs_Ind..
P164_Demand_In..
P26_Demand_Ind..
Store_Format
Total_Selling_Area
Exclusive Variables
DATAWORKING_LIN..
DATAWORKING_NE..
date_11
date_date9
date_datetime16
date_ddmmyy6
date_monyy5
date_yymmdd8
miss_acv
Verification Results
Variable
Type
Typecast
Selected
ACV
Numeric
False
True
Chiller_f
Numeric
False
True
Date
Numeric
False
True
HHs_55
Numeric
False
True
HHs_Inc
Numeric
False
True
Hispanic
Numeric
False
True
P164_D
Numeric
False
True
New Dataset name:
Dataworking Append
Verify
Append
History
Report Name
Base Dataset
Delete

FIG. 5

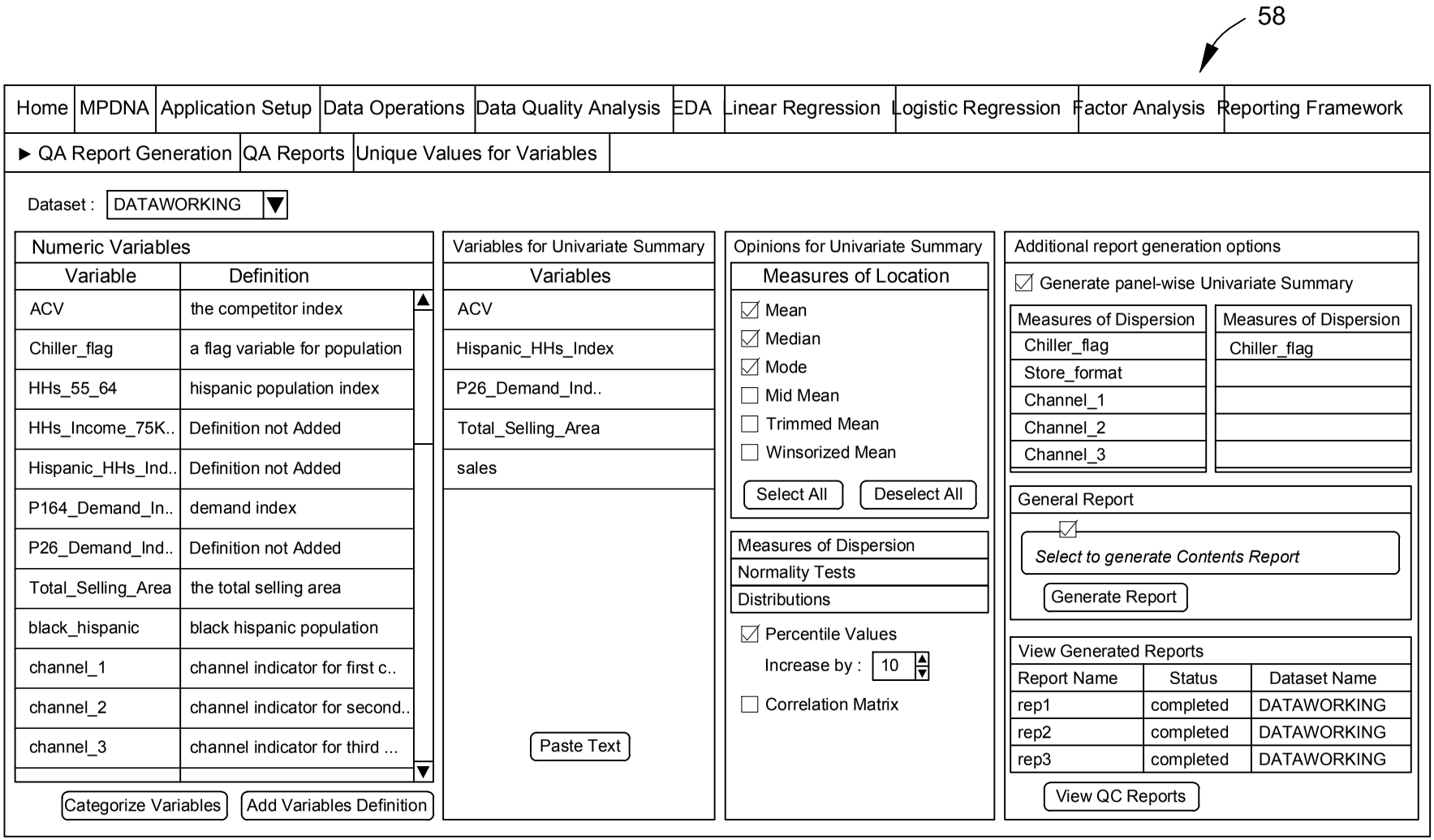

58
Home
MPDNA
Application Setup
Data Operations
Data Quality Analysis
EDA
Linear Regression
Logistic Regression
Factor Analysis
Reporting Framework
► QA Report Generation
QA Reports
Unique Values for Variables
Dataset : DATAWORKING
Numeric Variables
Variable
Definition
ACV
the competitor index
Chiller_flag
a flag variable for population
HHs_55_64
hispanic population index
HHs_Income_75K..
Definition not Added
Hispanic_HHs_Ind..
Definition not Added
P164_Demand_In..
demand index
P26_Demand_Ind..
Definition not Added
Total_Selling_Area
the total selling area
black_hispanic
black hispanic population
channel_1
channel indicator for first c..
channel_2
channel indicator for second..
channel_3
channel indicator for third ...
Categorize Variables
Add Variables Definition
Variables for Univariate Summary
Variables
ACV
Hispanic_HHs_Index
P26_Demand_Ind..
Total_Selling_Area
sales
Paste Text
Opinions for Univariate Summary
Measures of Location
Mean
Median
Mode
Mid Mean
Trimmed Mean
Winsorized Mean
Select All
Deselect All
Measures of Dispersion
Normality Tests
Distributions
Percentile Values
Increase by : 10
Correlation Matrix
Additional report generation options
Generate panel-wise Univariate Summary
Measures of Dispersion
Chiller_flag
Store_format
Channel_1
Channel_2
Channel_3
Measures of Dispersion
Chiller_flag
General Report
Select to generate Contents Report
Generate Report
View Generated Reports
Report Name
Status
Dataset Name
rep1
completed
DATAWORKING
rep2
completed
DATAWORKING
rep3
completed
DATAWORKING
View QC Reports

FIG. 6

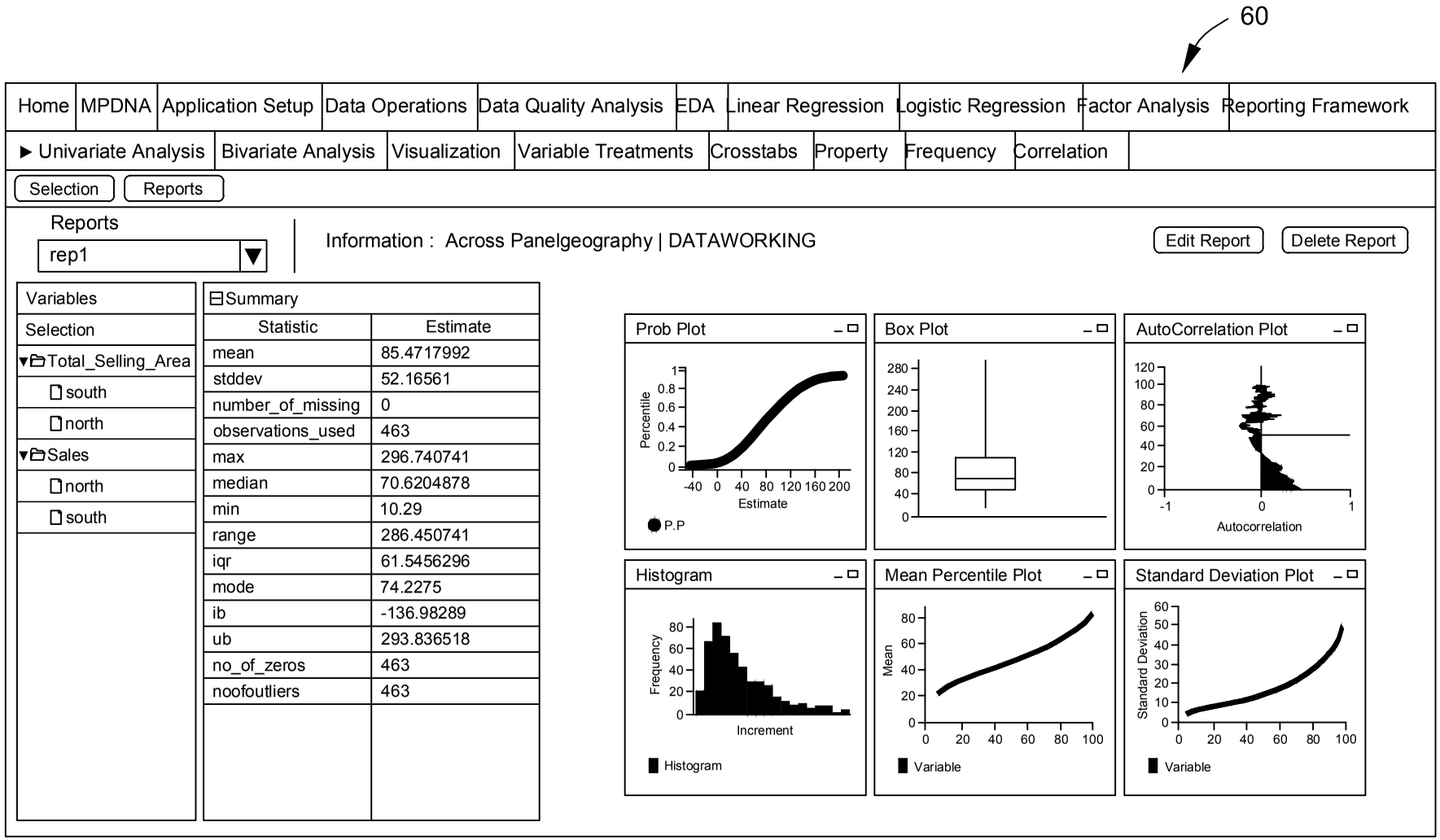

60
Home
MPDNA
Application Setup
Data Operations
Data Quality Analysis
EDA
Linear Regression
Logistic Regression
Factor Analysis
Reporting Framework
► Univariate Analysis
Bivariate Analysis
Visualization
Variable Treatments
Crosstabs
Property
Frequency
Correlation
Selection
Reports
Reports
rep1
Information : Across Panelgeography | DATAWORKING
Edit Report
Delete Report
Variables
Selection
▾ Total_Selling_Area
south
north
▾ Sales
north
south
Summary
Statistic
Estimate
mean 85.4717992
stddev 52.16561
number_of_missing 0
observations_used 463
max 296.740741
median 70.6204878
min 10.29
range 286.450741
iqr 61.5456296
mode 74.2275
ib -136.98289
ub 293.836518
no_of_zeros 463
noofoutliers 463
Prob Plot
Percentile
Estimate
P.P
Box Plot
AutoCorrelation Plot
Autocorrelation
Histogram
Frequency
Increment
Histogram
Mean Percentile Plot
Mean
Variable
Standard Deviation Plot
Standard Deviation
Variable

FIG. 7

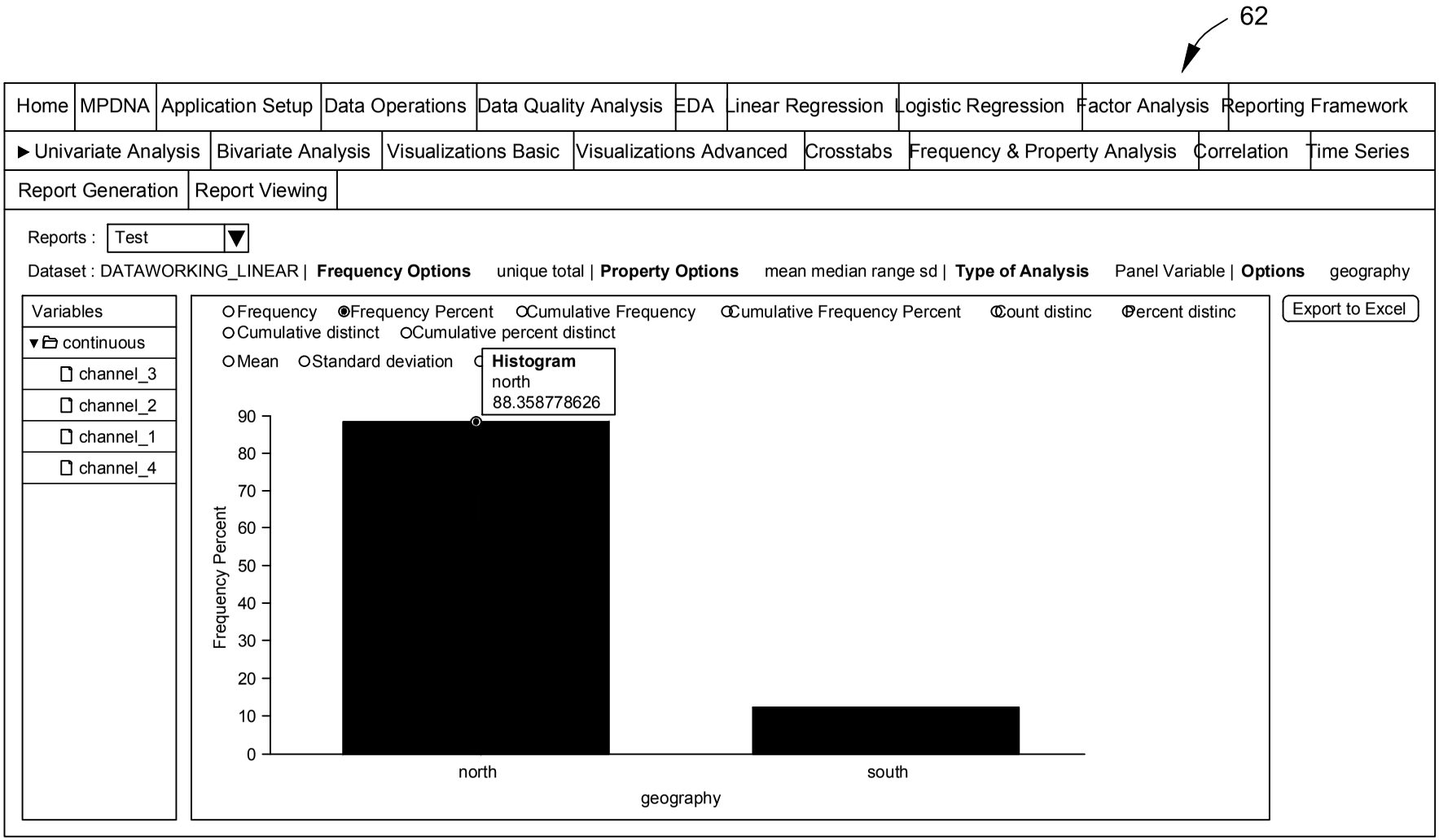

62
Home
MPDNA
Application Setup
Data Operations
Data Quality Analysis
EDA
Linear Regression
Logistic Regression
Factor Analysis
Reporting Framework
▶ Univariate Analysis
Bivariate Analysis
Visualizations Basic
Visualizations Advanced
Crosstabs
Frequency & Property Analysis
Correlation
Time Series
Report Generation
Report Viewing
Reports : Test
Dataset : DATAWORKING_LINEAR | Frequency Options unique total | Property Options mean median range sd | Type of Analysis Panel Variable | Options geography
Variables
continuous
channel_3
channel_2
channel_1
channel_4
Frequency
Frequency Percent
Cumulative Frequency
Cumulative Frequency Percent
Count distinc
Percent distinc
Cumulative distinct
Cumulative percent distinct
Mean
Standard deviation
Histogram
north
88.358778626
Export to Excel
Frequency Percent
90
80
70
60
50
40
30
20
10
0
north
south
geography

FIG. 8

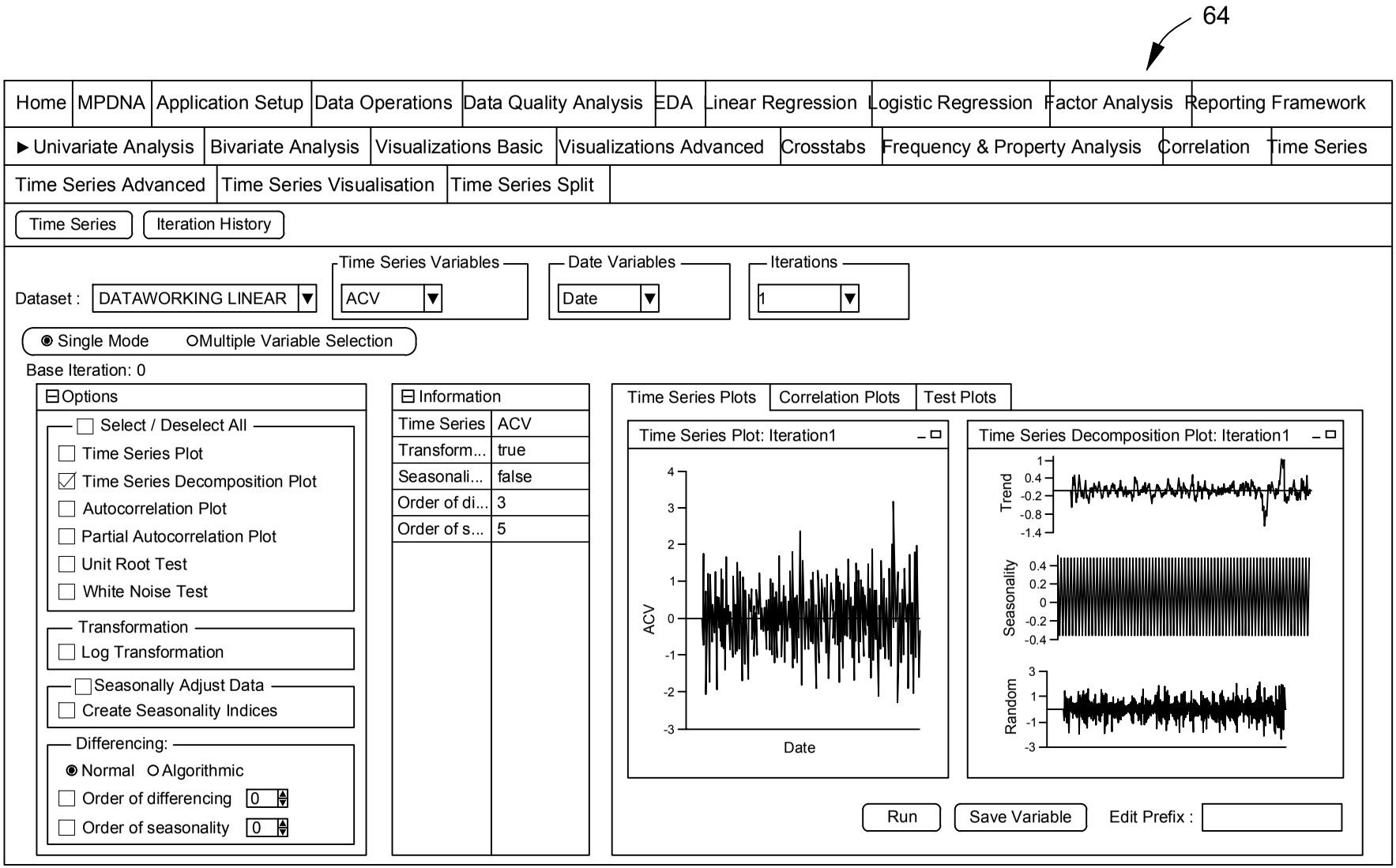

64
Home
MPDNA
Application Setup
Data Operations
Data Quality Analysis
EDA
Linear Regression
Logistic Regression
Factor Analysis
Reporting Framework
▶ Univariate Analysis
Bivariate Analysis
Visualizations Basic
Visualizations Advanced
Crosstabs
Frequency & Property Analysis
Correlation
Time Series
Time Series Advanced
Time Series Visualisation
Time Series Split
Time Series
Iteration History
Dataset :
DATAWORKING LINEAR
Time Series Variables
ACV
Date Variables
Date
Iterations
1
Single Mode
Multiple Variable Selection
Base Iteration: 0
Options
Select / Deselect All
Time Series Plot
Time Series Decomposition Plot
Autocorrelation Plot
Partial Autocorrelation Plot
Unit Root Test
White Noise Test
Transformation
Log Transformation
Seasonally Adjust Data
Create Seasonality Indices
Differencing:
Normal
Algorithmic
Order of differencing
0
Order of seasonality
0
Information
Time Series
ACV
Transform...
true
Seasonali...
false
Order of di...
3
Order of s...
5
Time Series Plots
Correlation Plots
Test Plots
Time Series Plot: Iteration1
ACV
Date
Time Series Decomposition Plot: Iteration1
Trend
Seasonality
Random
Run
Save Variable
Edit Prefix :

FIG. 9

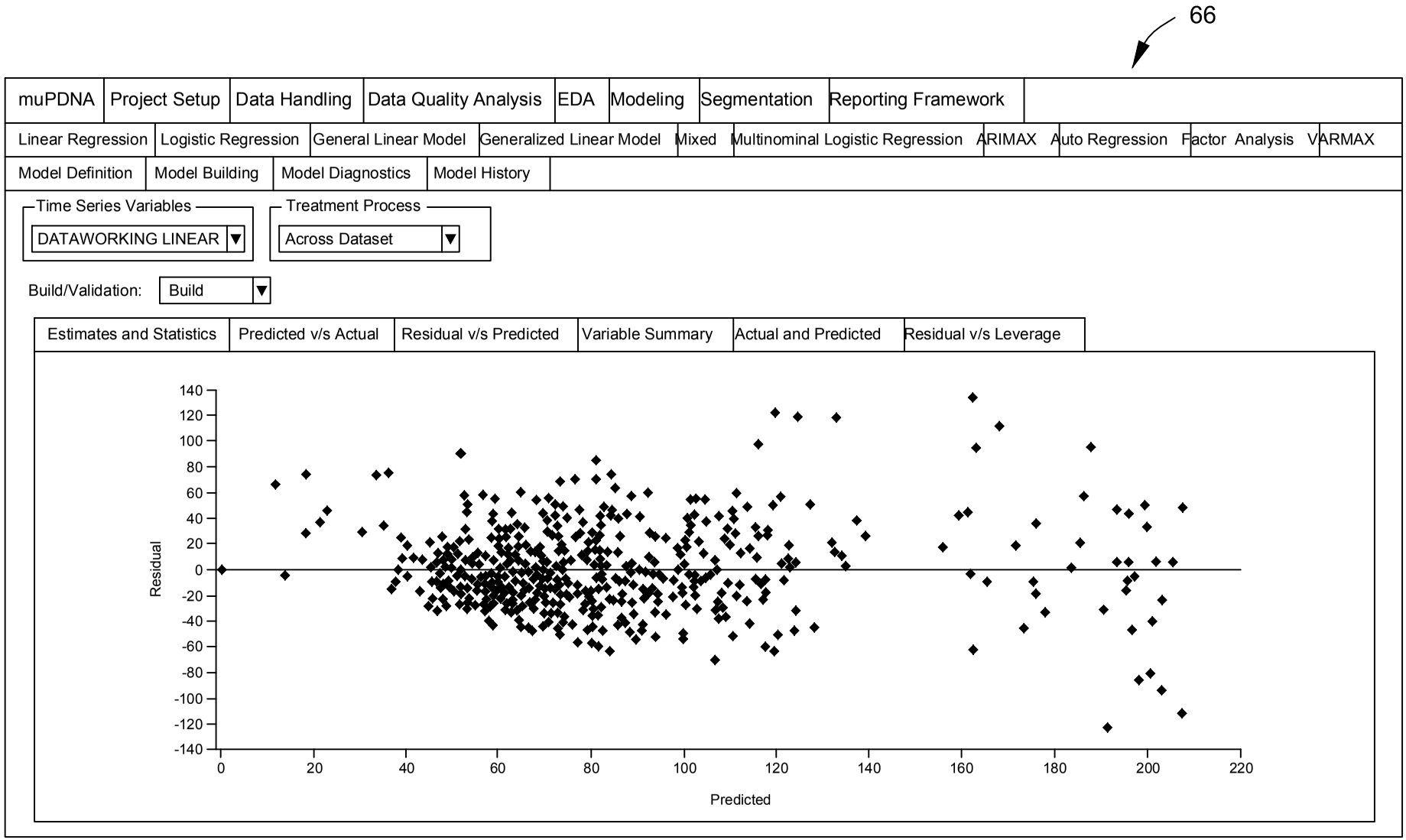

66
muPDNA
Project Setup
Data Handling
Data Quality Analysis
EDA
Modeling
Segmentation
Reporting Framework
Linear Regression
Logistic Regression
General Linear Model
Generalized Linear Model
Mixed
Multinominal Logistic Regression
ARIMAX
Auto Regression
Factor Analysis
VARMAX
Model Definition
Model Building
Model Diagnostics
Model History
Time Series Variables
DATAWORKING LINEAR
Treatment Process
Across Dataset
Build/Validation:
Build
Estimates and Statistics
Predicted v/s Actual
Residual v/s Predicted
Variable Summary
Actual and Predicted
Residual v/s Leverage
Residual
Predicted
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
-140
0
20
40
60
80
100
120
140
160
180
200
220

FIG. 10

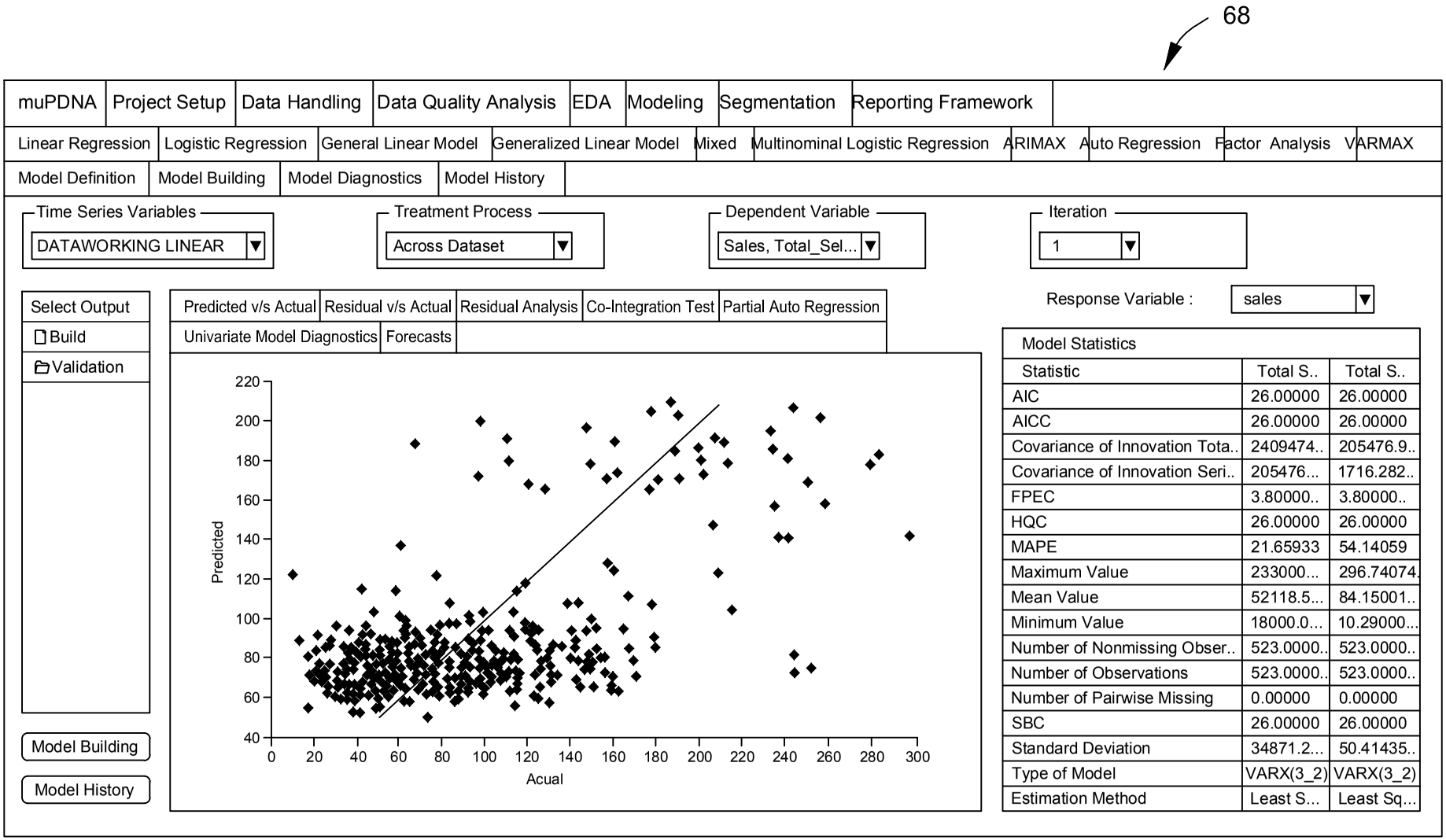
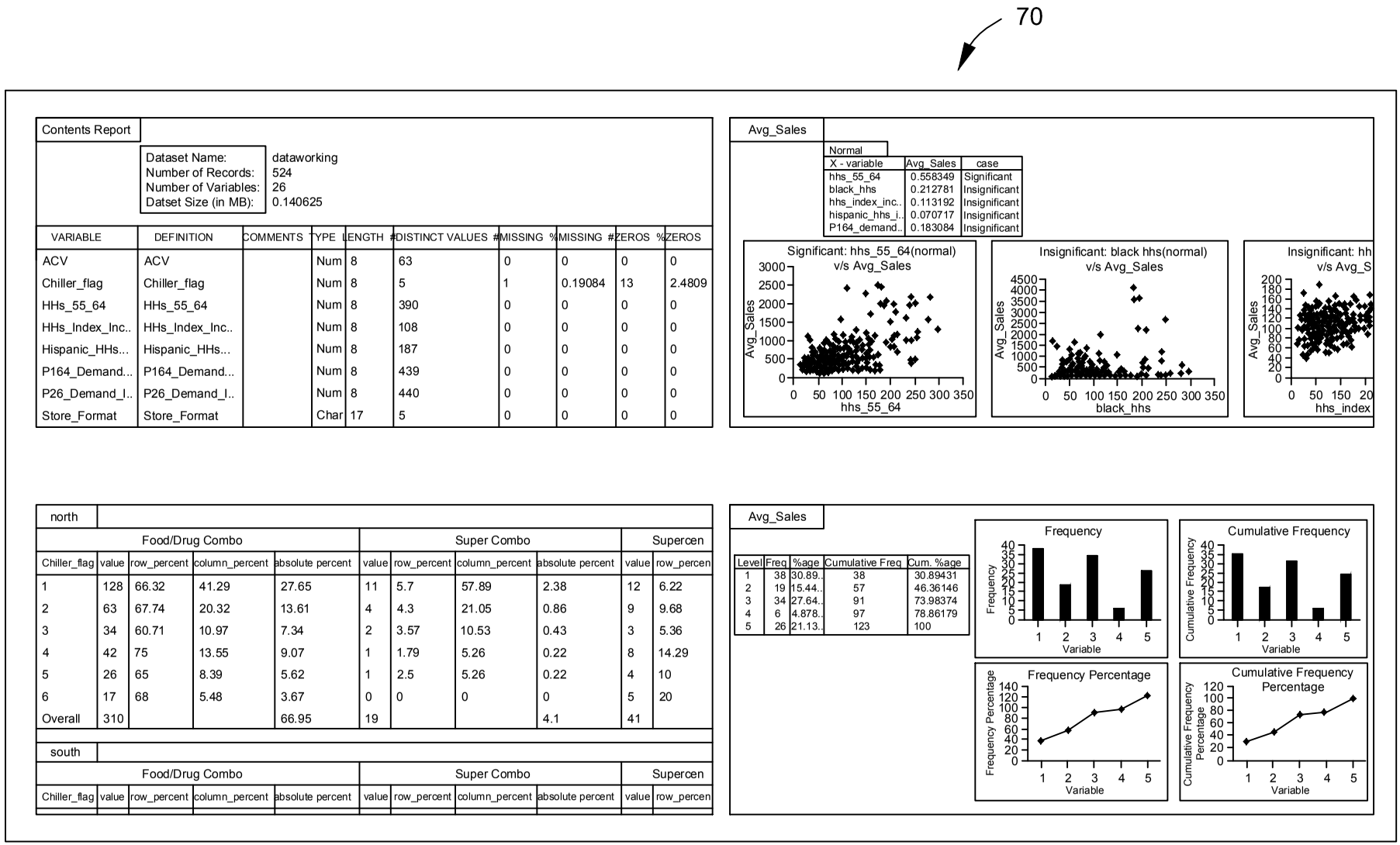

68
muPDNA
Project Setup
Data Handling
Data Quality Analysis
EDA
Modeling
Segmentation
Reporting Framework
Linear Regression
Logistic Regression
General Linear Model
Generalized Linear Model
Mixed
Multinominal Logistic Regression
ARIMAX
Auto Regression
Factor Analysis
VARMAX
Model Definition
Model Building
Model Diagnostics
Model History
Time Series Variables
DATAWORKING LINEAR
Treatment Process
Across Dataset
Dependent Variable
Sales, Total_Sel...
Iteration
1
Select Output
Build
Validation
Model Building
Model History
Predicted v/s Actual
Residual v/s Actual
Residual Analysis
Co-Integration Test
Partial Auto Regression
Univariate Model Diagnostics
Forecasts
Predicted
Acual
Response Variable :
sales
Model Statistics
Statistic | Total S.. | Total S..
AIC | 26.00000 | 26.00000
AICC | 26.00000 | 26.00000
Covariance of Innovation Tota.. | 2409474.. | 205476.9..
Covariance of Innovation Seri.. | 205476... | 1716.282..
FPEC | 3.80000.. | 3.80000..
HQC | 26.00000 | 26.00000
MAPE | 21.65933 | 54.14059
Maximum Value | 233000... | 296.74074.
Mean Value | 52118.5... | 84.15001..
Minimum Value | 18000.0... | 10.29000...
Number of Nonmissing Obser.. | 523.0000.. | 523.0000..
Number of Observations | 523.0000.. | 523.0000..
Number of Pairwise Missing | 0.00000 | 0.00000
SBC | 26.00000 | 26.00000
Standard Deviation | 34871.2... | 50.41435..
Type of Model | VARX(3_2) | VARX(3_2)
Estimation Method | Least S... | Least Sq...

FIG. 11



Contents Report

Dataset Name:	dataworking
Number of Records:	524
Number of Variables:	26
Datset Size (in MB):	0.140625

VARIABLE	DEFINITION	COMMENTS	TYPE	LENGTH	#DISTINCT VALUES	#MISSING	%MISSING	#ZEROS	%ZEROS
ACV	ACV		Num	8	63	0	0	0	0
Chiller_flag	Chiller_flag		Num	8	5	1	0.19084	13	2.4809
HHs_55_64	HHs_55_64		Num	8	390	0	0	0	0
HHs_Index_Inc..	HHs_Index_Inc..		Num	8	108	0	0	0	0
Hispanic_HHs...	Hispanic_HHs...		Num	8	187	0	0	0	0
P164_Demand...	P164_Demand...		Num	8	439	0	0	0	0
P26_Demand_I..	P26_Demand_I..		Num	8	440	0	0	0	0
Store_Format	Store_Format		Char	17	5	0	0	0	0

Avg_Sales

Normal

X - variable	Avg_Sales	case
hhs_55_64	0.558349	Significant
black_hhs	0.212781	Insignificant
hhs_index_inc..	0.113192	Insignificant
hispanic_hhs_i..	0.070717	Insignificant
P164_demand..	0.183084	Insignificant

north

Food/Drug Combo					Super Combo				Supercen	
Chiller_flag	value	row_percent	column_percent	absolute percent	value	row_percent	column_percent	absolute percent	value	row_percen
1	128	66.32	41.29	27.65	11	5.7	57.89	2.38	12	6.22
2	63	67.74	20.32	13.61	4	4.3	21.05	0.86	9	9.68
3	34	60.71	10.97	7.34	2	3.57	10.53	0.43	3	5.36
4	42	75	13.55	9.07	1	1.79	5.26	0.22	8	14.29
5	26	65	8.39	5.62	1	2.5	5.26	0.22	4	10
6	17	68	5.48	3.67	0	0	0	0	5	20
Overall	310			66.95	19			4.1	41	

south

Food/Drug Combo					Super Combo				Supercen	
Chiller_flag	value	row_percent	column_percent	absolute percent	value	row_percent	column_percent	absolute percent	value	row_percen

Avg_Sales

Level	Freq	%age	Cumulative Freq	Cum. %age
1	38	30.89..	38	30.89431
2	19	15.44..	57	46.36146
3	34	27.64..	91	73.98374
4	6	4.878..	97	78.86179
5	26	21.13..	123	100

FIG. 12