



Target Dynamic Profile
Webinar on November 13, 2019



import, n. significance, force; importat
INGRESS, MEANING.

IMPORTANCE.—I. *Nouns.* **important**
consideration, mark; weight, ponde
concern, emphasis, interest, standing
fulness; greatness; superiority, not

What is Importance?

Webinar on August 28, 2019

bayesia.com/2019-08-28-what-is-importance

Today's Agenda

Quick Recap: Webinar on August 28, 2019

- What is importance?
- How can we quantify importance?

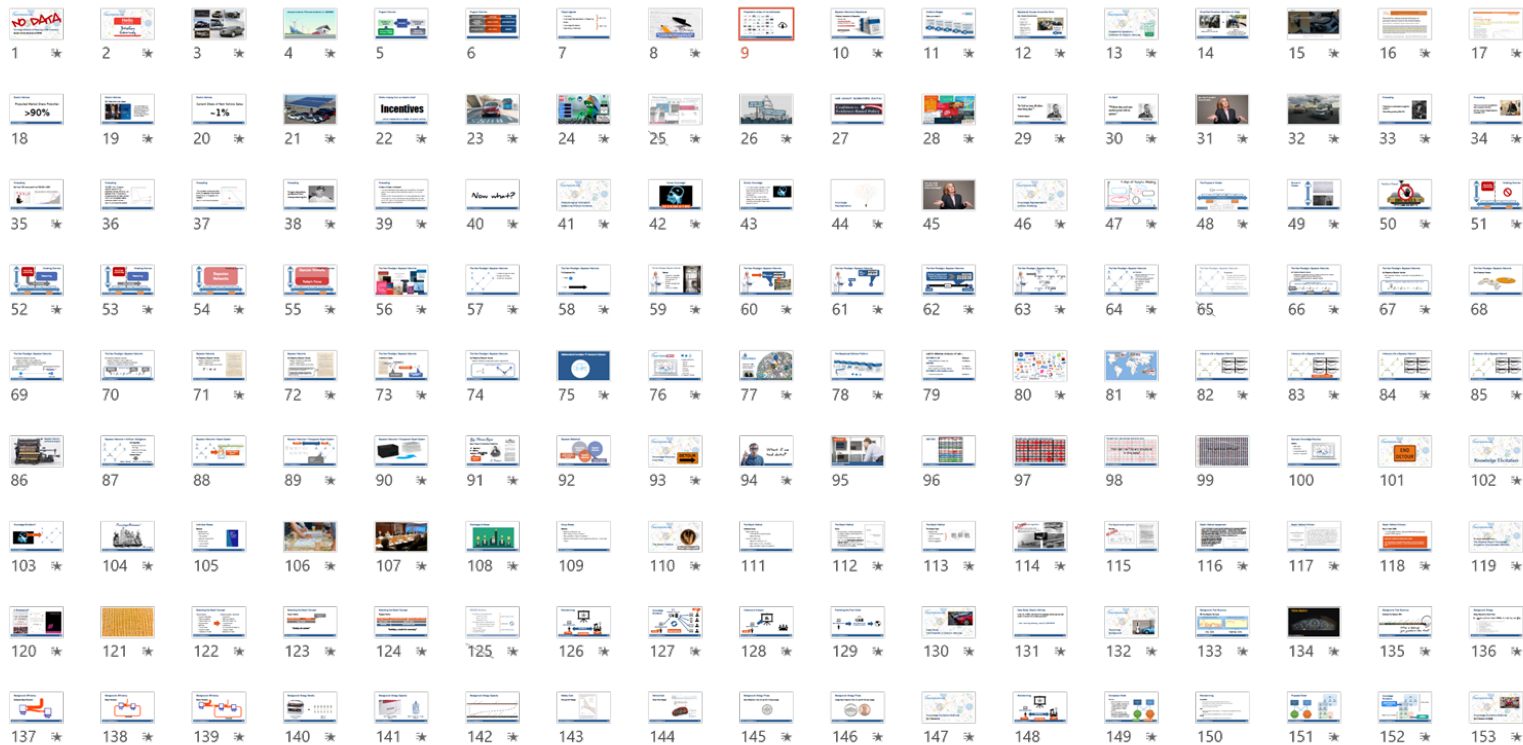
Today's New Objectives

- What do we need to do?
- What is the best course of action?

Example

- Key drivers analysis of auto buyer satisfaction
- Prioritizing product improvements

Slides, network, and recording will be available





99

Customer Satisfaction Study

Vehicle Segment Under Study: 2009 Midsize Sedans

- Chevrolet Malibu
- Honda Accord
- Nissan Altima
- Toyota Camry
- Mazda6
- Hyundai Sonata



Customer Satisfaction Study

Strategic Vision NVES™

- 200,000+ records
- 1,000+ variables

| |
|-----------------------------|
| 9.5 - Completely Satisfied |
| 7.5 - Very Satisfied |
| 5.5 - Fairly Well Satisfied |
| 3.5 - Somewhat Dissatisfied |
| 1.5 - Very Dissatisfied |



2009 NEW VEHICLE
EXPERIENCE STUDY™

5A

(Mailing date / Recipient ID / Vehicle description)

STRATEGIC VISION
 P.O. Box 1270 • Maumee, OH 43537

Please have the person who drives this vehicle the most fill out this questionnaire.

Check **ONE** box in the list below to designate your selected national charity:

| | | |
|---|--|---|
| <input type="checkbox"/> Alzheimer's Association | <input type="checkbox"/> The Breast Cancer Fund | <input type="checkbox"/> Mothers Against Drunk Driving (MADD) |
| <input type="checkbox"/> American Cancer Society | <input type="checkbox"/> Epilepsy Foundation | <input type="checkbox"/> Other (specify national charity) _____ |
| <input type="checkbox"/> American Heart Association | <input type="checkbox"/> March of Dimes Birth Defects Foundation | |

NOTE: Please use a pencil or any dark color ball point pen to register your answers, keeping your marks INSIDE the boxes.

Correct marks:
Correct numbers: 215

About your new vehicle . . .

1. How would you rate your **OVERALL SATISFACTION** with your new vehicle ? (*"X" one box*)
 Completely satisfied Very satisfied Fairly well satisfied Somewhat dissatisfied Very dissatisfied
2. Overall, how would you judge the initial quality of your new vehicle ?
 Excellent Very good Good Fair Poor
3. Would you recommend your new vehicle to a friend or relative ? Definitely Probably No, I would not
4. How do you feel about _____
 I feel a definite emotional connection to my new vehicle I feel some emotional connection to my new vehicle I feel no emotional connection to my new vehicle
5. Overall, how would you judge your experience with your new vehicle ? (*"X" one box*)
 Delightful Excellent Satisfactory Unsatisfactory A failure
6. Everything considered, how likely are you in the future to purchase or lease another new vehicle made by the same manufacturer ? Definitely will Probably will Don't know Probably will not Definitely will not
7. How would you describe the percentage of your involvement _____
 More than half About half Less than half
8. What type of transmission does this vehicle have ? Automatic Manual
9. What series (trim level) is this vehicle (examples: Base, GT, GS, Limited, LS, LT, SE, XL, etc.) ? _____
10. Which of the following features do you have on this new vehicle ? (*"X" as many as apply*)

| | | | | |
|---|---|--|--|--|
| <input type="checkbox"/> Anti-lock brakes | <input type="checkbox"/> Heated/cooled seats | <input type="checkbox"/> Multiple-disc CD player | <input type="checkbox"/> Power driver seat | <input type="checkbox"/> Reverse object sensing |
| <input type="checkbox"/> Automatic temperature control | <input type="checkbox"/> High wattage premium audio | <input type="checkbox"/> Navigation system | <input type="checkbox"/> Power moonroof | <input type="checkbox"/> Satellite radio |
| <input type="checkbox"/> Collision avoidance cruise control | <input type="checkbox"/> Keyless access/start | <input type="checkbox"/> Optional air bags (side impact, side curtain, etc.) | <input type="checkbox"/> Power passenger seat | <input type="checkbox"/> Separate passenger/driver climate control |
| <input type="checkbox"/> DVD entertainment system | <input type="checkbox"/> Leather seats | <input type="checkbox"/> Power adjustable pedals | <input type="checkbox"/> Premium wheels/tires | <input type="checkbox"/> Stability control |
| | <input type="checkbox"/> MP3/other digital audio | | <input type="checkbox"/> Rear seat - split/folding | <input type="checkbox"/> Traction control |
| | | | <input type="checkbox"/> Remote start | |

• **IF your new vehicle is an SUV, a MINIVAN or a FULL SIZE VAN:**

10 a. Which of the following features do you have on your new SUV/van ? (*"X" as many as apply*)
 Air suspension Power liftgate Power sliding doors Running boards Third row seating Trailer hitch receiver

10 b. Is your van a 'conversion' van (e.g., Bivouac, Starcraft, etc.) ? Yes No

• **IF your new vehicle is a PICKUP TRUCK:**

10 c. Which of the following features do you have on your new pickup truck ? (*"X" as many as apply*)
 Long bed (over 7 feet) Bed extender Long wheelbase Limited slip rear axle

11. What feature(s) **NOT** on this vehicle would you like to have on your **next** new vehicle ? (e.g. heated seats, run-flat tires, etc.) _____

Feature 1 _____
Feature 2 _____

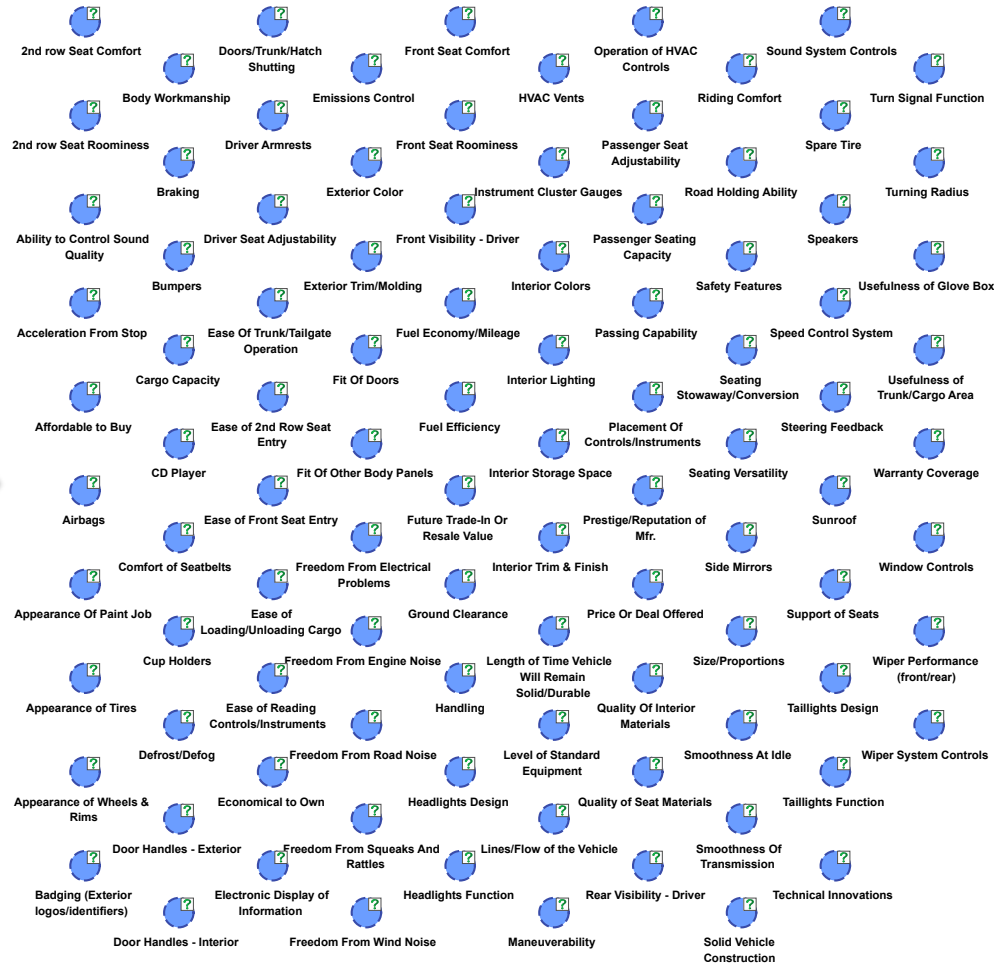
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Customer Satisfaction

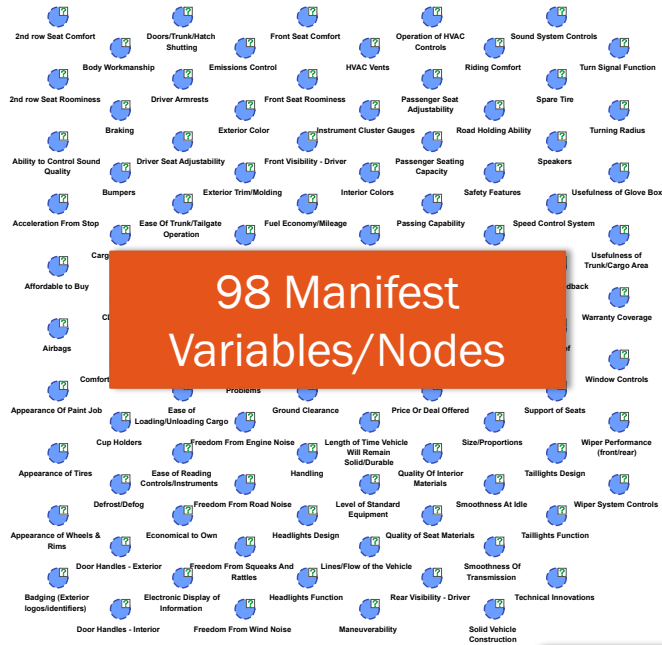


Overall New Vehicle Experience

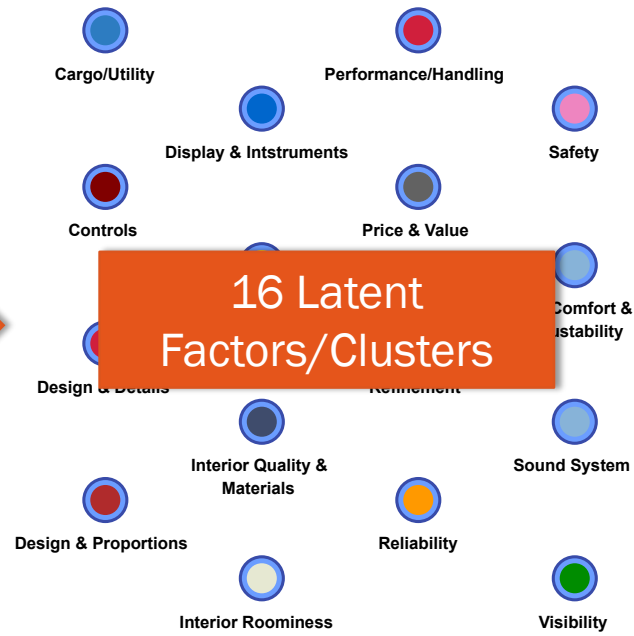
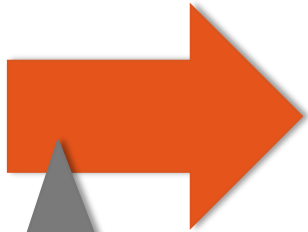


Customer Satisfaction Study

Preparation: Factor Analysis



98 Manifest Variables/Nodes



16 Latent Factors/Clusters

bayesia.com/seminar-key-drivers-analysis

Customer Satisfaction Study

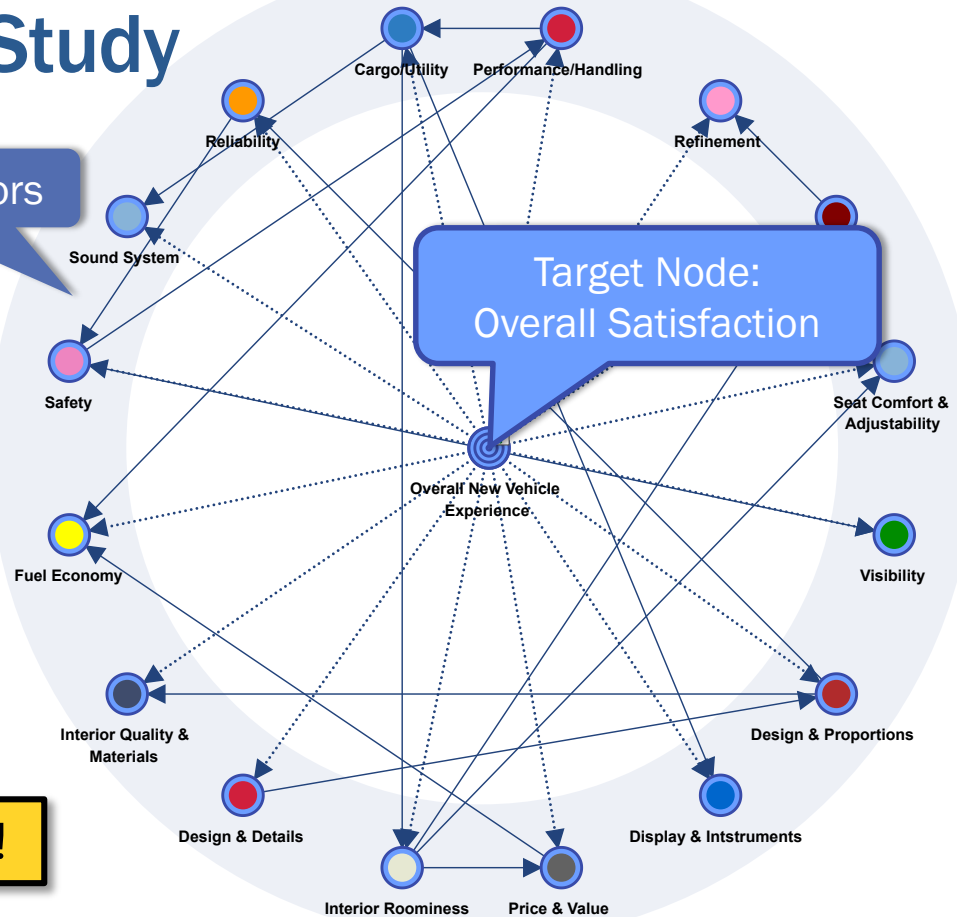
Starting Point

- Machine-learned model
- 16 Latent Factors
- 1 Target Node



Observational Inference Only!

16 Latent Factors



Target Node:
Overall Satisfaction

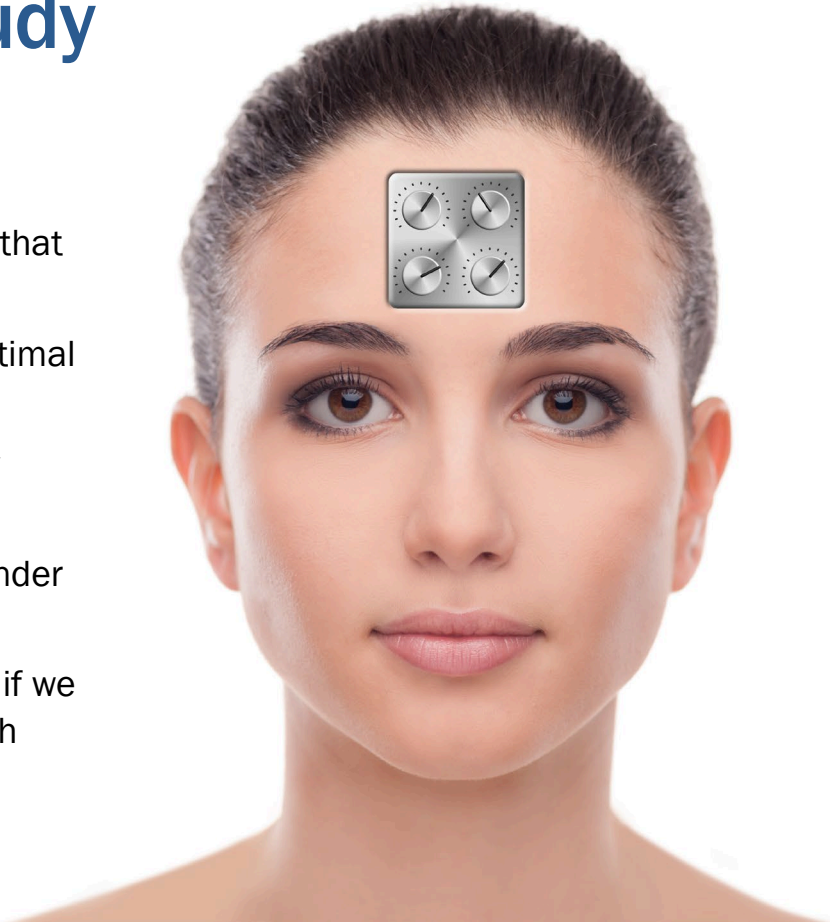
Overall New Vehicle
Experience

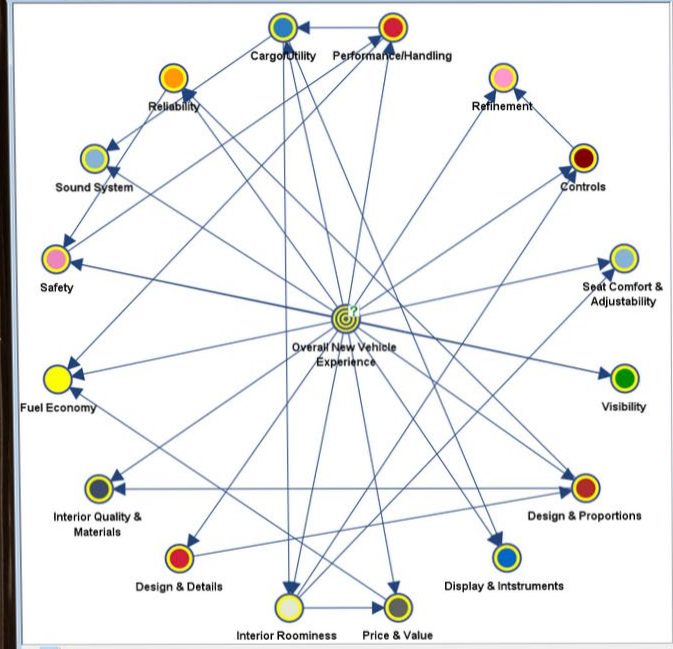
Customer Satisfaction Study

Observational Inference

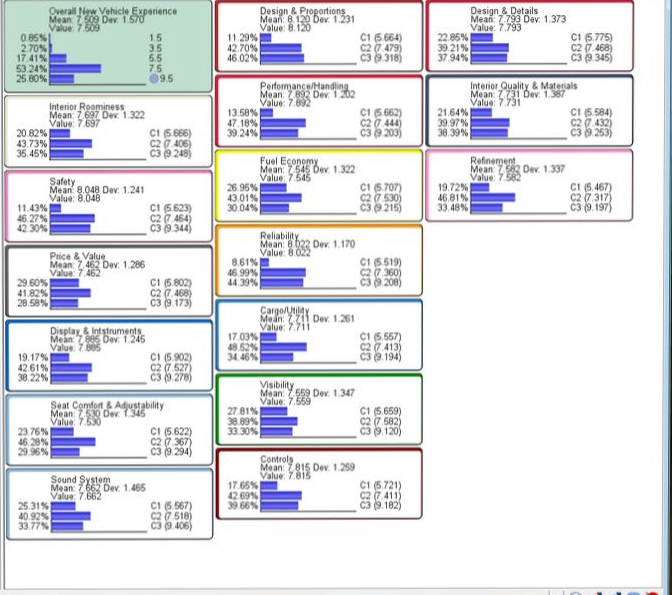


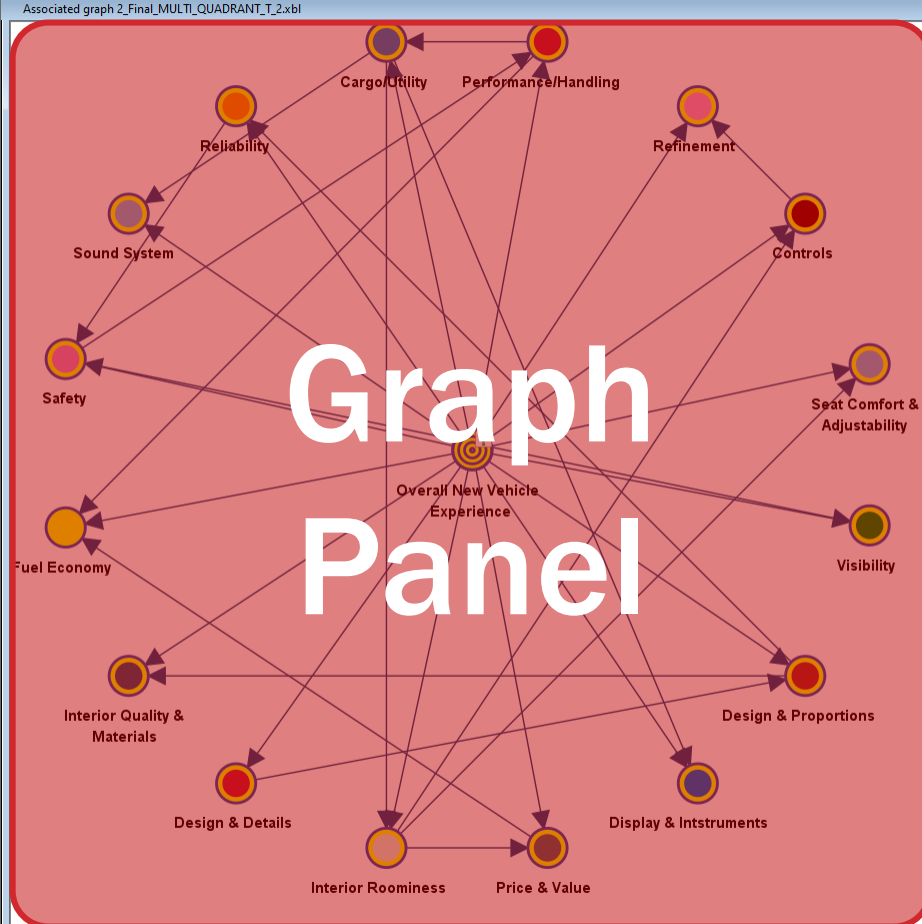
- We have a machine-learned model, which means that we can only perform observational inference.
- Isn't that a problem as we try to determine our optimal actions for improving customer satisfaction?
- Not necessarily. As it turns out, we cannot directly manipulate consumer opinion in a causal sense.
- Rather, we can only predict what would happen under hypothetical conditions, such as:
 - “What would be the **Overall Satisfaction** if we were to observe a higher satisfaction with **Performance**?”



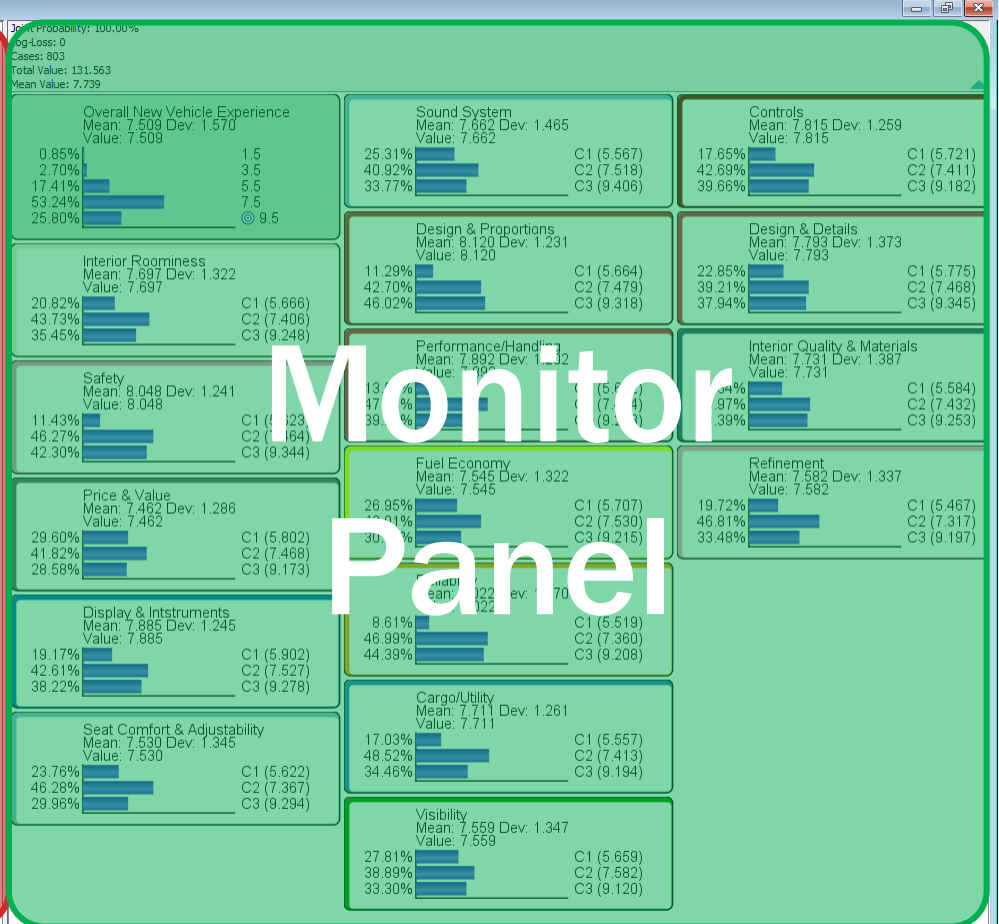


Joint Probability: 100.00%
 Log-Loss: 0
 Cases: 803
 Total Value: 131,563
 Mean Value: 7.739

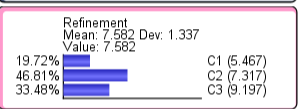
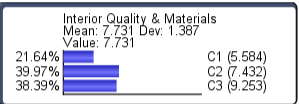
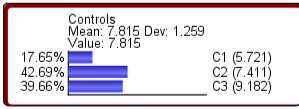
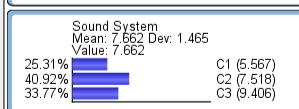
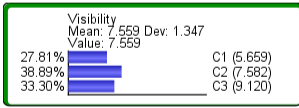
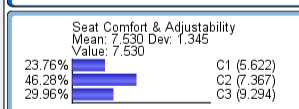
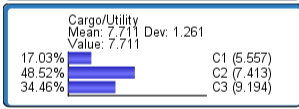
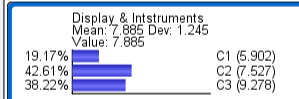
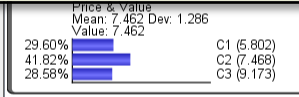
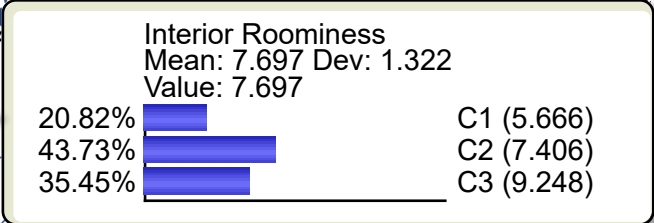
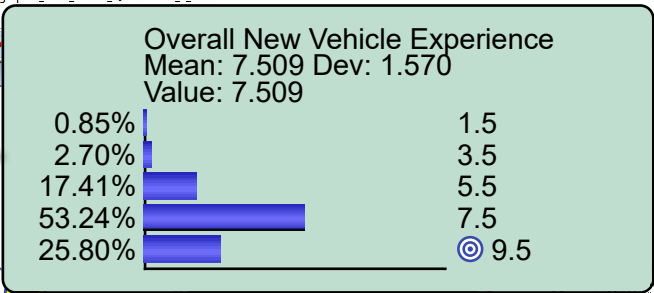
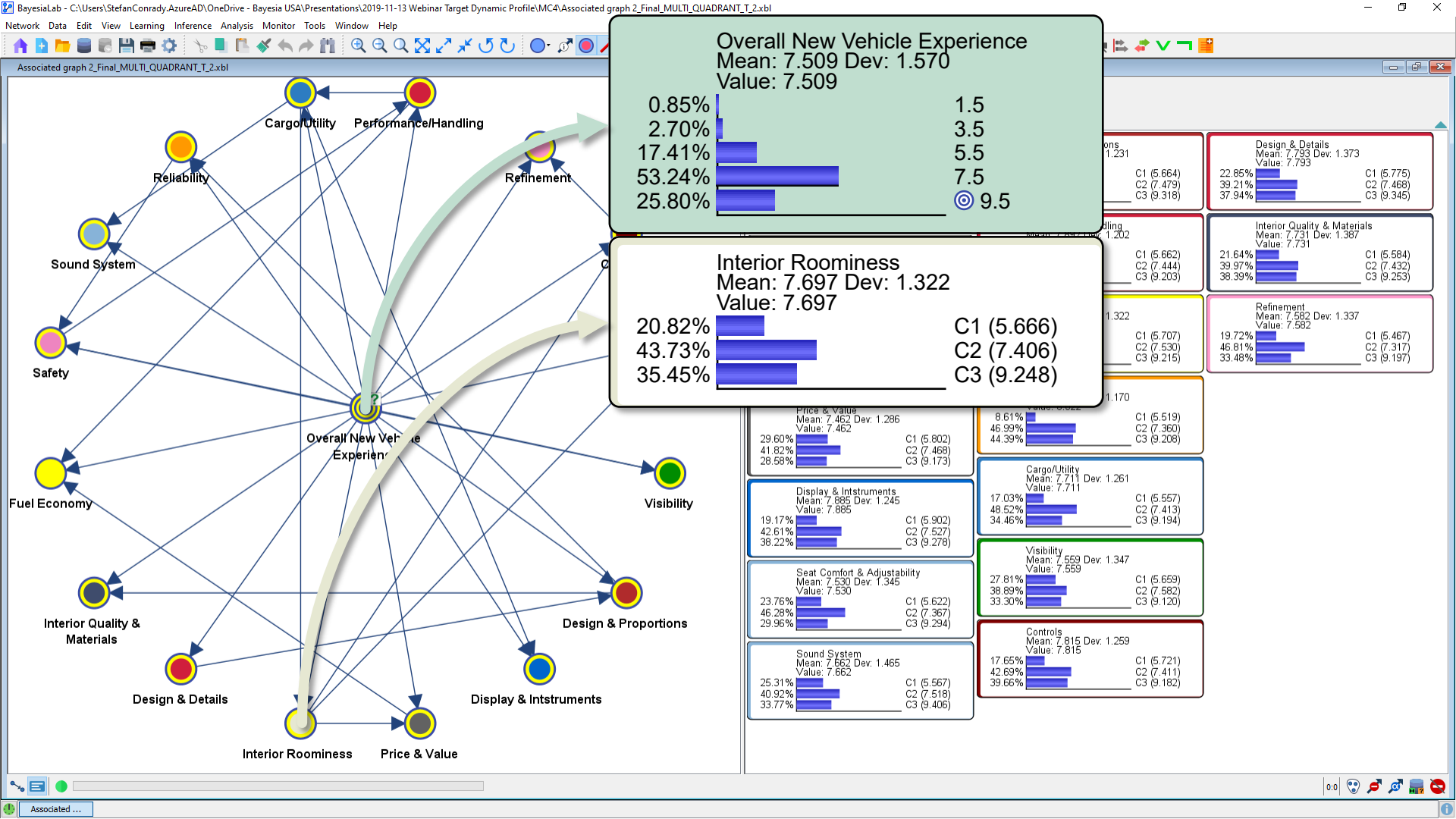


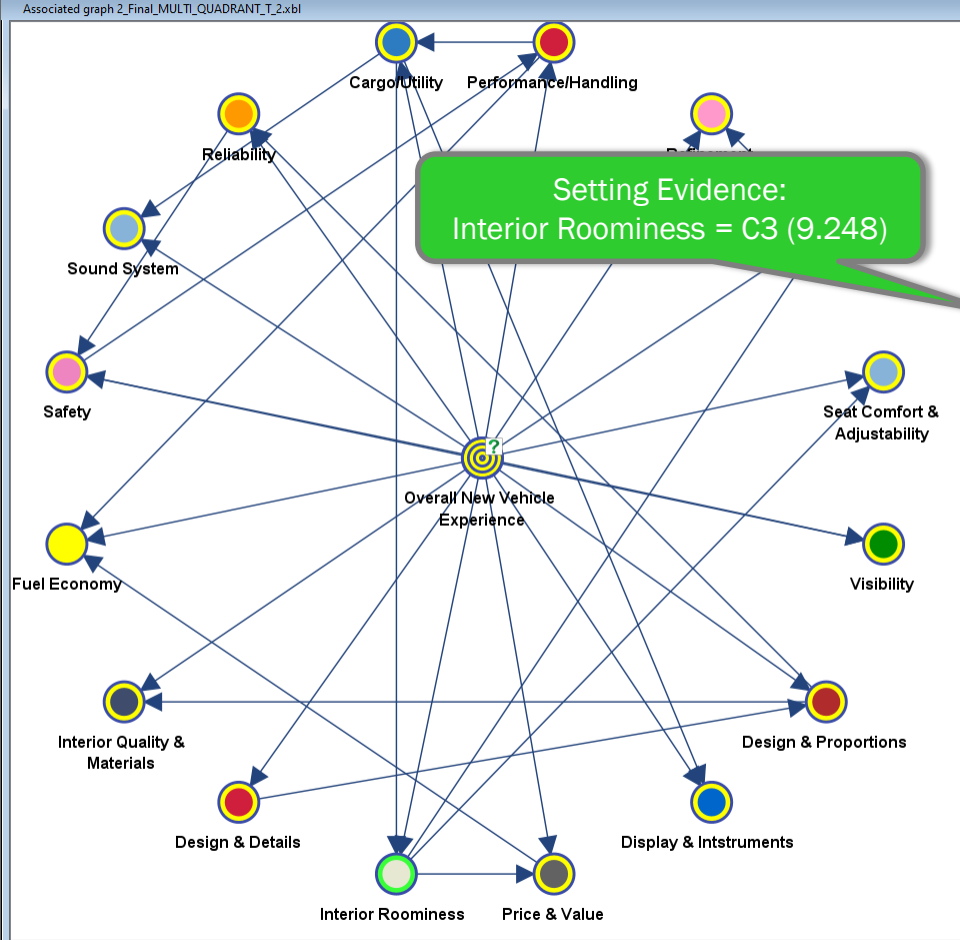


Graph Panel



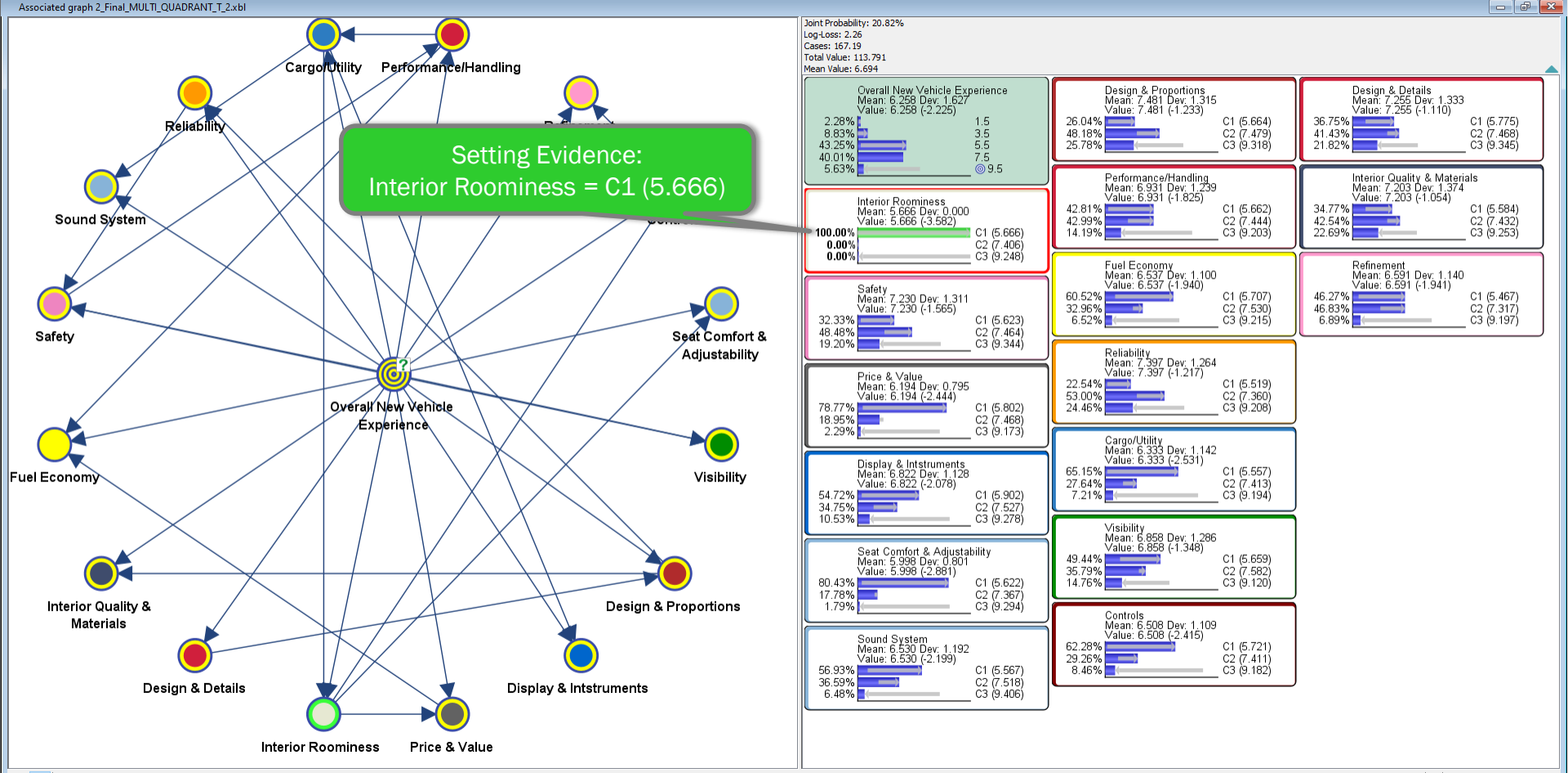
Monitor Panel





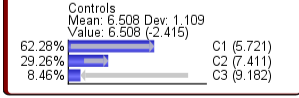
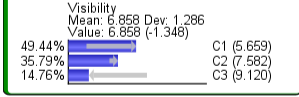
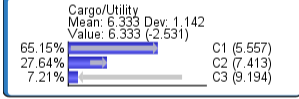
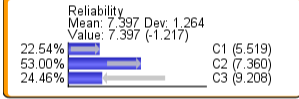
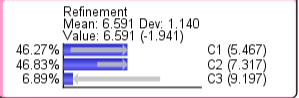
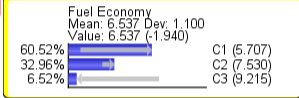
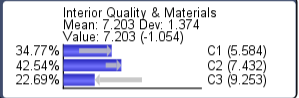
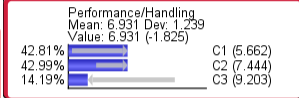
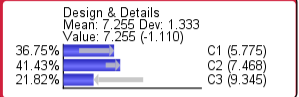
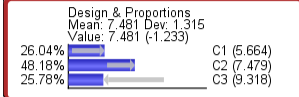
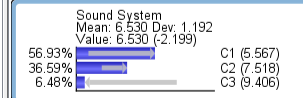
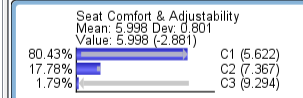
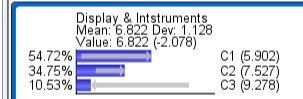
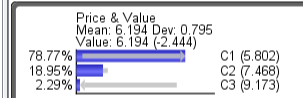
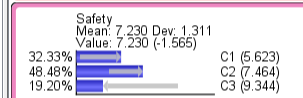
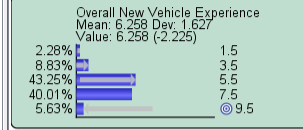
Joint Probability: 35.45%
 Log-Loss: 1.5
 Cases: 284.67
 Total Value: 147.379
 Mean Value: 8.669

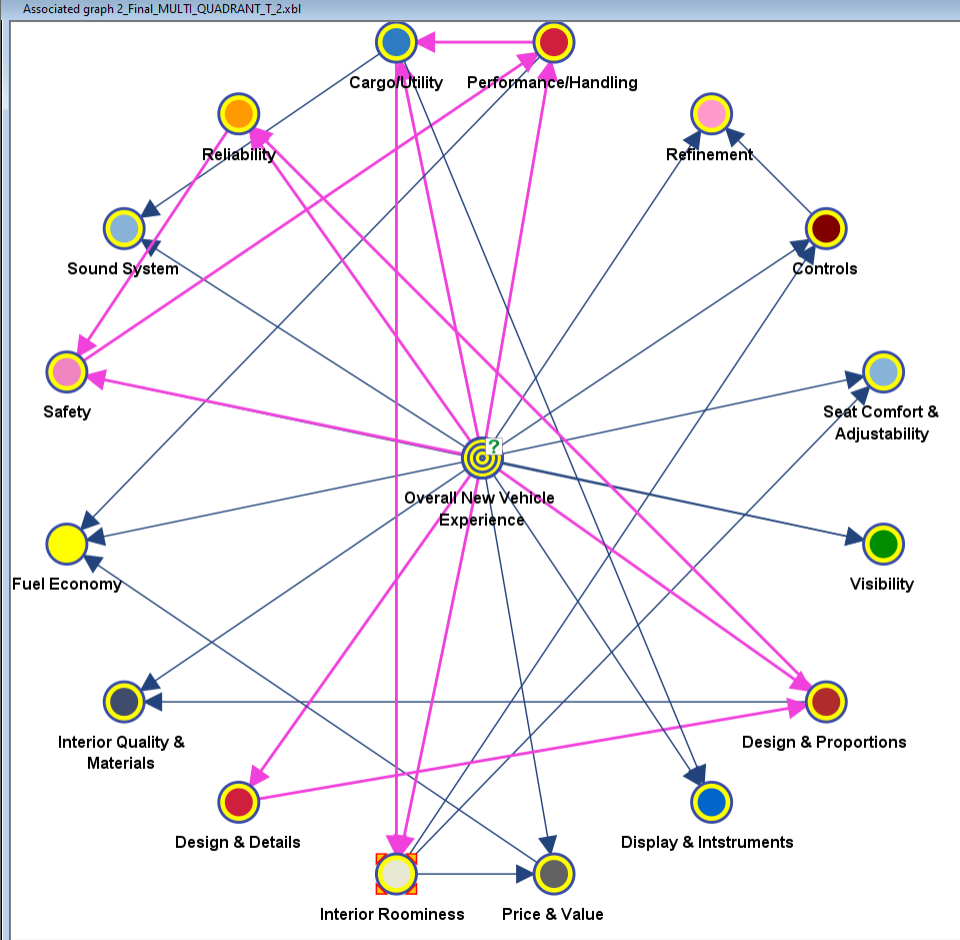
| | | |
|--|--|---|
| Overall New Vehicle Experience Mean: 8.483 Dev: 1.321 Value: 8.483 (+0.974) 1.05% C1 (5.666) 0.00% C2 (7.406) 40.62% C3 (9.248) | Design & Proportions Mean: 8.713 Dev: 0.957 Value: 8.713 (+0.593) 2.56% C1 (5.664) 27.80% C2 (7.479) 69.64% C3 (9.318) | Design & Details Mean: 8.365 Dev: 1.249 Value: 8.365 (+0.572) 11.25% C1 (5.775) 30.79% C2 (7.468) 57.95% C3 (9.345) |
| Interior Roominess Mean: 9.248 Dev: 0.000 Value: 9.248 (+1.551) 0.00% C1 (5.666) 0.00% C2 (7.406) 100.00% C3 (9.248) | Performance/Handling Mean: 8.756 Dev: 0.870 Value: 8.756 (+0.864) 2.68% C1 (5.662) 20.03% C2 (7.444) 77.29% C3 (9.203) | Interior Quality & Materials Mean: 8.257 Dev: 1.274 Value: 8.257 (+0.526) 11.81% C1 (5.684) 30.91% C2 (7.432) 57.28% C3 (9.253) |
| Safety Mean: 8.794 Dev: 0.964 Value: 8.794 (+0.746) 2.91% C1 (5.623) 23.45% C2 (7.464) 73.64% C3 (9.344) | Fuel Economy Mean: 8.477 Dev: 1.134 Value: 8.477 (+0.932) 9.17% C1 (5.707) 24.73% C2 (7.530) 66.11% C3 (9.215) | Refinement Mean: 8.532 Dev: 1.089 Value: 8.532 (+0.950) 5.49% C1 (5.467) 24.46% C2 (7.317) 70.05% C3 (9.197) |
| Price & Value Mean: 8.639 Dev: 0.936 Value: 8.639 (+1.177) 4.46% C1 (5.802) 22.51% C2 (7.468) 73.03% C3 (9.173) | Reliability Mean: 8.615 Dev: 0.942 Value: 8.615 (+0.593) 2.11% C1 (5.519) 27.91% C2 (7.360) 69.99% C3 (9.208) | |
| Display & Instruments Mean: 8.900 Dev: 0.856 Value: 8.900 (+1.015) 3.89% C1 (5.902) 14.13% C2 (7.527) 81.98% C3 (9.278) | Cargo/Utility Mean: 8.864 Dev: 0.755 Value: 8.864 (+1.153) 1.34% C1 (5.557) 15.80% C2 (7.413) 82.86% C3 (9.194) | |
| Seat Comfort & Adjustability Mean: 8.879 Dev: 0.926 Value: 8.879 (+1.349) 3.58% C1 (5.622) 14.73% C2 (7.367) 81.69% C3 (9.294) | Visibility Mean: 8.206 Dev: 1.199 Value: 8.206 (+0.647) 13.03% C1 (5.659) 30.09% C2 (7.552) 56.88% C3 (9.120) | |
| Sound System Mean: 8.725 Dev: 1.206 Value: 8.725 (+1.067) 8.48% C1 (5.567) 18.65% C2 (7.518) 72.87% C3 (9.406) | Controls Mean: 8.924 Dev: 0.691 Value: 8.924 (+1.109) 1.49% C1 (5.721) 11.66% C2 (7.411) 86.85% C3 (9.182) | |



Setting Evidence:
Interior Roominess = C1 (5.666)

Joint Probability: 20.82%
Log-Loss: 2.26
Cases: 167.19
Total Value: 113.791
Mean Value: 6.694





Joint Probability: 100.00%
 Log-Loss: 0
 Cases: 803
 Total Value: 131.563
 Mean Value: 7.739

Overall New Vehicle Experience
 Mean: 7.509 Dev: 1.570
 Value: 7.509

| | |
|--------|-----|
| 0.85% | 1.5 |
| 2.70% | 3.5 |
| 17.41% | 5.5 |
| 53.24% | 7.5 |
| 25.80% | 9.5 |

Design & Proportions
 Mean: 8.120 Dev: 1.231
 Value: 8.120

| | |
|--------|------------|
| 11.29% | C1 (6.664) |
| 42.70% | C2 (7.479) |
| 46.02% | C3 (9.318) |

Design & Details
 Mean: 7.793 Dev: 1.373
 Value: 7.793

| | |
|--------|------------|
| 22.85% | C1 (6.775) |
| 39.21% | C2 (7.468) |
| 37.94% | C3 (9.345) |

Performance/Handling
 Mean: 7.892 Dev: 1.202
 Value: 7.892

| | |
|--------|------------|
| 13.58% | C1 (6.662) |
| 47.18% | C2 (7.444) |
| 39.24% | C3 (9.203) |

Interior Quality & Materials
 Mean: 7.731 Dev: 1.387
 Value: 7.731

| | |
|--------|------------|
| 21.64% | C1 (6.584) |
| 39.97% | C2 (7.432) |
| 38.39% | C3 (9.253) |

Interior Roominess
 Mean: 7.697 Dev: 1.322
 Value: 7.697

| | |
|--------|------------|
| 20.82% | C1 (6.666) |
| 43.73% | C2 (7.406) |
| 35.45% | C3 (9.246) |

Fuel Economy
 Mean: 7.545 Dev: 1.322
 Value: 7.545

| | |
|--------|------------|
| 26.95% | C1 (6.707) |
| 43.01% | C2 (7.530) |
| 30.04% | C3 (9.215) |

Refinement
 Mean: 7.582 Dev: 1.337
 Value: 7.582

| | |
|--------|------------|
| 19.72% | C1 (6.467) |
| 46.81% | C2 (7.317) |
| 33.48% | C3 (9.197) |

Safety
 Mean: 8.048 Dev: 1.241
 Value: 8.048

| | |
|--------|------------|
| 11.43% | C1 (5.623) |
| 46.27% | C2 (7.464) |
| 42.30% | C3 (9.344) |

Reliability
 Mean: 8.022 Dev: 1.170
 Value: 8.022

| | |
|--------|------------|
| 8.61% | C1 (5.519) |
| 46.99% | C2 (7.360) |
| 44.39% | C3 (9.208) |

Price & Value
 Mean: 7.462 Dev: 1.286
 Value: 7.462

| | |
|--------|------------|
| 29.60% | C1 (5.802) |
| 41.82% | C2 (7.468) |
| 28.58% | C3 (9.173) |

Display & Instruments
 Mean: 7.771 Dev: 1.245
 Value: 7.771

| | |
|--------|------------|
| 19.17% | C1 (5.902) |
| 42.61% | C2 (7.527) |
| 38.22% | C3 (9.278) |

Seat Comfort & Adjustability
 Mean: 7.530 Dev: 1.345
 Value: 7.530

| | |
|--------|------------|
| 23.76% | C1 (5.622) |
| 46.28% | C2 (7.367) |
| 29.96% | C3 (9.294) |

Sound System
 Mean: 7.652 Dev: 1.465
 Value: 7.652

| | |
|--------|------------|
| 25.31% | C1 (5.567) |
| 40.92% | C2 (7.518) |
| 33.77% | C3 (9.406) |

Cargo/Utility
 Mean: 7.711 Dev: 1.282
 Value: 7.711

| | |
|--------|------------|
| 17.03% | C1 (5.882) |
| 48.52% | C2 (7.527) |
| 34.46% | C3 (9.278) |

Visibility
 Mean: 7.551 Dev: 1.352
 Value: 7.551

| | |
|--------|------------|
| 27.81% | C1 (5.622) |
| 38.89% | C2 (7.367) |
| 33.30% | C3 (9.294) |

Controls
 Mean: 7.811 Dev: 1.282
 Value: 7.811

| | |
|--------|------------|
| 17.65% | C1 (5.567) |
| 42.69% | C2 (7.518) |
| 39.66% | C3 (9.406) |

Influence Paths

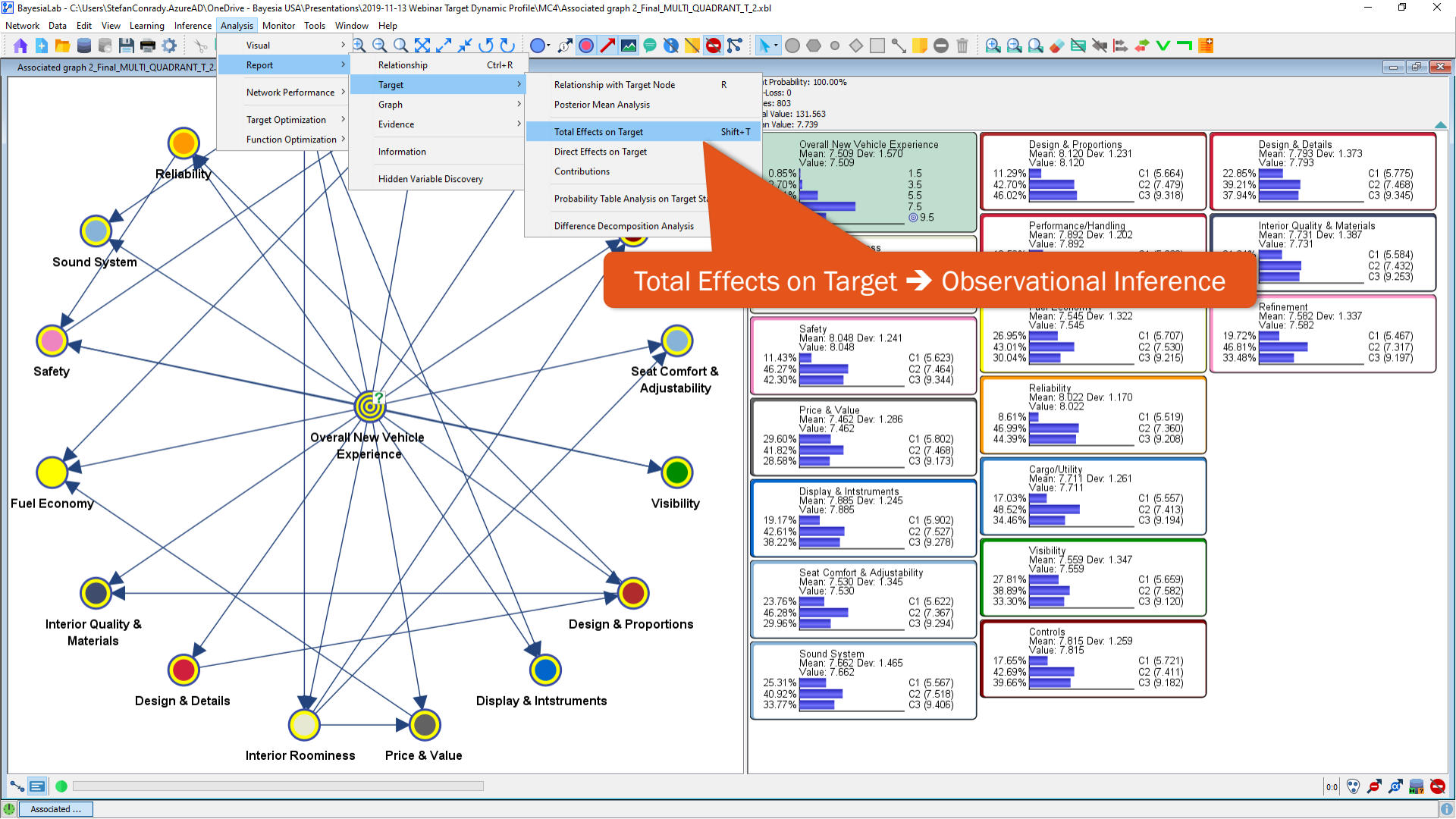
Influence Path Between Interior Roominess and Overall New Vehide Experience

| Path | Causal | Length | Score | Description |
|--------|--------|--------|------------|-----------------|
| Path 0 | | 1 | 2.4794738 | Interior Roo... |
| Path 1 | | 2 | 4.1846948 | Interior Roo... |
| Path 2 | | 3 | 5.3115545 | Interior Roo... |
| Path 3 | | 4 | 6.4346212 | Interior Roo... |
| Path 4 | | 5 | 8.0363052 | Interior Roo... |
| Path 5 | | 6 | 9.0166042 | Interior Roo... |
| Path 6 | | 7 | 10.8721817 | Interior Roo... |

Number of Paths Found: 7 (Terminated)

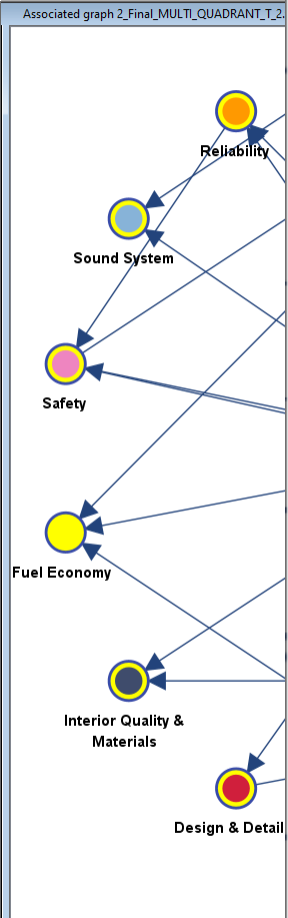
Keep Arc Color and Thickness

OK



Analysis Context
No Observation

+1 unit in Interior Roominess Satisfaction
= +0.623 units in Overall New Vehicle Experience



| Total Effects on Target Overall New Vehicle Experience | | | | | | | | | |
|--|------------------|----------------------------|---------------|---------|----|---------|---------------|-----------|----------------|
| Node | Prior Value/Mean | Standardized Total Effects | Total Effects | t-stat | df | p-value | G-test (Data) | df (Data) | p-value (Data) |
| Interior Roominess | 7.697 | 0.525 | 0.623 | 314.238 | 8 | 0.000% | 315.573 | 8 | 0.000% |
| Display & Instruments | 7.885 | 0.523 | 0.659 | 277.259 | 8 | 0.000% | 278.255 | 8 | 0.000% |
| Safety | 8.048 | 0.517 | 0.654 | 281.721 | 8 | 0.000% | 282.070 | 8 | 0.000% |
| Price & Value | 7.462 | 0.504 | 0.616 | 280.643 | 8 | 0.000% | 278.362 | 8 | 0.000% |
| Seat Comfort & Adjustability | 7.530 | 0.503 | 0.587 | 265.175 | 8 | 0.000% | 262.876 | 8 | 0.000% |
| Sound System | 7.662 | 0.497 | 0.532 | 261.057 | 8 | 0.000% | 261.551 | 8 | 0.000% |
| Performance/Handling | 7.892 | 0.496 | 0.647 | 253.500 | 8 | 0.000% | 253.659 | 8 | 0.000% |
| Fuel Economy | 7.545 | 0.474 | 0.563 | 233.473 | 8 | 0.000% | 230.165 | 8 | 0.000% |
| Cargo/Utility | 7.711 | 0.470 | 0.585 | 224.046 | 8 | 0.000% | 224.618 | 8 | 0.000% |
| Design & Proportions | 8.120 | 0.470 | 0.600 | 254.379 | 8 | 0.000% | 255.021 | 8 | 0.000% |
| Visibility | 7.559 | 0.470 | 0.548 | 222.707 | 8 | 0.000% | 220.667 | 8 | 0.000% |
| Reliability | 8.022 | 0.456 | 0.612 | 230.496 | 8 | 0.000% | 230.785 | 8 | 0.000% |
| Controls | 7.815 | 0.439 | 0.547 | 199.666 | 8 | 0.000% | 200.927 | 8 | 0.000% |
| Interior Quality & Materials | 7.731 | 0.422 | 0.478 | 178.012 | 8 | 0.000% | 178.883 | 8 | 0.000% |
| Refinement | 7.582 | 0.399 | 0.469 | 170.679 | 8 | 0.000% | 171.551 | 8 | 0.000% |
| Design & Details | 7.793 | 0.390 | 0.446 | 180.172 | 8 | 0.000% | 180.259 | 8 | 0.000% |

Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

65% C1 (6.721)
69% C2 (7.411)
66% C3 (9.182)

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

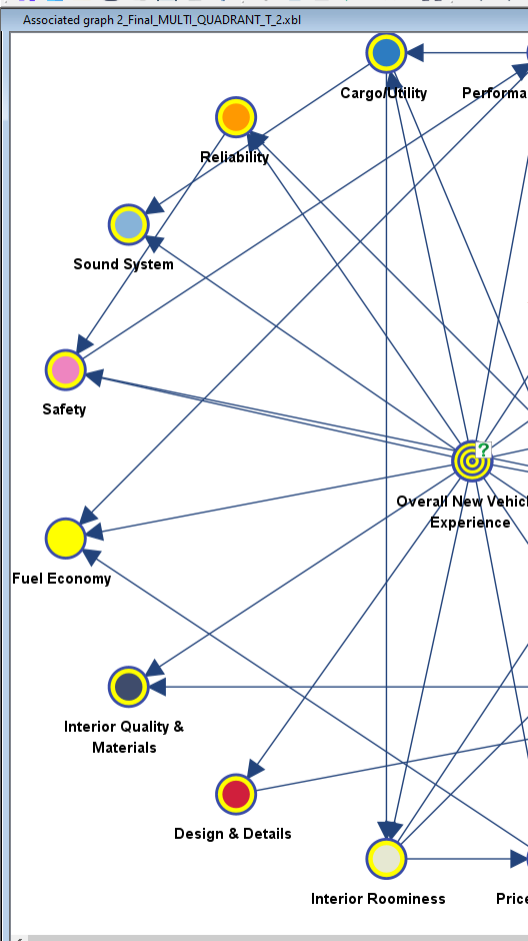
85% C1 (5.775)
21% C2 (7.488)
94% C3 (9.345)

Interior Quality & Materials
Mean: 7.731 Dev: 1.387
Value: 7.731

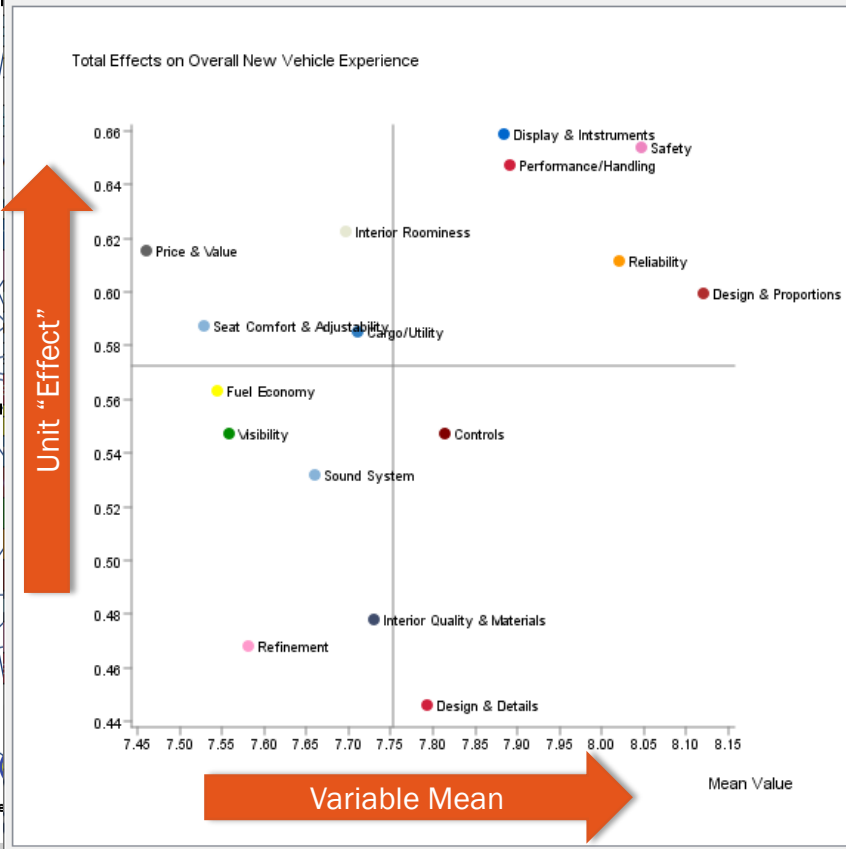
64% C1 (5.584)
97% C2 (7.432)
39% C3 (9.253)

Refinement
Mean: 7.582 Dev: 1.337
Value: 7.582

72% C1 (4.467)
81% C2 (7.317)
48% C3 (9.197)



Displayed Points: 16
 x: 0
 y: 0



System
 Mean: 7.815 Dev: 1.465
 Value: 7.815

| | | |
|------------|--------|------------|
| C1 (5.567) | 17.65% | C1 (5.721) |
| C2 (7.518) | 42.69% | C2 (7.411) |
| C3 (9.406) | 39.66% | C3 (9.182) |

Design & Proportions
 Mean: 7.793 Dev: 1.373
 Value: 7.793

| | | |
|------------|--------|------------|
| C1 (5.664) | 22.85% | C1 (5.775) |
| C2 (7.479) | 39.21% | C2 (7.468) |
| C3 (9.318) | 37.94% | C3 (9.345) |

Performance/Handling
 Mean: 7.731 Dev: 1.387
 Value: 7.731

| | | |
|------------|--------|------------|
| C1 (5.662) | 21.64% | C1 (5.584) |
| C2 (7.444) | 39.97% | C2 (7.432) |
| C3 (9.203) | 38.39% | C3 (9.253) |

Interior Quality & Materials
 Mean: 7.582 Dev: 1.337
 Value: 7.582

| | | |
|------------|--------|------------|
| C1 (5.707) | 19.72% | C1 (5.467) |
| C2 (7.530) | 46.81% | C2 (7.317) |
| C3 (9.215) | 33.48% | C3 (9.197) |

Refinement
 Mean: 7.559 Dev: 1.347
 Value: 7.559

| | | |
|------------|--------|------------|
| C1 (5.519) | 19.72% | C1 (5.467) |
| C2 (7.360) | 46.81% | C2 (7.317) |
| C3 (9.208) | 33.48% | C3 (9.197) |

Design & Details
 Mean: 7.557 Dev: 1.261
 Value: 7.557

| | | |
|------------|--------|------------|
| C1 (5.557) | 19.72% | C1 (5.467) |
| C2 (7.413) | 46.81% | C2 (7.317) |
| C3 (9.194) | 33.48% | C3 (9.197) |

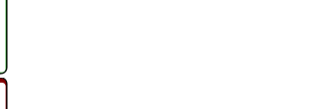
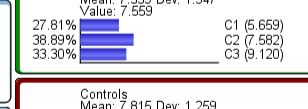
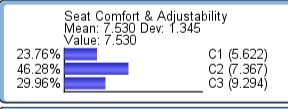
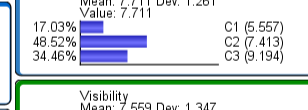
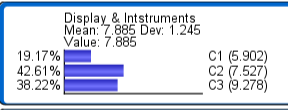
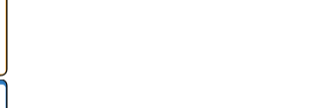
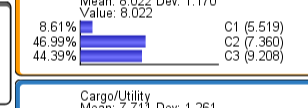
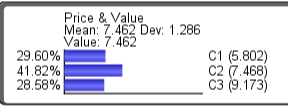
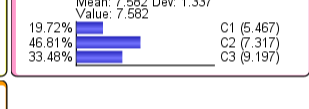
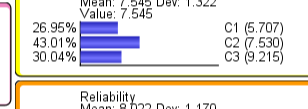
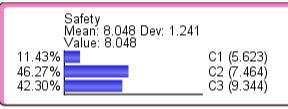
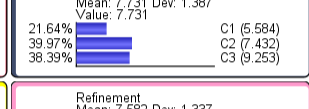
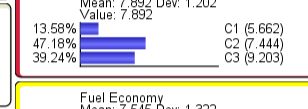
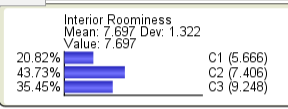
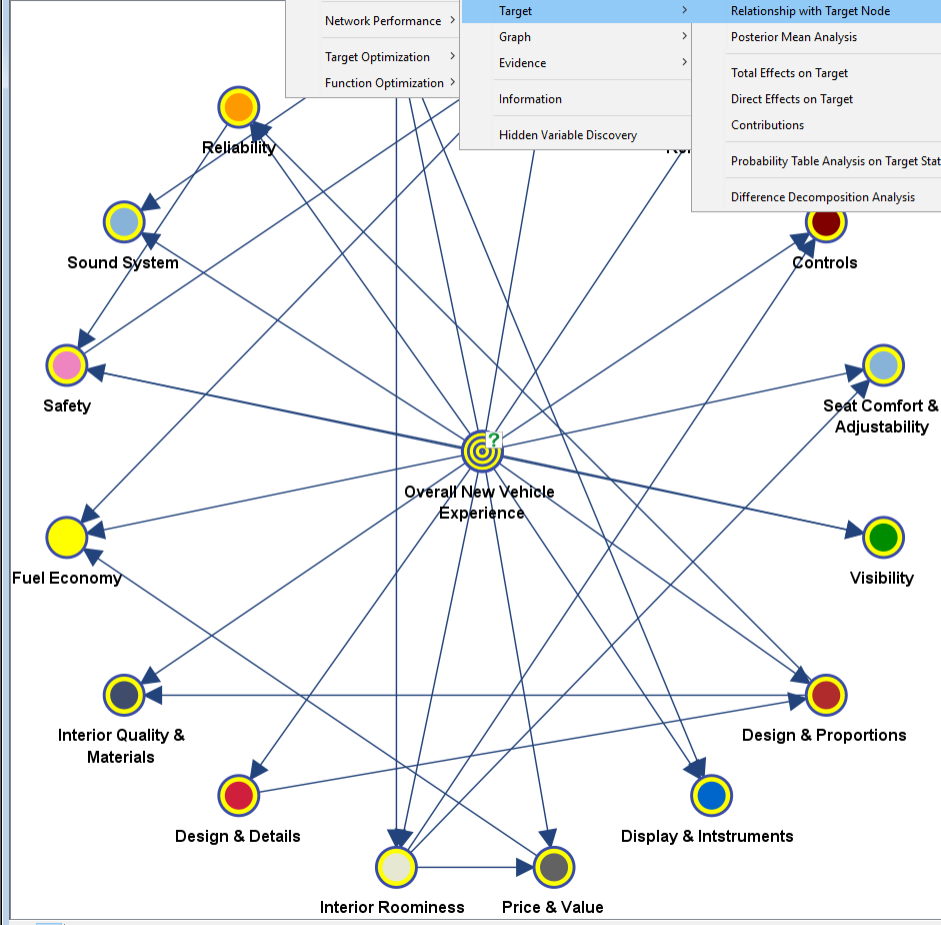
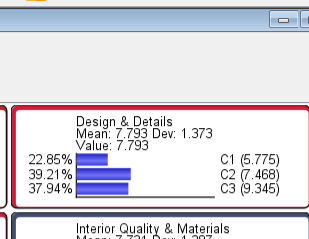
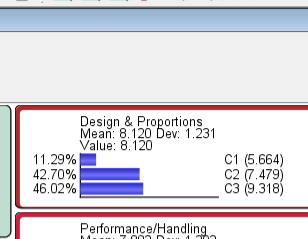
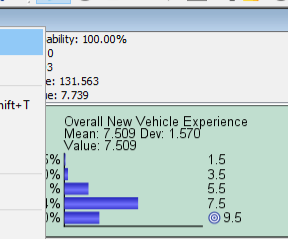
Interior Roominess
 Mean: 7.559 Dev: 1.347
 Value: 7.559

| | | |
|------------|--------|------------|
| C1 (5.659) | 19.72% | C1 (5.467) |
| C2 (7.582) | 46.81% | C2 (7.317) |
| C3 (9.120) | 33.48% | C3 (9.197) |

- Report >
- Network Performance >
- Target Optimization >
- Function Optimization >

- Relationship Ctrl+R
- Target >
- Graph >
- Evidence >
- Information
- Hidden Variable Discovery

- Relationship with Target Node R
- Posterior Mean Analysis
- Total Effects on Target Shift+T
- Direct Effects on Target
- Contributions
- Probability Table Analysis on Target State
- Difference Decomposition Analysis



Target Analysis Report Overall New Vehicle Experience (Associated graph 2_Final\MULTI_QUADRANT T 2) [2]

Node significance with respect to the information gain brought by the node to the knowledge of Overall New Vehicle Experience

| Node | Mutual information | Normalized Mutual Information | Relative Mutual Information | Relative significance | Prior Mean Value | G-test | df | p-value | G-test (Data) | df (Data) | p-value (Data) |
|------------------------------|--------------------|-------------------------------|-----------------------------|-----------------------|------------------|---------|----|---------|---------------|-----------|----------------|
| Interior Roominess | 0.282 | 12.157% | 17.353% | 1.000 | 7.697 | 314.238 | 8 | 0.000% | 315.573 | 8 | 0.000% |
| Safety | 0.253 | 10.899% | 15.558% | 0.897 | 8.048 | 281.721 | 8 | 0.000% | 282.070 | 8 | 0.000% |
| Price & Value | 0.252 | 10.858% | 15.498% | 0.893 | 7.462 | 280.643 | 8 | 0.000% | 278.362 | 8 | 0.000% |
| Display & Instruments | 0.249 | 10.727% | 15.311% | 0.882 | 7.885 | 277.259 | 8 | 0.000% | 278.255 | 8 | 0.000% |
| Seat Comfort & Adjustability | 0.238 | 10.259% | 14.644% | 0.844 | 7.530 | 265.175 | 8 | 0.000% | 262.876 | 8 | 0.000% |
| Sound System | 0.235 | 10.100% | 14.417% | 0.831 | 7.662 | 261.057 | 8 | 0.000% | 261.551 | 8 | 0.000% |
| Design & Proportions | 0.229 | 9.842% | 14.048% | 0.810 | 8.120 | 254.379 | 8 | 0.000% | 255.021 | 8 | 0.000% |
| Performance/Handling | 0.228 | 9.807% | 13.999% | 0.807 | 7.892 | 253.500 | 8 | 0.000% | 253.659 | 8 | 0.000% |
| Fuel Economy | 0.210 | 9.033% | 12.893% | 0.743 | 7.545 | 233.473 | 8 | 0.000% | 230.165 | 8 | 0.000% |
| Reliability | 0.207 | 8.918% | 12.729% | 0.734 | 8.022 | 230.496 | 8 | 0.000% | 230.785 | 8 | 0.000% |
| Cargo/Utility | 0.201 | 8.668% | 12.373% | 0.713 | 7.711 | 224.046 | 8 | 0.000% | 224.618 | 8 | 0.000% |
| Visibility | 0.200 | 8.616% | 12.299% | 0.709 | 7.559 | 222.707 | 8 | 0.000% | 220.667 | 8 | 0.000% |
| Controls | 0.179 | 7.725% | 11.026% | 0.635 | 7.815 | 199.666 | 8 | 0.000% | 200.927 | 8 | 0.000% |
| Design & Details | 0.162 | 6.971% | 9.950% | 0.573 | 7.793 | 180.172 | 8 | 0.000% | 178.259 | 8 | 0.000% |
| Interior Quality & Materials | 0.160 | 6.887% | 9.831% | 0.566 | 7.731 | 178.012 | 8 | 0.000% | 178.883 | 8 | 0.000% |
| Refinement | 0.153 | 6.603% | 9.426% | 0.543 | 7.582 | 170.679 | 8 | 0.000% | 171.664 | 8 | 0.000% |

Close Save As... Print Mapping Quadrants



1.259
C1 (6.721)
C2 (7.411)
C3 (9.182)

1.373
C1 (5.775)
C2 (7.488)
C3 (9.345)

Materials
1.387
C1 (5.584)
C2 (7.432)
C3 (9.253)

1.337
C1 (5.467)
C2 (7.317)
C3 (9.197)

Target Analysis Report Overall New Vehicle Experience (Associated graph 2_Final_MULTI_QUADRANT_...)

Overall New Vehicle Experience = 9.5 (25.801%)

9.5

| Node | Binary Mutual Information | Relative Binary Mutual Information | Binary Relative Significance | Posterior Mean Value | Max Bayes Factor | | Min Bayes Factor | | | |
|------------------------------|---------------------------|------------------------------------|------------------------------|----------------------|------------------|---------|------------------|------------|--------|-------|
| Interior Roominess | 0.182 | 22.111% | 1.000 | 8.727 | C3 (9.248) | 75.997% | 2.144 | C1 (5.666) | 4.547% | 0.218 |
| Sound System | 0.165 | 20.064% | 0.907 | 8.747 | C3 (9.406) | 72.118% | 2.136 | C1 (5.567) | 6.788% | 0.268 |
| Price & Value | 0.157 | 19.026% | 0.860 | 8.426 | C3 (9.173) | 63.800% | 2.233 | C1 (5.802) | 7.791% | 0.263 |
| Safety | 0.155 | 18.832% | 0.852 | 8.920 | C3 (9.344) | 80.540% | 1.904 | C1 (5.623) | 3.142% | 0.275 |
| Fuel Economy | 0.155 | 18.781% | 0.849 | 8.504 | C3 (9.215) | 65.969% | 2.196 | C1 (5.707) | 7.538% | 0.280 |
| Display & Instruments | 0.154 | 18.704% | 0.846 | 8.788 | C3 (9.278) | 75.562% | 1.977 | C1 (5.902) | 3.849% | 0.201 |
| Seat Comfort & Adjustability | 0.151 | 18.391% | 0.832 | 8.525 | C3 (9.294) | 64.899% | 2.166 | C1 (5.622) | 5.287% | 0.223 |
| Design & Proportions | 0.138 | 16.721% | 0.756 | 8.953 | C3 (9.318) | 80.741% | 1.755 | C1 (5.664) | 0.605% | 0.054 |
| Cargo/Utility | 0.134 | 16.213% | 0.733 | 8.571 | C3 (9.194) | 68.142% | 1.978 | C1 (5.557) | 3.047% | 0.179 |
| Design & Details | 0.128 | 15.578% | 0.705 | 8.715 | C3 (9.345) | 72.008% | 1.898 | C1 (5.775) | 6.185% | 0.271 |
| Reliability | 0.124 | 15.077% | 0.682 | 8.778 | C3 (9.208) | 78.562% | 1.770 | C1 (5.519) | 1.843% | 0.214 |
| Visibility | 0.122 | 14.754% | 0.667 | 8.423 | C3 (9.120) | 65.472% | 1.966 | C1 (5.659) | 8.627% | 0.310 |
| Interior Quality & Materials | 0.121 | 14.639% | 0.662 | 8.628 | C3 (9.253) | 71.109% | 1.852 | C1 (5.584) | 5.350% | 0.247 |
| Controls | 0.120 | 14.557% | 0.658 | 8.624 | C3 (9.182) | 72.824% | 1.836 | C1 (5.721) | 4.547% | 0.258 |
| Performance/Handling | 0.112 | 13.564% | 0.613 | 8.618 | C3 (9.203) | 71.787% | 1.830 | C1 (5.662) | 4.982% | 0.367 |
| Refinement | 0.103 | 12.513% | 0.566 | 8.401 | C3 (9.197) | 61.927% | 1.850 | C1 (5.467) | 4.346% | 0.220 |



ev. 1.259

| |
|------------|
| C1 (6.721) |
| C2 (7.411) |
| C3 (9.182) |

ev. 1.373

| |
|------------|
| C1 (5.775) |
| C2 (7.488) |
| C3 (9.345) |

ev. 1.387

| |
|------------|
| C1 (5.584) |
| C2 (7.432) |
| C3 (9.253) |

ev. 1.337

| |
|------------|
| C1 (5.467) |
| C2 (7.317) |
| C3 (9.197) |

Target Analysis Report Overall New Vehicle Experience (Associated graph 2_Final)

| Overall New Vehicle Experience = 9.5 | | | | |
|--------------------------------------|---------------------------|------------------------------------|------------------------------|----------------------|
| Node | Binary Mutual Information | Relative Binary Mutual Information | Binary Relative Significance | Posterior Mean Value |
| Interior Roominess | 0.182 | 22.111% | 1.000 | 8.727 |
| Sound System | 0.165 | 20.064% | 0.907 | 8.747 |
| Price & Value | 0.157 | 19.026% | 0.860 | 8.427 |
| Safety | 0.155 | 18.832% | 0.852 | 8.927 |
| Fuel Economy | 0.155 | 18.781% | 0.849 | 8.507 |
| Display & Instruments | 0.154 | 18.704% | 0.846 | 8.787 |
| Seat Comfort & Adjustability | 0.151 | 18.391% | 0.832 | 8.527 |
| Design & Proportions | 0.138 | 16.721% | 0.756 | 8.957 |
| Cargo/Utility | 0.134 | 16.213% | 0.733 | 8.577 |
| Design & Details | 0.128 | 15.578% | 0.705 | 8.717 |
| Reliability | 0.124 | 15.077% | 0.682 | 8.777 |
| Visibility | 0.122 | 14.754% | 0.667 | 8.427 |
| Interior Quality & Materials | 0.121 | 14.639% | 0.662 | 8.627 |
| Controls | 0.120 | 14.557% | 0.658 | 8.627 |
| Performance/Handling | 0.112 | 13.564% | 0.613 | 8.617 |
| Refinement | 0.103 | 12.513% | 0.566 | 8.407 |



Quadrants

Displayed Points: 16
 x: 7.9085
 y: 0.18595



Target Analysis Report Overall New Vehicle Experience (Associated graph 2_Final_MULTI_QUADRANT T 2.xbl)

1.5

Overall New Vehicle Experience = 1.5 (0.848%)

| Node | Binary Mutual Information | Relative Binary Mutual Information | Binary Relative Significance | Posterior Mean Value | Max Bayes Factor | | | Min Bayes Factor | | |
|------------------------------|---------------------------|------------------------------------|------------------------------|----------------------|------------------|---------|-------|------------------|---------|-------|
| Safety | 0.023 | 32.523% | 1.000 | 5.856 | C1 (5.623) | 93.701% | 8.196 | C2 (7.464) | 0.098% | 0.002 |
| Controls | 0.021 | 30.129% | 0.926 | 5.726 | C1 (5.721) | 99.804% | 5.654 | C2 (7.411) | 0.098% | 0.002 |
| Performance/Handling | 0.021 | 29.514% | 0.907 | 5.776 | C1 (5.662) | 93.701% | 6.898 | C3 (9.203) | 0.098% | 0.002 |
| Display & Instruments | 0.020 | 28.667% | 0.881 | 5.906 | C1 (5.902) | 99.804% | 5.206 | C2 (7.527) | 0.098% | 0.002 |
| Seat Comfort & Adjustability | 0.018 | 24.878% | 0.765 | 5.628 | C1 (5.622) | 99.804% | 4.200 | C2 (7.367) | 0.098% | 0.002 |
| Fuel Economy | 0.016 | 22.613% | 0.695 | 5.714 | C1 (5.707) | 99.766% | 3.701 | C2 (7.530) | 0.117% | 0.003 |
| Visibility | 0.016 | 22.108% | 0.680 | 5.664 | C1 (5.659) | 99.804% | 3.588 | C2 (7.582) | 0.098% | 0.003 |
| Interior Quality & Materials | 0.015 | 21.943% | 0.675 | 5.702 | C1 (5.584) | 93.701% | 4.330 | C3 (9.253) | 0.098% | 0.003 |
| Price & Value | 0.015 | 21.014% | 0.646 | 5.806 | C1 (5.802) | 99.804% | 3.371 | C2 (7.468) | 0.098% | 0.002 |
| Sound System | 0.014 | 19.330% | 0.594 | 5.692 | C1 (5.567) | 93.701% | 3.702 | C3 (9.406) | 0.098% | 0.003 |
| Reliability | 0.009 | 13.130% | 0.404 | 7.251 | C1 (5.519) | 49.951% | 5.798 | C2 (7.360) | 6.201% | 0.132 |
| Refinement | 0.009 | 12.193% | 0.375 | 7.104 | C1 (5.467) | 56.054% | 2.843 | C2 (7.317) | 0.098% | 0.002 |
| Interior Roominess | 0.008 | 11.220% | 0.345 | 7.239 | C1 (5.666) | 56.054% | 2.692 | C2 (7.406) | 0.098% | 0.002 |
| Cargo/Utility | 0.007 | 9.551% | 0.294 | 6.488 | C1 (5.557) | 49.951% | 2.934 | C3 (9.194) | 0.098% | 0.003 |
| Design & Proportions | 0.002 | 2.210% | 0.068 | 8.284 | C2 (7.479) | 56.054% | 1.313 | C1 (5.664) | 0.098% | 0.009 |
| Design & Details | 0.000 | 0.634% | 0.020 | 8.083 | C3 (9.345) | 43.848% | 1.156 | C1 (5.775) | 12.303% | 0.539 |



ev: 1.259

| |
|------------|
| C1 (5.721) |
| C2 (7.411) |
| C3 (9.182) |

ev: 1.373

| |
|------------|
| C1 (5.775) |
| C2 (7.488) |
| C3 (9.345) |

& Materials

ev: 1.387

| |
|------------|
| C1 (5.584) |
| C2 (7.432) |
| C3 (9.253) |

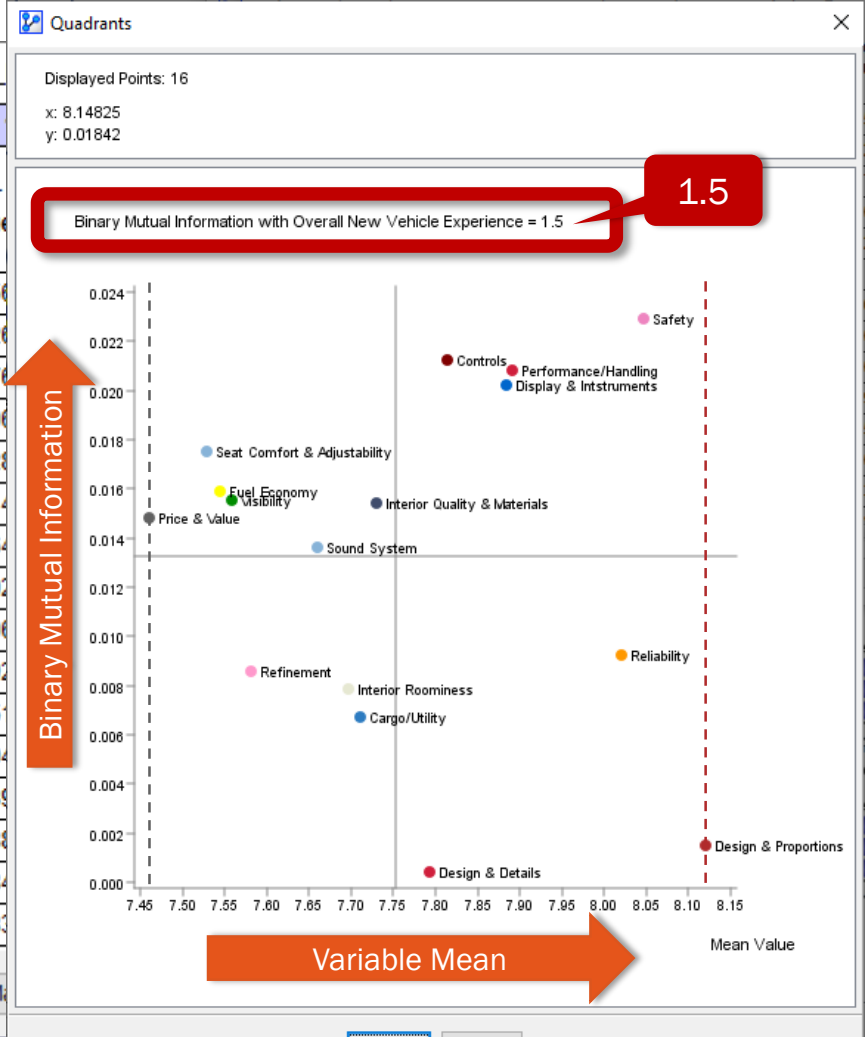
ev: 1.337

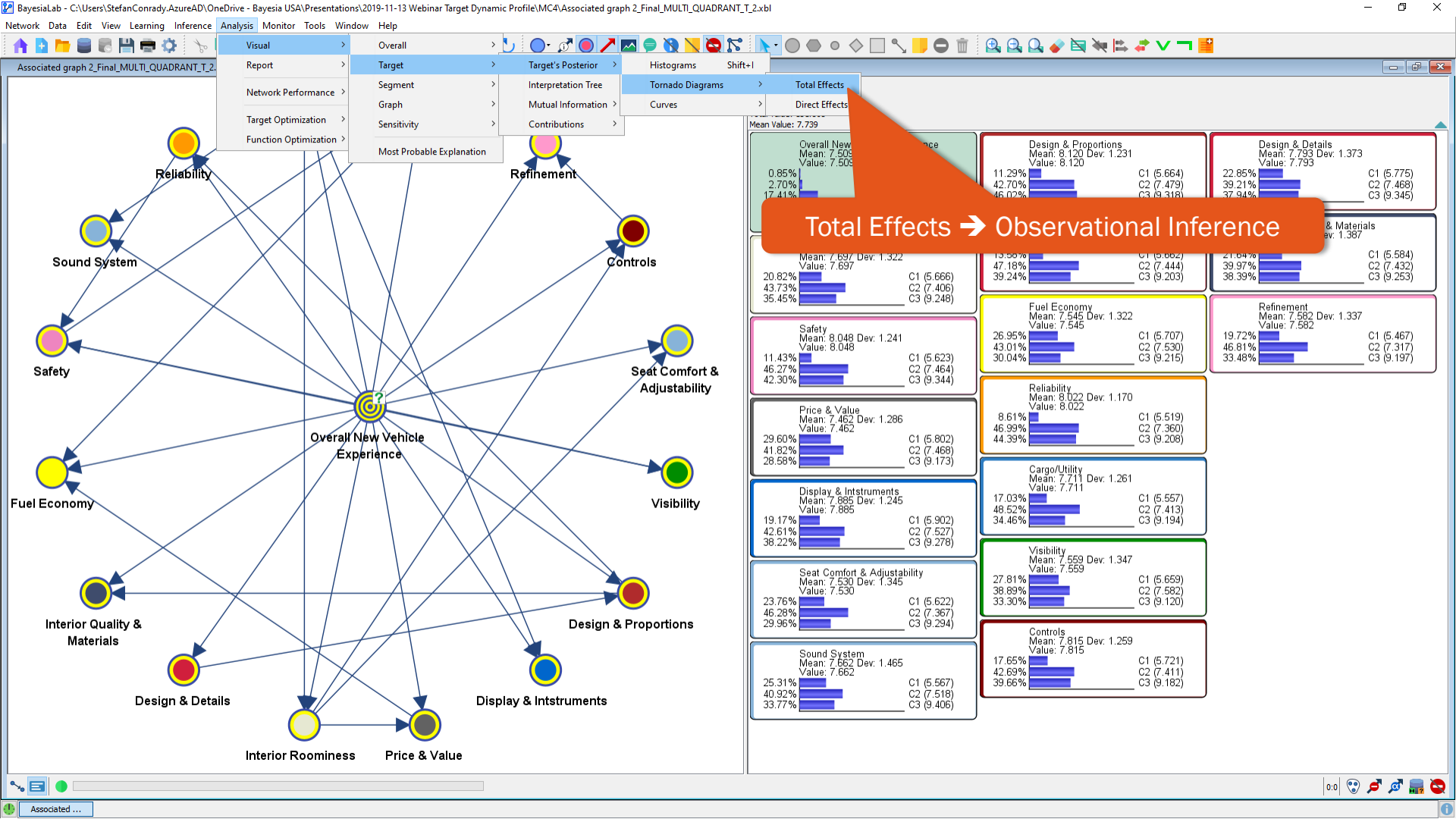
| |
|------------|
| C1 (5.467) |
| C2 (7.317) |
| C3 (9.197) |

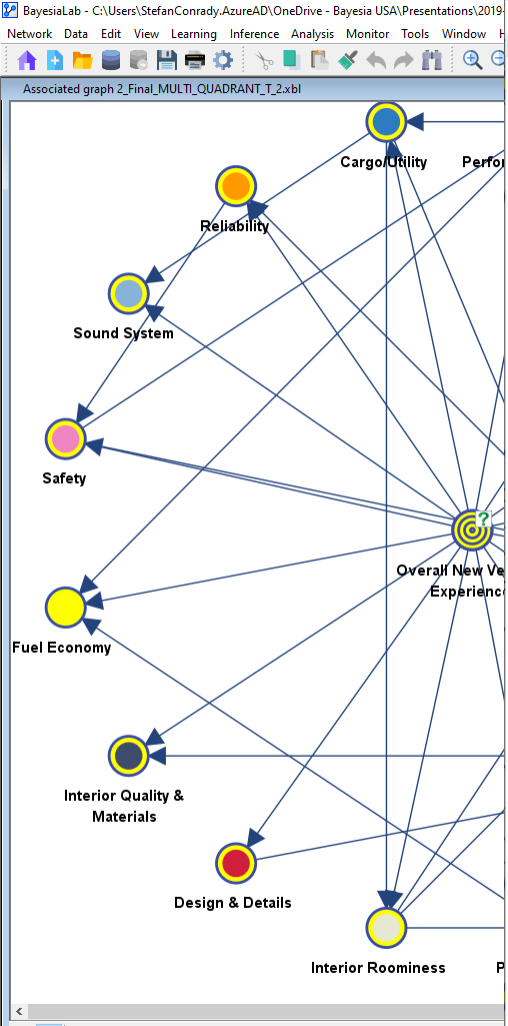
Target Analysis Report Overall New Vehicle Experience (Associated graph 2_Final)

| Overall New Vehicle Experience = | | | | |
|----------------------------------|---------------------------|------------------------------------|------------------------------|----------------------|
| Node | Binary Mutual Information | Relative Binary Mutual Information | Binary Relative Significance | Posterior Mean Value |
| Safety | 0.023 | 32.523% | 1.000 | 5.856 |
| Controls | 0.021 | 30.129% | 0.926 | 5.726 |
| Performance/Handling | 0.021 | 29.514% | 0.907 | 5.776 |
| Display & Instruments | 0.020 | 28.667% | 0.881 | 5.906 |
| Seat Comfort & Adjustability | 0.018 | 24.878% | 0.765 | 5.626 |
| Fuel Economy | 0.016 | 22.613% | 0.695 | 5.716 |
| Visibility | 0.016 | 22.108% | 0.680 | 5.666 |
| Interior Quality & Materials | 0.015 | 21.943% | 0.675 | 5.706 |
| Price & Value | 0.015 | 21.014% | 0.646 | 5.806 |
| Sound System | 0.014 | 19.330% | 0.594 | 5.696 |
| Reliability | 0.009 | 13.130% | 0.404 | 7.256 |
| Refinement | 0.009 | 12.193% | 0.375 | 7.106 |
| Interior Roominess | 0.008 | 11.220% | 0.345 | 7.236 |
| Cargo/Utility | 0.007 | 9.551% | 0.294 | 6.486 |
| Design & Proportions | 0.002 | 2.210% | 0.068 | 8.286 |
| Design & Details | 0.000 | 0.634% | 0.020 | 8.086 |

Close Save As... Print M...







Controls

Mean: 7.815 Dev: 1.259 Value: 7.815

| | | |
|--------|------------|------------|
| 17.65% | C1 (5.567) | C1 (5.721) |
| 42.69% | C2 (7.518) | C2 (7.411) |
| 39.66% | C3 (9.406) | C3 (9.182) |

Design & Details

Mean: 7.793 Dev: 1.373 Value: 7.793

| | | |
|--------|------------|------------|
| 22.85% | C1 (5.664) | C1 (5.775) |
| 39.21% | C2 (7.479) | C2 (7.468) |
| 37.94% | C3 (9.318) | C3 (9.345) |

Interior Quality & Materials

Mean: 7.731 Dev: 1.387 Value: 7.731

| | | |
|--------|------------|------------|
| 21.64% | C1 (5.662) | C1 (5.584) |
| 39.97% | C2 (7.444) | C2 (7.432) |
| 38.39% | C3 (9.203) | C3 (9.253) |

Refinement

Mean: 7.582 Dev: 1.337 Value: 7.582

| | | |
|--------|------------|------------|
| 19.72% | C1 (5.707) | C1 (5.467) |
| 46.81% | C2 (7.530) | C2 (7.317) |
| 33.48% | C3 (9.215) | C3 (9.197) |

Dev: 1.170

| |
|------------|
| C1 (5.519) |
| C2 (7.360) |
| C3 (9.208) |

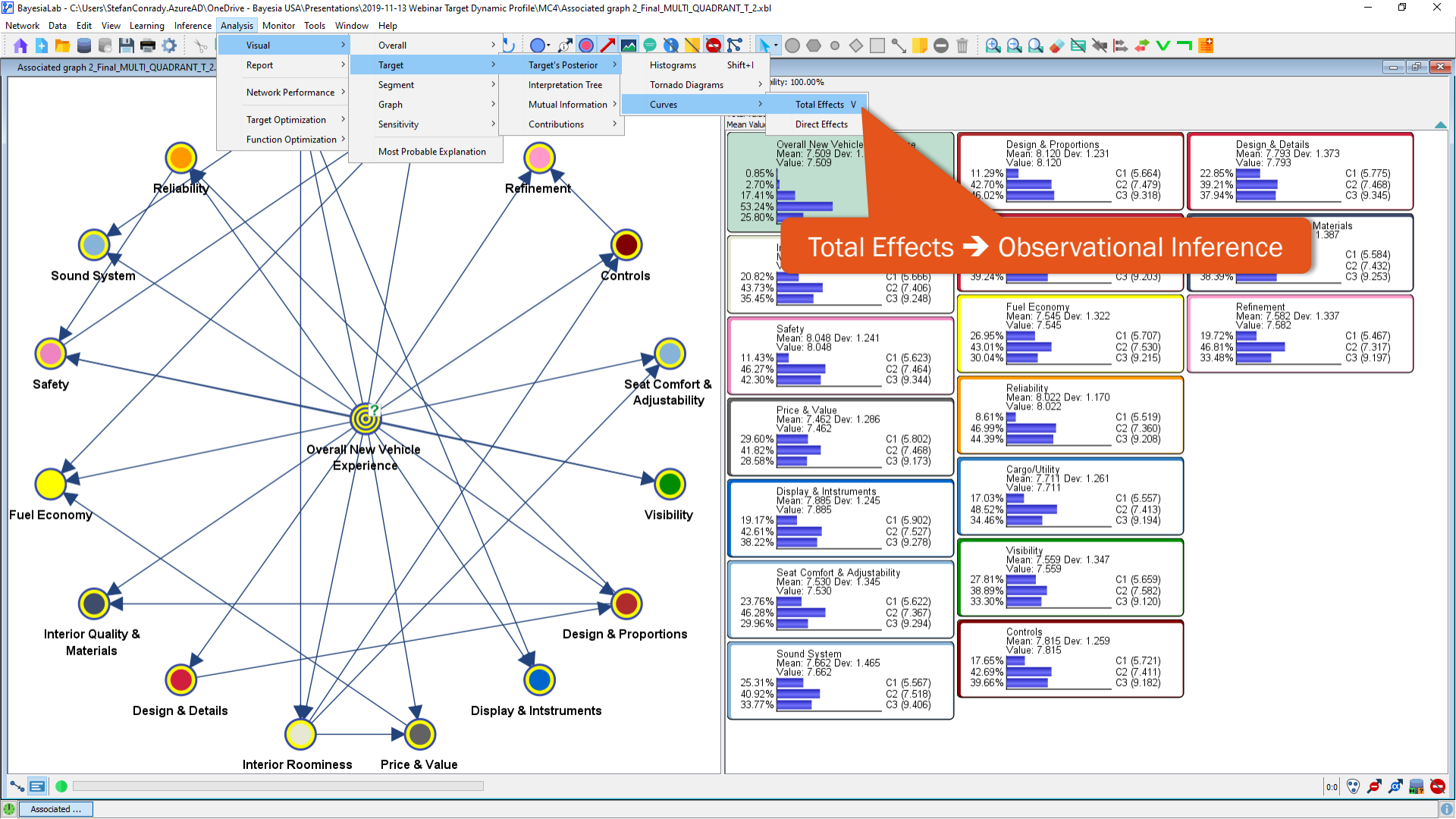
Dev: 1.261

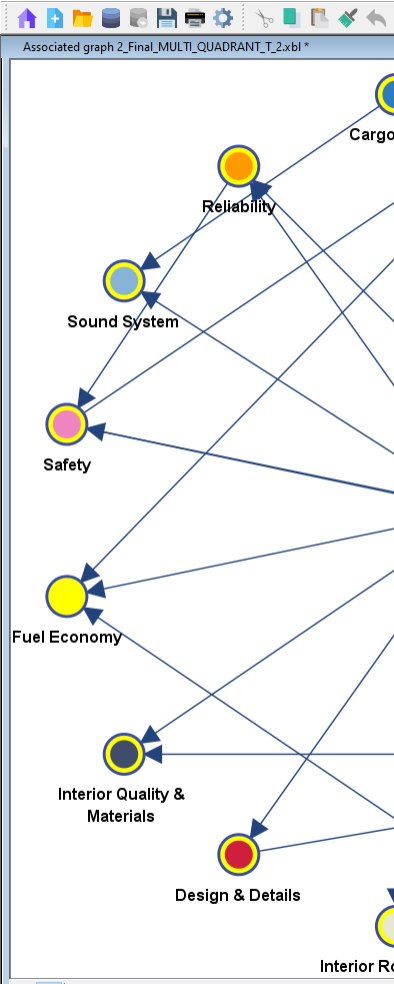
| |
|------------|
| C1 (5.557) |
| C2 (7.413) |
| C3 (9.194) |

Dev: 1.347

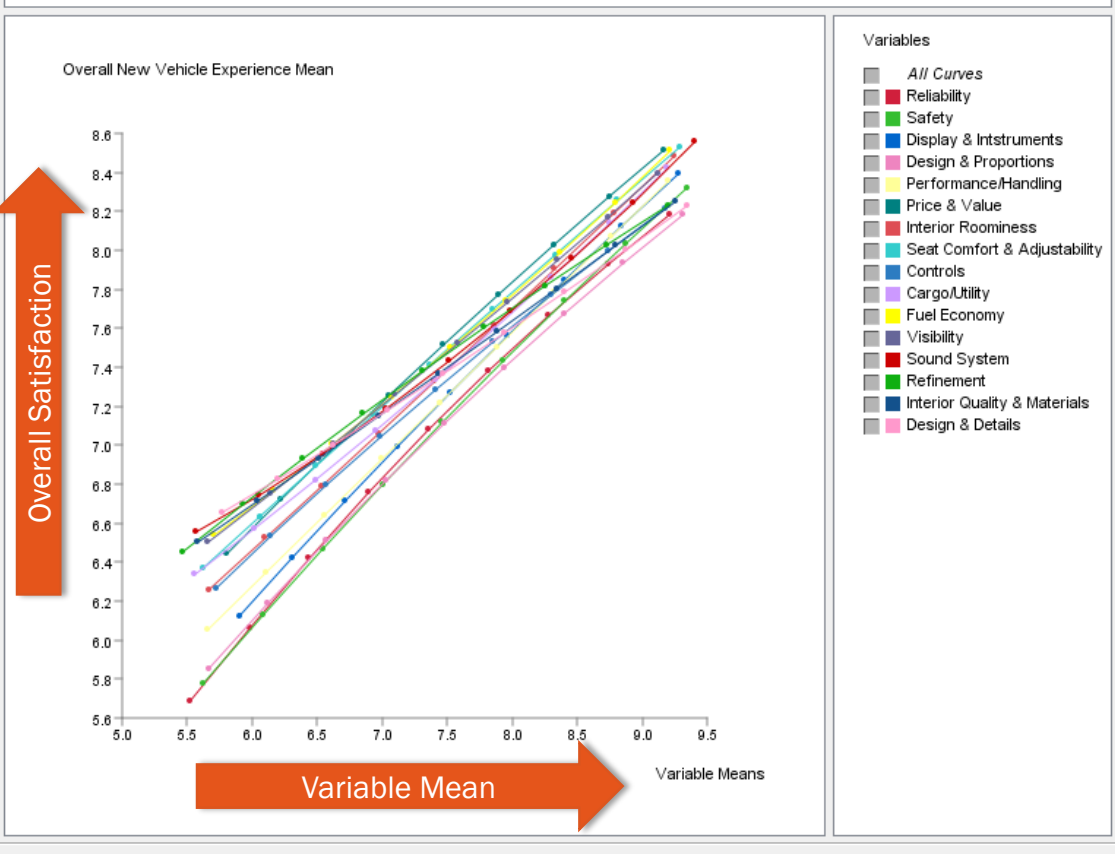
| |
|------------|
| C1 (5.659) |
| C2 (7.582) |
| C3 (9.120) |

0.0





Node:
X:
Y:



Summary panels for Design & Details, Interior Quality & Materials, and Refinement, showing mean, deviation, and distribution data.

Optimization

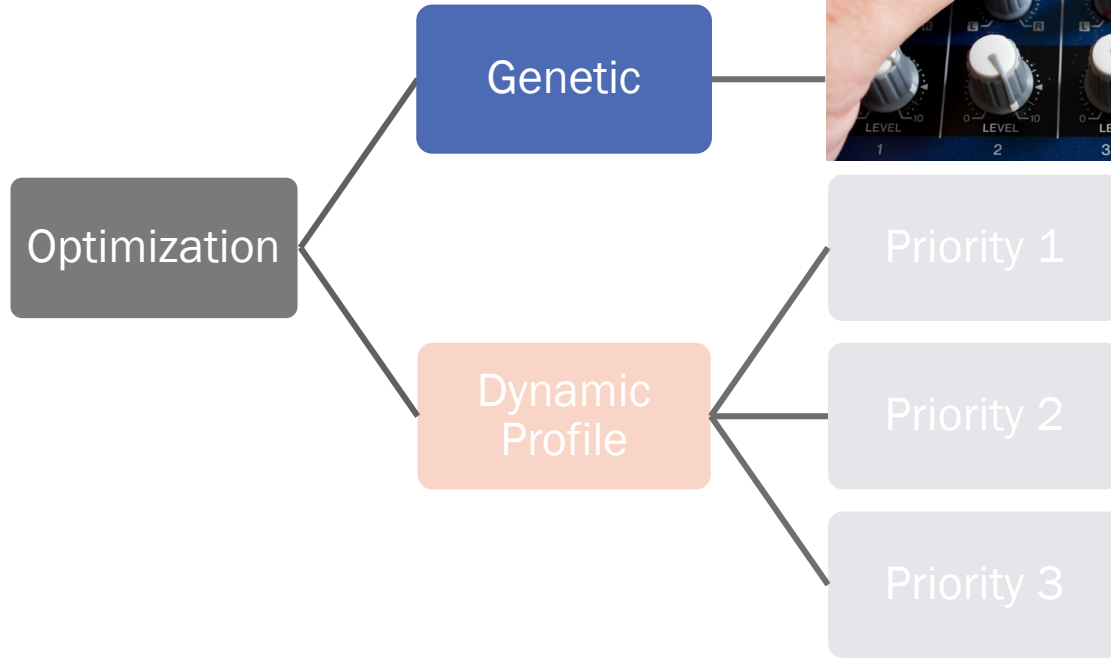


Why not set all drivers to their maximum levels?

Optimization



e.g. Marketing
Mix Optimization



Optimization

Genetic Optimization

| [Factor_15] | [Factor_1] | [Factor_2] | [Factor_5] | [Factor_7] | [Factor_25] | [Factor_27] | [Factor_3] | [Factor_10] | [Factor_23] | [Factor_21] | [Factor_6] | [Factor_12] | [Factor_20] | [Factor_24] | [Factor_14] | [Factor_22] | [Factor_26] | [Factor_17] | [Factor_18] | [Factor_13] | [Factor_0] | [Factor_4] | [Factor_8] | [Factor_11] | [Factor_9] | [Factor_16] | [Factor_19] |
|-------------|------------|------------|------------|------------|-------------|-------------|------------|-------------|-------------|-------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|------------|-------------|------------|-------------|-------------|
| 7.98 | 7.6428 | 7.9837 | 7.9843 | 7.6736 | 7.7203 | 7.5317 | 7.6944 | 7.3772 | 7.902 | 7.6704 | 7.9897 | 7.7471 | 7.9541 | 7.7341 | 7.8653 | 7.6782 | 7.2518 | 7.5818 | 7.8011 | 7.6539 | 7.3971 | 7.6046 | 7.7374 | 7.7305 | 7.6038 | 7.8068 | 7.5773 |
| 7.8751 | 7.6428 | 8.4286 | 7.9096 | 8.1286 | 7.5816 | 8.1922 | 8.2986 | 7.2026 | 8.4386 | 8.1330 | 8.3600 | 8.3615 | 8.2713 | 7.7502 | 8.2785 | 8.1439 | 7.9747 | 7.9716 | 8.2469 | 8.0311 | 7.3551 | 7.7844 | 7.4880 | 8.1497 | 7.5302 | 7.8068 | 7.6538 |
| (-0.1049) | (0.0000) | (0.4450) | (-0.0747) | (0.4549) | (-0.1387) | (0.6605) | (0.6042) | (-0.1746) | (0.5366) | (0.4627) | (0.3703) | (0.6144) | (0.3172) | (0.0161) | (0.4132) | (0.4657) | (0.7229) | (0.3898) | (0.4458) | (0.3771) | (-0.0420) | (0.1798) | (-0.2494) | (0.4191) | (-0.0735) | (0.0000) | (0.0765) |



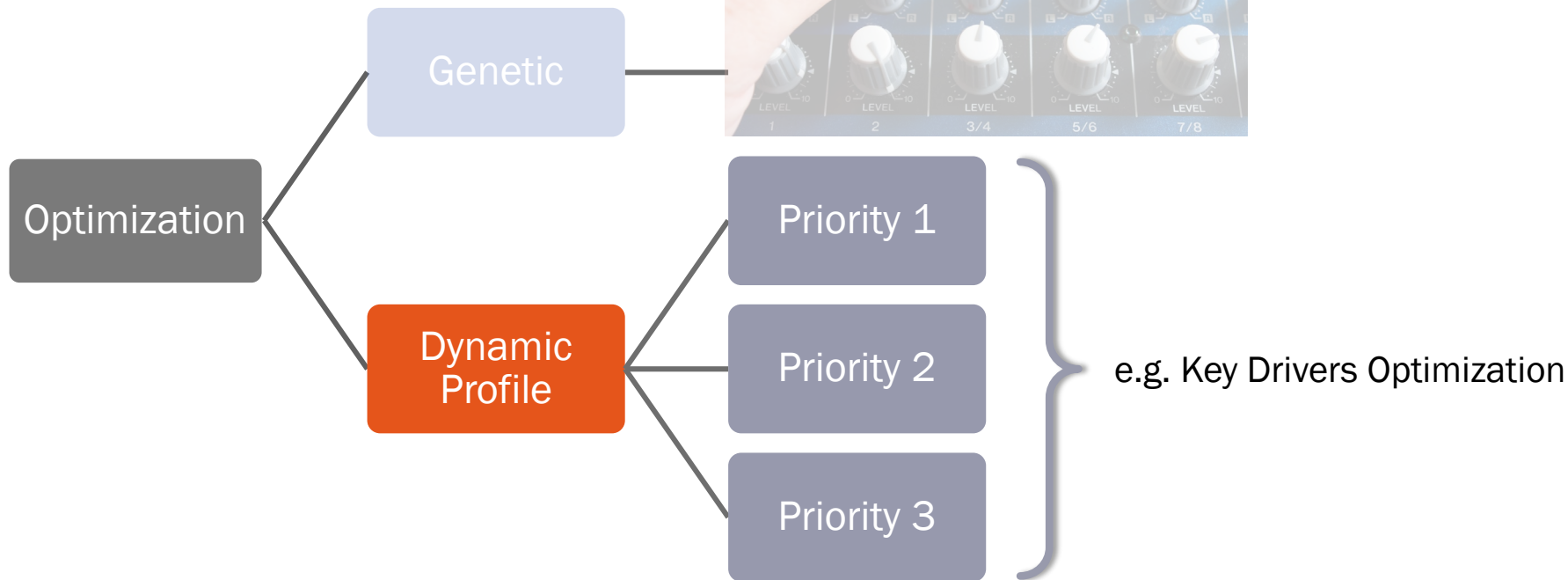
Is this
"actionable"?



The Consumer Mind

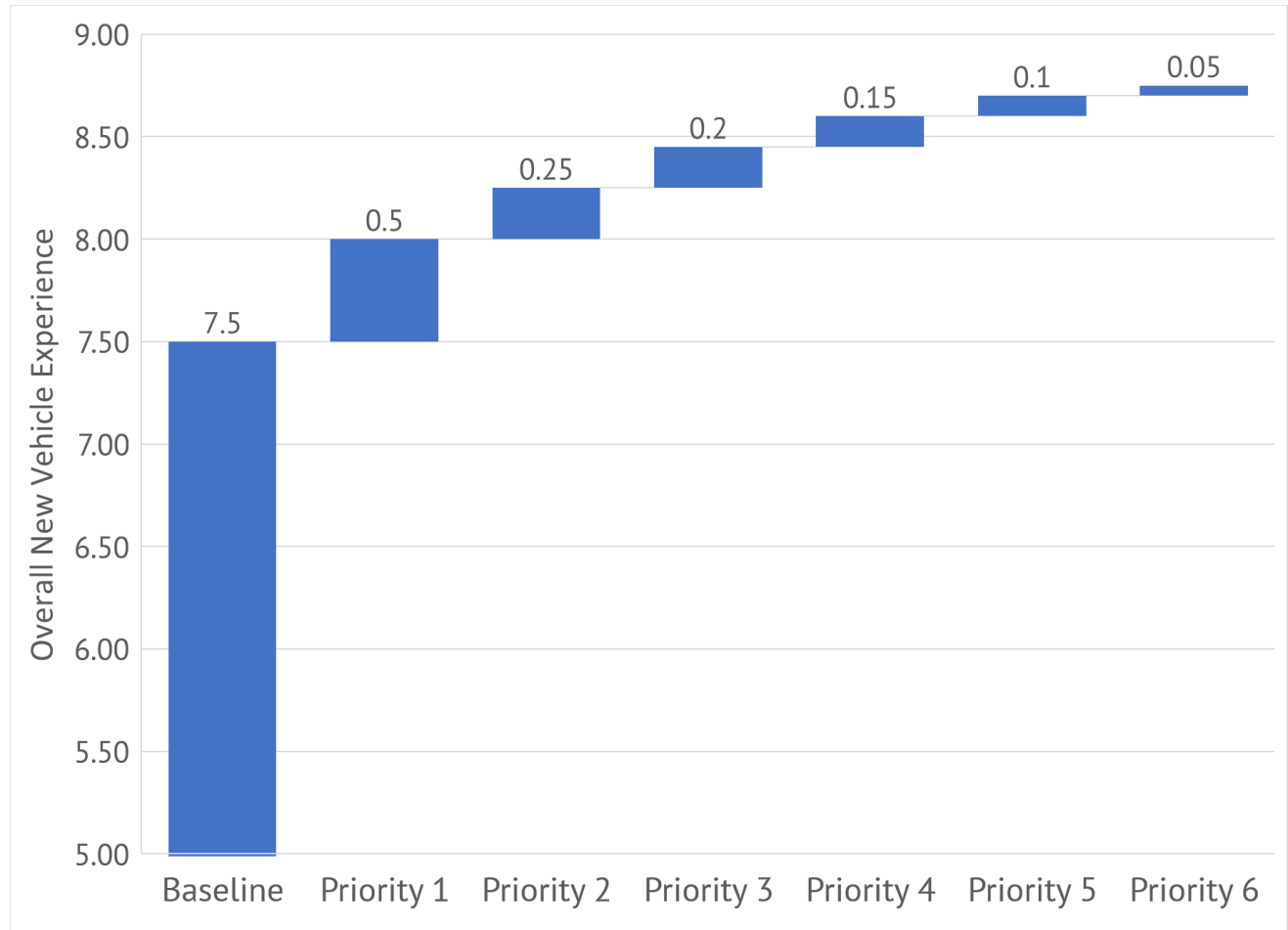


Optimization



Optimization

Target Dynamic Profile

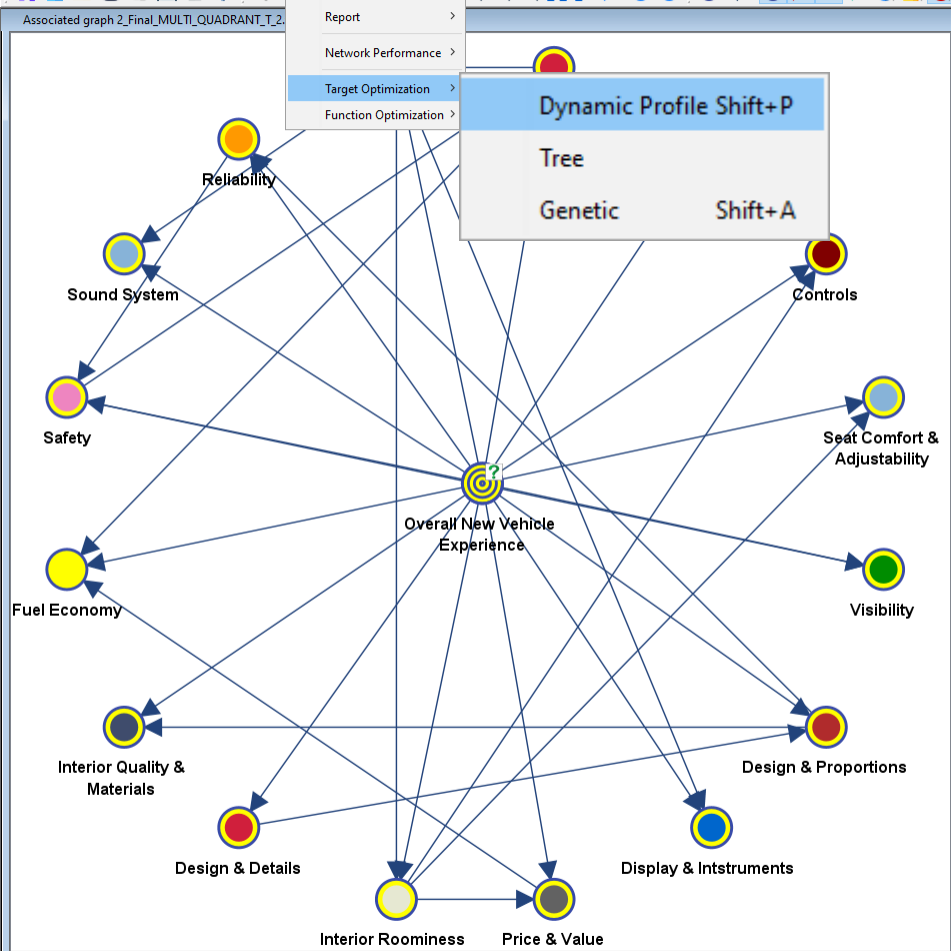


- Visual >
- Report >
- Network Performance >
- Target Optimization >
- Function Optimization >

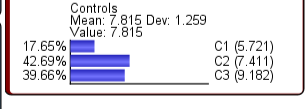
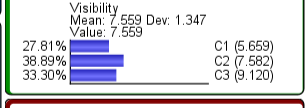
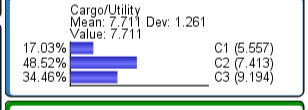
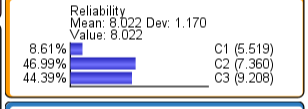
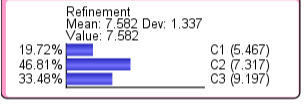
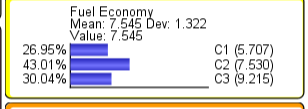
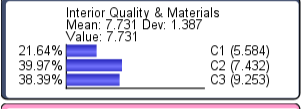
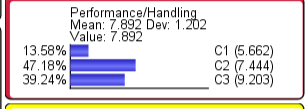
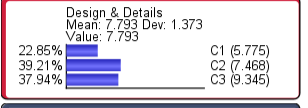
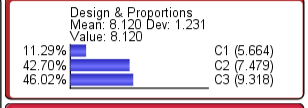
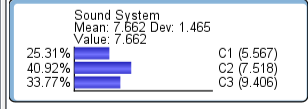
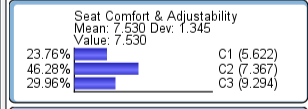
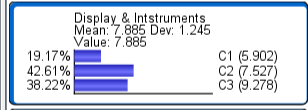
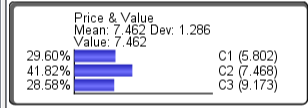
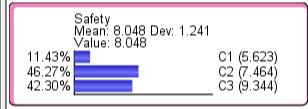
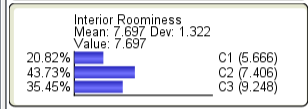
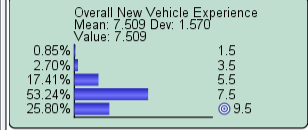
Dynamic Profile Shift+P

Tree

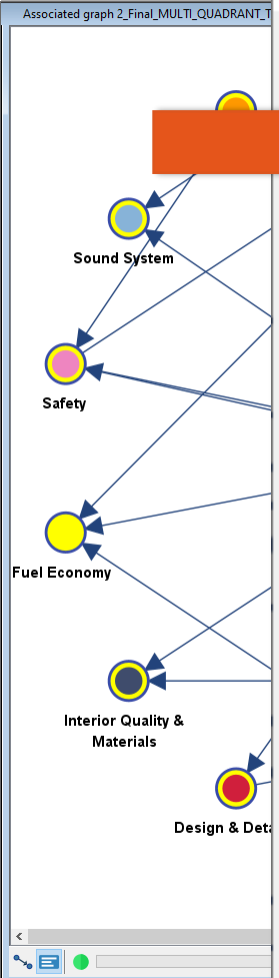
Genetic Shift+A



Joint Probability: 100.00%
 Log-Loss: 0
 Cases: 803
 Total Value: 131.563
 Mean Value: 7.739



Dynamic Profile



Profile Search Criterion

- Probability State All ▼
 - Mean
 - Probability Difference Between Two States
- First State 1.5 ▼ Second State 3.5 ▼

Criterion Optimization

- Maximization
- Minimization
- Take Into Account the Joint Probability
- Utilize Evidence Cost

Options

- Restrict Search to the Selected Nodes
- Compute Only Marginal Effects
- Associate Evidence Scenario File
 - Use Node Long Name
 - Use State Long Name

OK

Cancel

Search Method

- Hard Evidence

Numerical Evidence Proportional to:

- Mean
- Domain
- Progression Margins

Edit Constraints

Distribution Estimation Method:

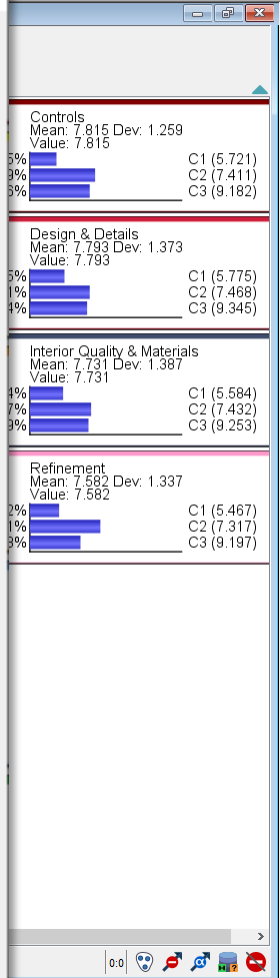
- Fix Means MinXEnt Binary
- Fix Probabilities MinXEnt Binary Value Shift

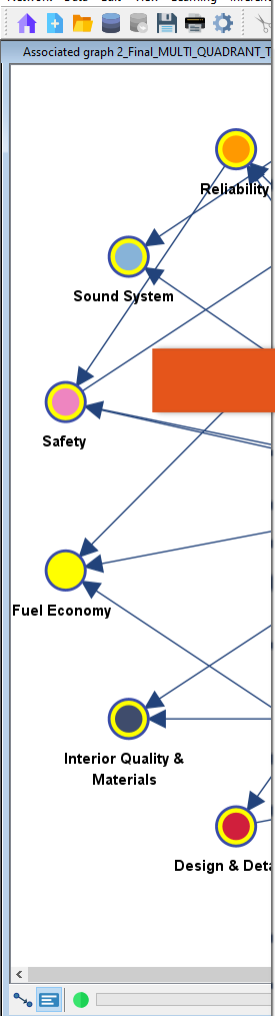
Intermediate Points 100 ▲▼

Direct Effects

Search Stop Criteria

- Maximum Size of Evidence 3 ▲▼
- Minimum Joint Probability 4 ▲▼
- Use the Automatic Stop Criterion





Dynamic Profile



Profile Search Criterion

- Probability State All ▼
 - Mean
 - Probability Difference Between Two States
- First State 1.5 ▼ Second State 3.5 ▼

Criterion Optimization

- Maximization
- Minimization
- Take Into Account the Joint Probability
- Utilize Evidence Cost

Options

- Restrict Search to the Selected Nodes
- Compute Only Marginal Effects
- Associate Evidence Scenario File
 - Use Node Long Name
 - Use State Long Name

OK Cancel

Search Method

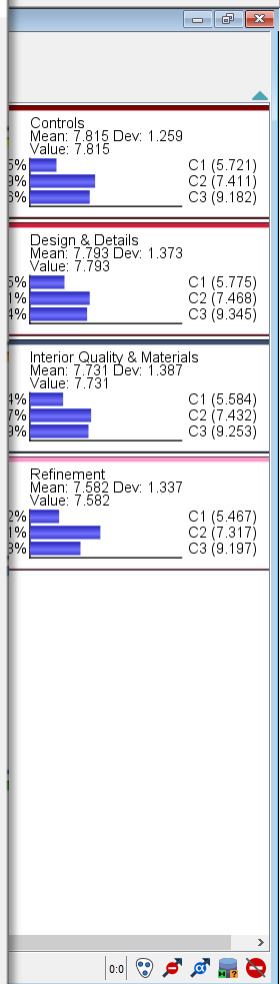
- Hard Evidence
- Numerical Evidence Proportional to:
- Mean
 - Domain
 - Progression Margins
- Edit Constraints

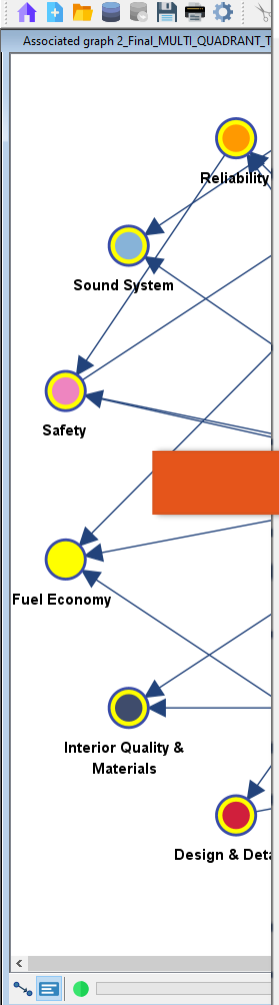
Distribution Estimation Method:

- Fix Means MinXEnt Binary
- Fix Probabilities MinXEnt Binary Value Shift
- Intermediate Points 100 ▲▼
- Direct Effects

Search Stop Criteria

- Maximum Size of Evidence 3 ▲▼
- Minimum Joint Probability 4 ▲▼
- Use the Automatic Stop Criterion





Dynamic Profile



Profile Search Criterion

Probability State All v

Mean

Probability Difference Between Two States

First State 1.5 v Second State 3.5 v

Criterion Optimization

Maximization

Minimization

Take Into Account the Joint Probability

Utilize Evidence Cost

Options

Restrict Search to the Selected Nodes

Compute Only Marginal Effects

Associate Evidence Scenario File

Use Node Long Name

Use State Long Name

OK Cancel

Search Method

Hard Evidence

Numerical Evidence Proportional to:

Mean Domain Progression Margins Edit Constraints

Distribution Estimation Method:

Fix Means MinXEnt Binary

Fix Probabilities MinXEnt Binary Value Shift

Intermediate Points 100 u d

Direct Effects

Search Stop Criteria

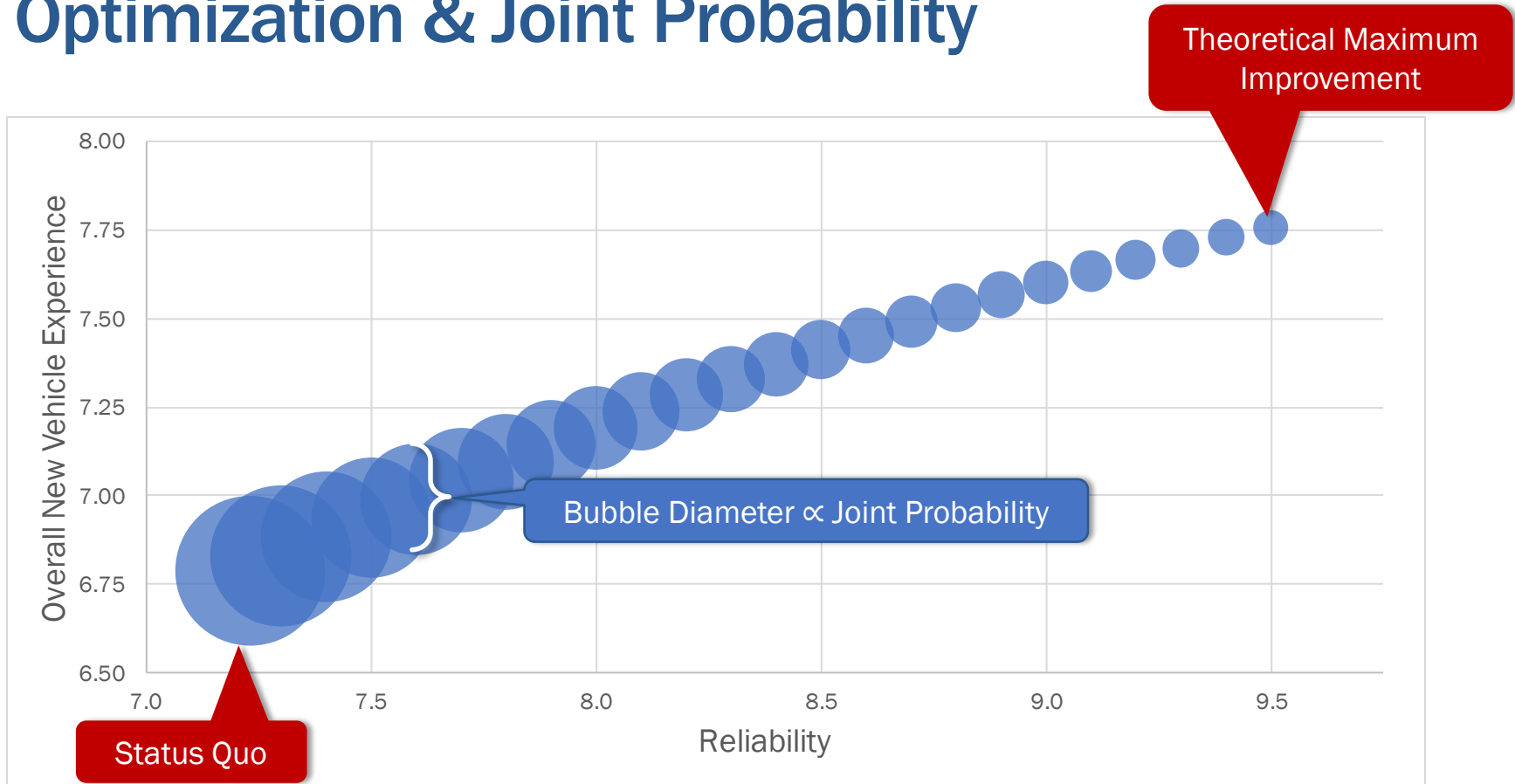
Maximum Size of Evidence 3 u d

Minimum Joint Probability 4 u d

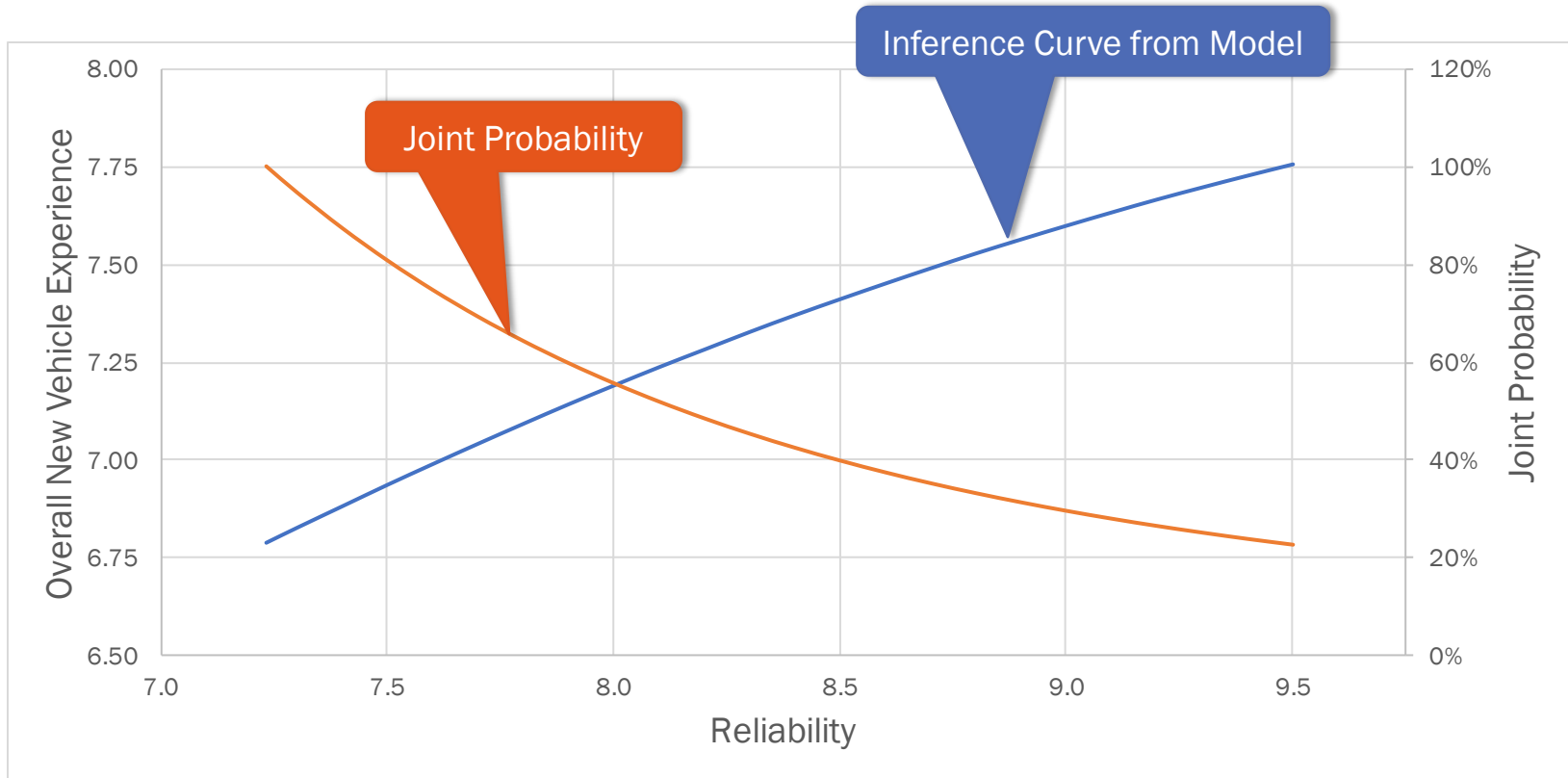
Use the Automatic Stop Criterion

| | |
|---|------------|
| Controls | |
| Mean: 7.815 Dev: 1.259 | |
| Value: 7.815 | |
| 5% | C1 (6.721) |
| 9% | C2 (7.411) |
| 9% | C3 (9.182) |
| Design & Details | |
| Mean: 7.793 Dev: 1.373 | |
| Value: 7.793 | |
| 5% | C1 (5.775) |
| 1% | C2 (7.458) |
| 4% | C3 (9.345) |
| Interior Quality & Materials | |
| Mean: 7.731 Dev: 1.387 | |
| Value: 7.731 | |
| 4% | C1 (5.584) |
| 7% | C2 (7.432) |
| 9% | C3 (9.253) |
| Refinement | |
| Mean: 7.582 Dev: 1.337 | |
| Value: 7.582 | |
| 2% | C1 (5.467) |
| 1% | C2 (7.317) |
| 3% | C3 (9.197) |

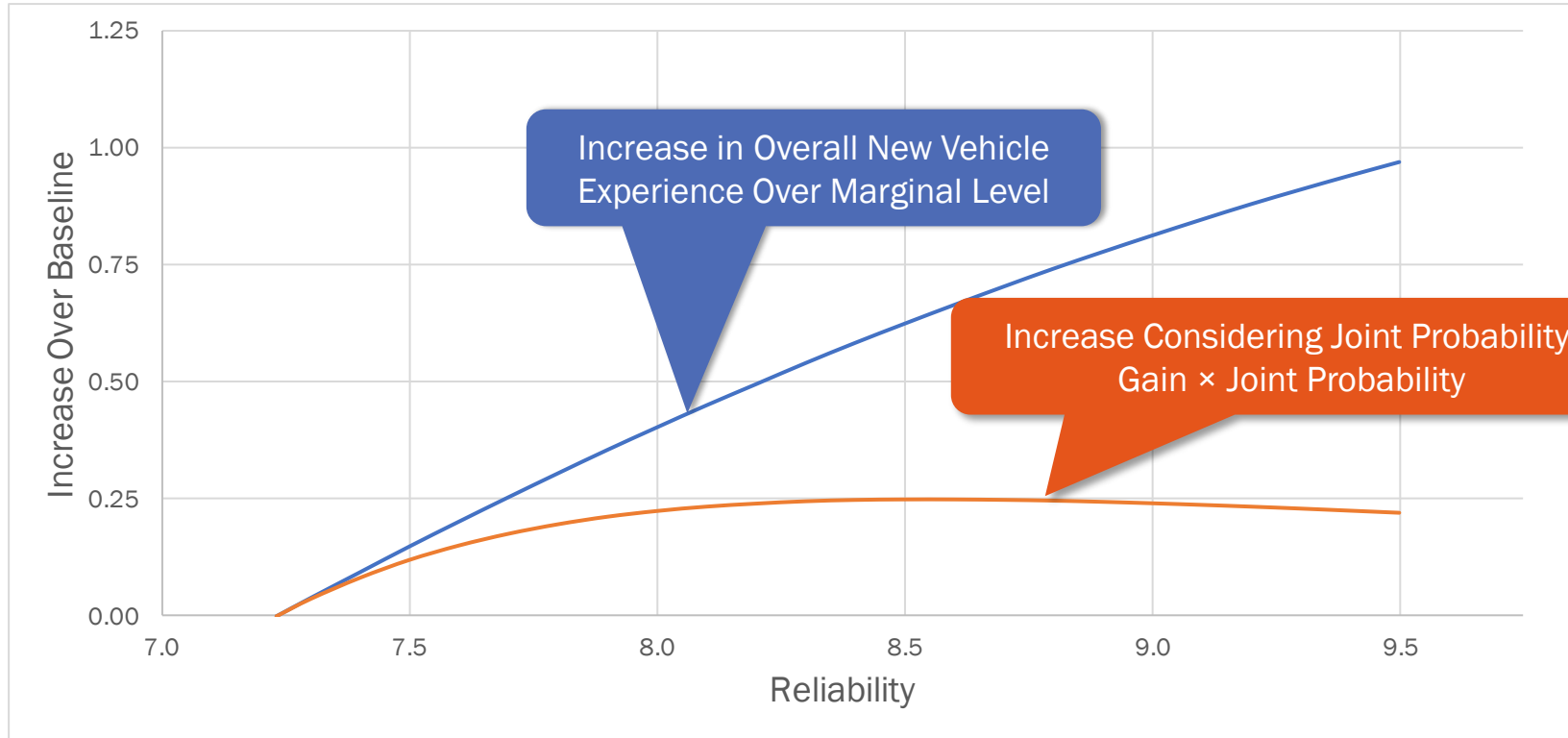
Optimization & Joint Probability

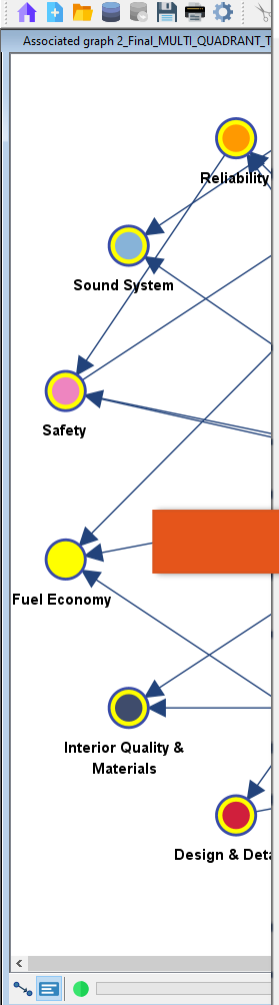


Optimization & Joint Probability



Optimization & Joint Probability





Dynamic Profile



Profile Search Criterion

Probability State All v

Mean

Probability Difference Between Two States

First State 1.5 v Second State 3.5 v

Criterion Optimization

Maximization

Minimization

Take Into Account the Joint Probability

Utilize Evidence Cost

Options

Restrict Search to the Selected Nodes

Compute Only Marginal Effects

Associate Evidence Scenario File

Use Node Long Name

Use State Long Name

OK Cancel

Search Method

Hard Evidence

Numerical Evidence Proportional to:

Mean Domain Progression Margins Edit Constraints

Distribution Estimation Method:

Fix Means MinXEnt Binary

Fix Probabilities MinXEnt Binary Value Shift

Intermediate Points 100 u d

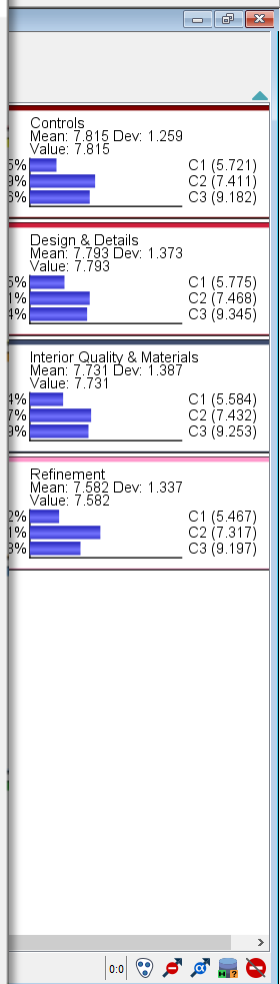
Direct Effects

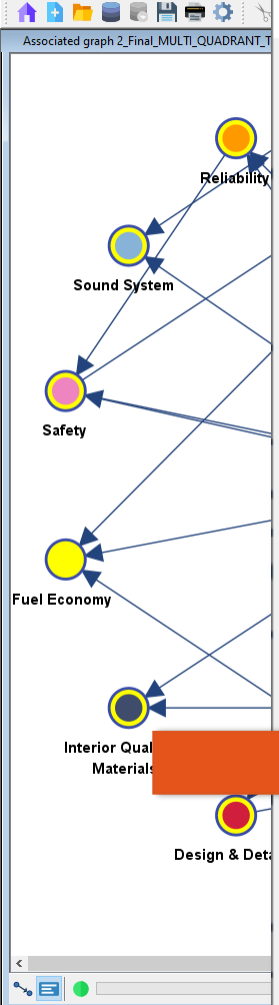
Search Stop Criteria

Maximum Size of Evidence 3 u d

Minimum Joint Probability 4 u d

Use the Automatic Stop Criterion





Dynamic Profile



Profile Search Criterion

Probability State All v

Mean

Probability Difference Between Two States

First State 1.5 v Second State 3.5 v

Criterion Optimization

Maximization

Minimization

Take Into Account the Joint Probability

Utilize Evidence Cost

Options

Restrict Search to the Selected Nodes

Compute Only Marginal Effects

Associate Evidence Scenario File

Use Node Long Name

Use State Long Name

Search Method

Hard Evidence

Numerical Evidence Proportional to:

Mean Domain Progression Margins Edit Constraints

Distribution Estimation Method:

Fix Means MinXEnt Binary

Fix Probabilities MinXEnt Binary Value Shift

Intermediate Points 100 u d

Direct Effects

Search Stop Criteria

Maximum Size of Evidence 3 u d

Minimum Joint Probability 4 u d

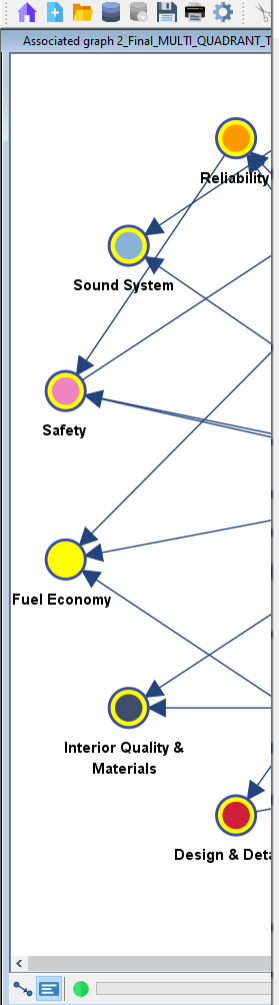
Use the Automatic Stop Criterion

OK Cancel



| | |
|---|------------|
| Controls | |
| Mean: 7.815 Dev: 1.259 | |
| Value: 7.815 | |
| 5% | C1 (6.721) |
| 9% | C2 (7.411) |
| 9% | C3 (9.182) |
| Design & Details | |
| Mean: 7.793 Dev: 1.373 | |
| Value: 7.793 | |
| 5% | C1 (5.775) |
| 1% | C2 (7.458) |
| 4% | C3 (9.345) |
| Interior Quality & Materials | |
| Mean: 7.731 Dev: 1.387 | |
| Value: 7.731 | |
| 4% | C1 (5.584) |
| 7% | C2 (7.432) |
| 9% | C3 (9.253) |
| Refinement | |
| Mean: 7.582 Dev: 1.337 | |
| Value: 7.582 | |
| 2% | C1 (5.467) |
| 1% | C2 (7.317) |
| 3% | C3 (9.197) |





Dynamic Profile



Profile Search Criterion

Probability State All

Mean

Probability Difference Between States

First State 1.5 Second State 3.5

Criterion Optimization

Maximization

Minimization

Take Into Account the Joint Probability

Utilize Evidence Cost

Options

Restrict Search to the Selected Nodes

Compute Only Marginal Effects

Associate Evidence Scenario File

Use Node Long Name

Use State Long Name

Search Method

Hard Evidence

Numerical Evidence Proportional to:

Mean Domain Progression Margins Edit Constraints

Distribution Estimation Method:

Fix Means MinXEnt Binary

Fix Probabilities MinXEnt Binary Value Shift

Intermediate Points 100

Direct Effects

Search Stop Criteria

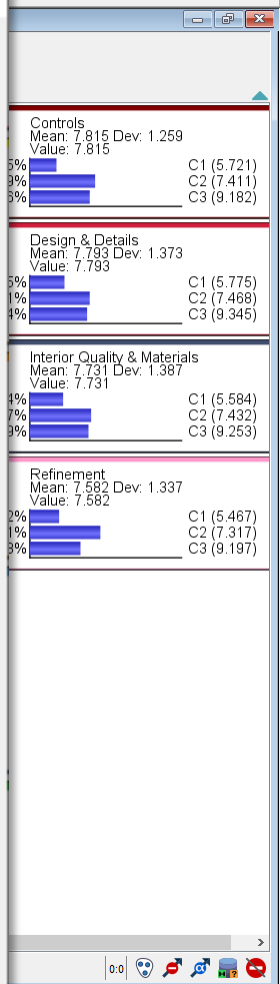
Maximum Size of Evidence 3

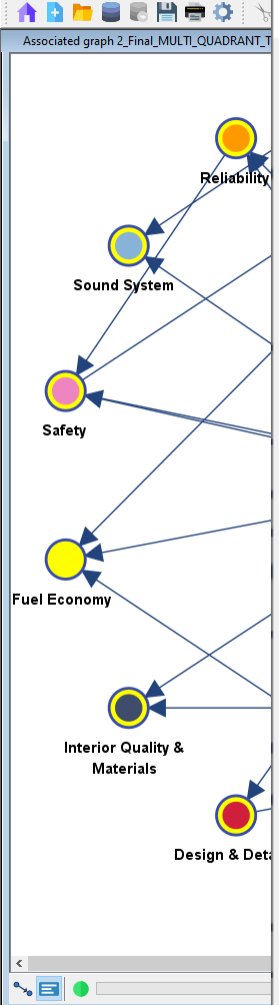
Minimum Joint Probability 4

Use the Automatic Stop Criterion



OK Cancel





Dynamic Profile



Profile Search Criterion

Probability State All

Mean

Probability Difference Between Two States

First State 1.5 Second State 3.5

Criterion Optimization

Maximization

Minimization

Take Into Account the Joint Probability

Utilize Evidence Cost

Options

Restrict Search to the Selected Nodes

Compute Only Marginal Effects

Associate Evidence Scenario File

Use Node Long Name

Use State Long Name

Search Method

Hard Evidence

Numerical Evidence Proportional to:

Mean Domain Progression Margins Edit Constraints

Distribution Estimation Method:

Fix Means MinXEnt Binary

Fix Probabilities MinXEnt Binary Value Shift

Intermediate Points 100

Direct Effects

Search Stop Criteria

Maximum Size of Evidence 3

Minimum Joint Probability 4

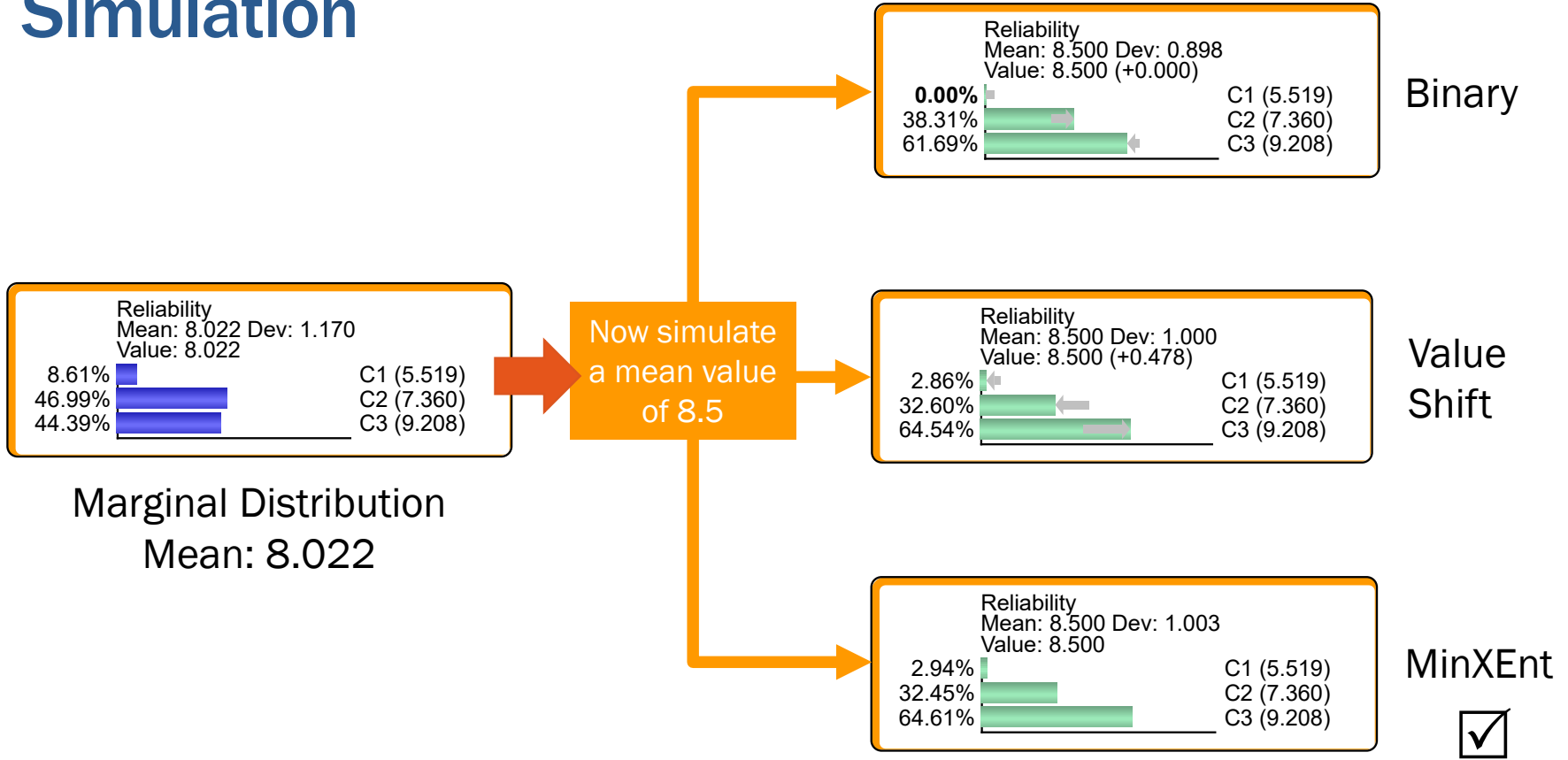
Use the Automatic Stop Criterion



OK Cancel

| | |
|---|------------|
| Controls | |
| Mean: 7.815 Dev: 1.259 | |
| Value: 7.815 | |
| 5% | C1 (6.721) |
| 9% | C2 (7.411) |
| 9% | C3 (9.182) |
| Design & Details | |
| Mean: 7.793 Dev: 1.373 | |
| Value: 7.793 | |
| 5% | C1 (5.775) |
| 1% | C2 (7.458) |
| 4% | C3 (9.345) |
| Interior Quality & Materials | |
| Mean: 7.731 Dev: 1.387 | |
| Value: 7.731 | |
| 4% | C1 (5.584) |
| 7% | C2 (7.432) |
| 9% | C3 (9.253) |
| Refinement | |
| Mean: 7.582 Dev: 1.337 | |
| Value: 7.582 | |
| 2% | C1 (5.467) |
| 1% | C2 (7.317) |
| 3% | C3 (9.197) |

Simulation



BayesiaLab - C:\Users\StefanConrady.AzureAD\OneDrive - Bayesia USA\Presentations\2019-11-13 Webinar Target Profile_2_Final_MULTI_QUADRANT_2.xbl

Network Data Edit View Learning Inferenc

Dynamic Profile

Associated graph 2_Final_MULTI_QUADRANT_T

Profile Search Criterion

- Probability State All
- Mean
- Probability Difference Between Two States

First State: 1.5 Second State: 3.5

Search Method

- Hard Evidence

Numerical Evidence Proportional to:

- Mean
- Domain

Distribution Estimation Method:

Edit Constraints

Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

Constraint Editor

| Nodes | Current Mean | Negative Variations (%) | Minimum Mean | Positive Variations (%) | Maximum Mean |
|------------------------------|--------------|-------------------------|--------------|-------------------------|--------------|
| Cargo/Utility | 7.711171 | 100.000 | 5.557419 | 100.000 | 9.19445 |
| Controls | 7.815094 | 100.000 | 5.721124 | 100.000 | 9.181563 |
| Design & Details | 7.793209 | 100.000 | 5.774921 | 100.000 | 9.344769 |
| Design & Proportions | 8.120475 | 100.000 | 5.664436 | 100.000 | 9.317861 |
| Display & Instruments | 7.884715 | 100.000 | 5.901594 | 100.000 | 9.278305 |
| Fuel Economy | 7.545114 | 100.000 | 5.707494 | 100.000 | 9.215326 |
| Interior Quality & Materials | 7.731142 | 100.000 | 5.583609 | 100.000 | 9.252842 |
| Interior Roominess | 7.696836 | 100.000 | 5.666315 | 100.000 | 9.248037 |
| Performance/Handling | 7.89195 | 100.000 | 5.661886 | 100.000 | 9.203026 |
| Price & Value | 7.461763 | 100.000 | 5.801512 | 100.000 | 9.172822 |
| Refinement | 7.581751 | 100.000 | 5.467411 | 100.000 | 9.196675 |
| Reliability | 8.021935 | 100.000 | 5.519425 | 100.000 | 9.20782 |
| Safety | 8.048477 | 100.000 | 5.623357 | 100.000 | 9.343514 |
| Seat Comfort & Adjustability | 7.529636 | 100.000 | 5.62222 | 100.000 | 9.293924 |

Import **Export**

OK **Cancel**

Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

C1 (5.721)
C2 (7.411)
C3 (9.182)

C1 (5.775)
C2 (7.488)
C3 (9.345)

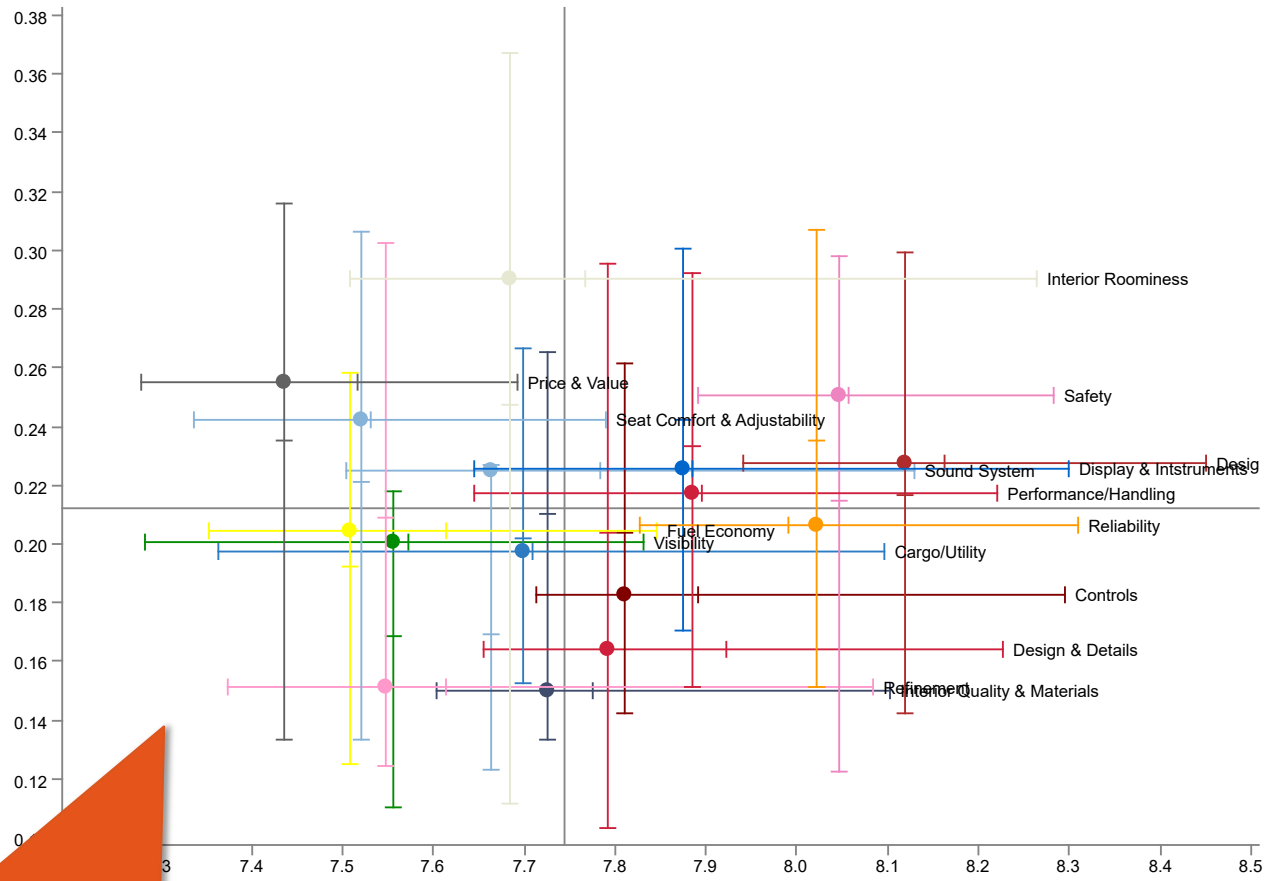
C1 (5.584)
C2 (7.432)
C3 (9.253)

C1 (5.467)
C2 (7.317)
C3 (9.197)

Optimization

Multi-Quadrant Analysis

- Export Ranges

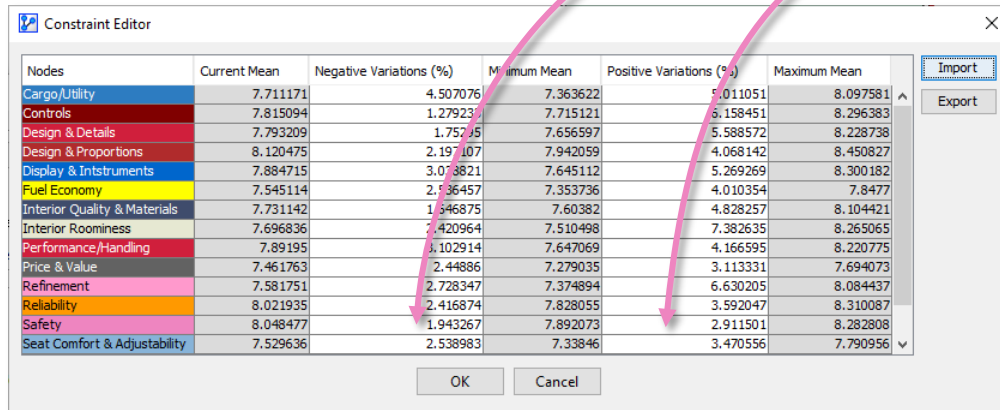


Mean Value

bayesia.com/seminar-key-drivers-analysis

Optimization

Edit Constraints



Constraint Editor

| Nodes | Current Mean | Negative Variations (%) | Minimum Mean | Positive Variations (%) | Maximum Mean |
|------------------------------|--------------|-------------------------|--------------|-------------------------|--------------|
| Cargo/Utility | 7.711171 | 4.507076 | 7.363622 | 5.011051 | 8.097581 |
| Controls | 7.815094 | 1.279233 | 7.715121 | 6.158451 | 8.296383 |
| Design & Details | 7.793209 | 1.752795 | 7.656597 | 5.588572 | 8.228738 |
| Design & Proportions | 8.120475 | 2.197107 | 7.942059 | 4.068142 | 8.450827 |
| Display & Instruments | 7.884715 | 3.073821 | 7.645112 | 5.269269 | 8.300182 |
| Fuel Economy | 7.545114 | 2.136457 | 7.353736 | 4.010354 | 7.8477 |
| Interior Quality & Materials | 7.731142 | 1.946875 | 7.60382 | 4.828257 | 8.104421 |
| Interior Roominess | 7.696836 | 1.420964 | 7.510498 | 7.382635 | 8.265065 |
| Performance/Handling | 7.89195 | 1.102914 | 7.647069 | 4.166595 | 8.220775 |
| Price & Value | 7.461763 | 2.44886 | 7.279035 | 3.113331 | 7.694073 |
| Refinement | 7.581751 | 2.728347 | 7.374894 | 6.630205 | 8.084437 |
| Reliability | 8.021935 | 2.416874 | 7.828055 | 3.592047 | 8.310087 |
| Safety | 8.048477 | 1.943267 | 7.892073 | 2.911501 | 8.282808 |
| Seat Comfort & Adjustability | 7.529636 | 2.538983 | 7.33846 | 3.470556 | 7.790956 |

Buttons: Import, Export, OK, Cancel

BayesiaLab - C:\Users\StefanConrad\AzureAD\OneDrive - Bayesia USA\Presentations\2019-11-13 Webinar Target Dynamic Profile_2_Final_MULTI_QUADRANT_T_2.xbl

Network Data Edit View Learning Inferenc

Dynamic Profile

Associated graph 2_Final_MULTI_QUADRANT_T

Profile Search Criterion

- Probability State All
- Mean
- Probability Difference Between Two States

First State: 1.5 Second State: 3.5

Search Method

- Hard Evidence

Numerical Evidence Proportional to:

- Mean
- Domain

Distribution Estimation Method:

Edit Constraints

Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

C1 (5.721)
C2 (7.411)
C3 (9.182)

C1 (5.775)
C2 (7.488)
C3 (9.345)

C1 (5.584)
C2 (7.432)
C3 (9.253)

C1 (5.467)
C2 (7.317)
C3 (9.197)

Constraint Editor

| Nodes | Current Mean | Negative Variations (%) | Minimum Mean | Positive Variations (%) | Maximum Mean |
|------------------------------|--------------|-------------------------|--------------|-------------------------|--------------|
| Cargo/Utility | 7.711171 | 4.507076 | 7.363622 | 5.011051 | 8.097581 |
| Controls | 7.815094 | 1.279233 | 7.715121 | 6.158451 | 8.296383 |
| Design & Details | 7.793209 | 1.75295 | 7.656597 | 5.588572 | 8.228738 |
| Design & Proportions | 8.120475 | 2.197107 | 7.942059 | 4.068142 | 8.450827 |
| Display & Instruments | 7.884715 | 3.038821 | 7.645112 | 5.269269 | 8.300182 |
| Fuel Economy | 7.545114 | 2.536457 | 7.353736 | 4.010354 | 7.8477 |
| Interior Quality & Materials | 7.731142 | 1.646875 | 7.60382 | 4.828257 | 8.104421 |
| Interior Roominess | 7.696836 | 2.420964 | 7.510498 | 7.382635 | 8.265065 |
| Performance/Handling | 7.89195 | 3.102914 | 7.647069 | 4.166595 | 8.220775 |
| Price & Value | 7.461763 | 2.44886 | 7.279035 | 3.113331 | 7.694073 |
| Refinement | 7.581751 | 2.728347 | 7.374894 | 6.630205 | 8.084437 |
| Reliability | 8.021935 | 2.416874 | 7.828055 | 3.592047 | 8.310087 |
| Safety | 8.048477 | 1.943267 | 7.892073 | 2.911501 | 8.282808 |
| Seat Comfort & Adjustability | 7.529636 | 2.538983 | 7.33846 | 3.470556 | 7.790956 |

Import **Export**

OK Cancel

Dynamic Profile (Associated graph 2_Final_MULTI_QUADRANT_T_2) [4]

Analysis Context
No Observation

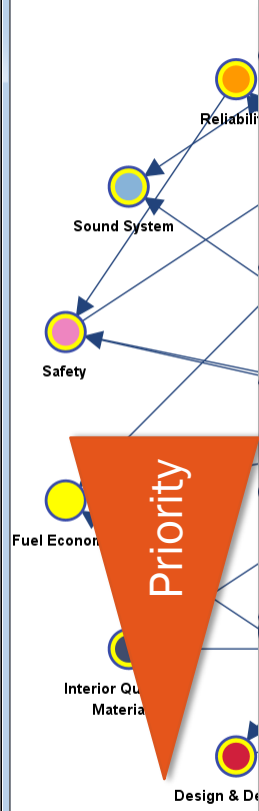
Dynamic Profile Overall New Vehicle Experience: Value/Mean Maximization (A posteriori)

Search Method: Numerical Evidence Proportional to: Mean - Fix Mean (MinXEnt)

Overall New Vehicle Experience

| Node | Prior Value/Mean | Value/Mean at T | Posterior Value/Mean | Value/Mean | 95% Confidence Interval | Joint Probability |
|------------------------------|------------------|-----------------|----------------------|------------|-------------------------|-------------------|
| | <i>A priori</i> | | | 7.509 | [7.400 ; 7.617] | 100.000% |
| Display & Instruments | 7.885 | 7.885 | 8.300 | 7.780 | [7.658 ; 7.902] | 71.274% |
| Design & Details | 7.793 | 7.939 | 8.229 | 7.870 | [7.737 ; 8.003] | 60.361% |
| Controls | 7.815 | 8.055 | 8.296 | 7.936 | [7.799 ; 8.074] | 54.431% |
| Sound System | 7.662 | 8.055 | 8.130 | 7.953 | [7.814 ; 8.092] | 53.069% |
| Refinement | 7.582 | 7.975 | 8.084 | 7.968 | [7.825 ; 8.111] | 50.351% |
| Interior Quality & Materials | 7.731 | 8.038 | 8.104 | 7.981 | [7.837 ; 8.125] | 49.228% |
| Cargo/Utility | 7.711 | 8.145 | 8.069 | 7.993 | [7.783 ; 8.203] | 22.826% |
| Performance/Handling | 7.892 | 8.207 | 8.221 | 7.995 | [7.780 ; 8.211] | 21.637% |

Close Save As... Print Save Scenario



Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

C1 (6.721)
C2 (7.411)
C3 (9.182)

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

C1 (5.775)
C2 (7.488)
C3 (9.345)

Interior Quality & Materials
Mean: 7.731 Dev: 1.387
Value: 7.731

C1 (5.584)
C2 (7.432)
C3 (9.253)

Refinement
Mean: 7.582 Dev: 1.337
Value: 7.582

C1 (5.467)
C2 (7.317)
C3 (9.197)

Dynamic Profile (Associated graph 2_Final_MULTI_QUADRANT_T_2) [4]

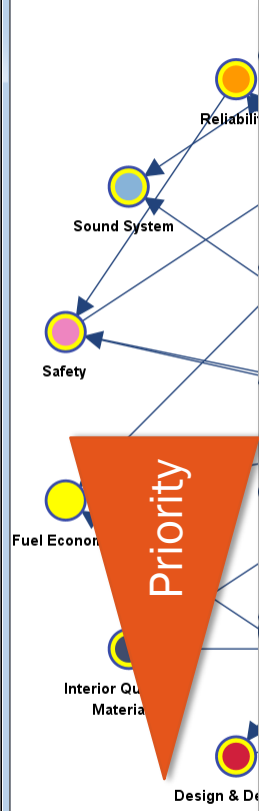
Analysis Context
No Observation

Dynamic Profile Overall New Vehicle Experience: Value/Mean Maximization (A posteriori)
Search Method: Numerical Evidence Proportional to: Mean - Fix Mean (MinXEnt)

Overall New Vehicle Experience

| Node | Prior Value/Mean | Value/Mean at T | Posterior Value/Mean | Value/Mean | 95% Confidence Interval | Joint Probability |
|------------------------------|------------------|-----------------|----------------------|------------|-------------------------|-------------------|
| | <i>A priori</i> | | | 7.509 | [7.400 ; 7.617] | 100.000% |
| Display & Instruments | 7.885 | 7.885 | 8.300 | 7.780 | [7.658 ; 7.902] | 71.274% |
| Design & Details | 7.793 | 7.939 | 8.229 | 7.870 | [7.737 ; 8.003] | 60.361% |
| Controls | 7.815 | 8.055 | 8.296 | 7.936 | [7.799 ; 8.074] | 54.431% |
| Sound System | 7.662 | 8.055 | 8.130 | 7.953 | [7.814 ; 8.092] | 53.069% |
| Refinement | 7.582 | 7.975 | 8.084 | 7.968 | [7.825 ; 8.111] | 50.351% |
| Interior Quality & Materials | 7.731 | 8.038 | 8.104 | 7.981 | [7.837 ; 8.125] | 49.228% |
| Cargo/Utility | 7.711 | 8.145 | 8.069 | 7.993 | [7.783 ; 8.203] | 22.826% |
| Performance/Handling | 7.892 | 8.207 | 8.221 | 7.995 | [7.780 ; 8.211] | 21.637% |

Close Save As... Print Save Scenario



Controls
Mean: 7.815 Dev: 1.259
Value: 7.815

C1 (6.721)
C2 (7.411)
C3 (9.182)

Design & Details
Mean: 7.793 Dev: 1.373
Value: 7.793

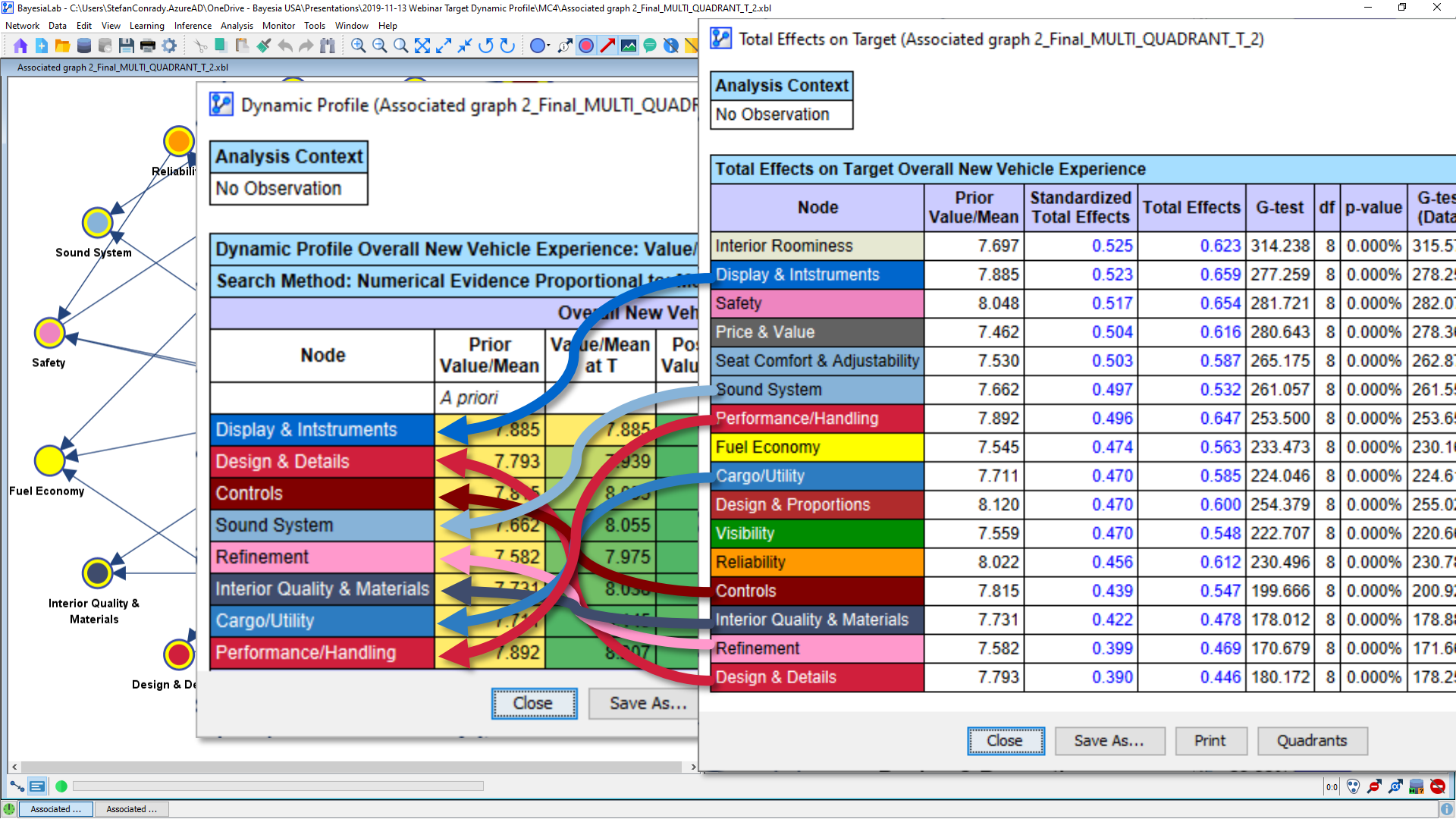
C1 (5.775)
C2 (7.488)
C3 (9.345)

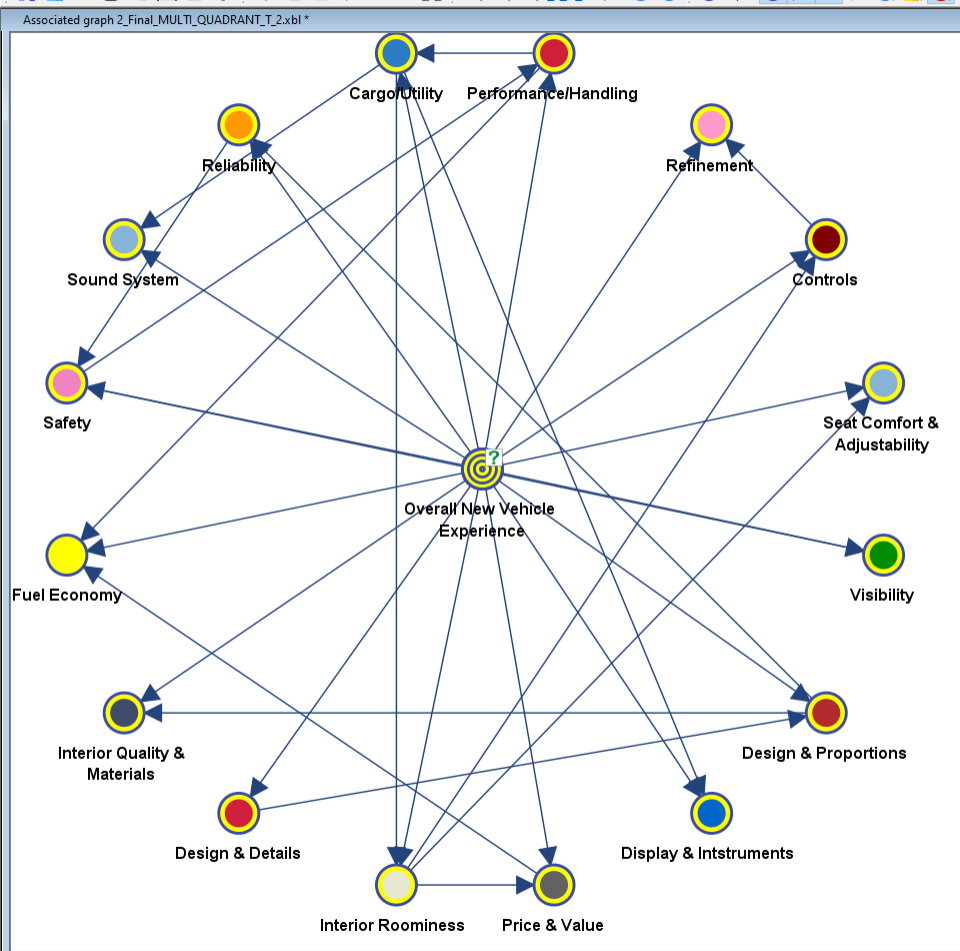
Interior Quality & Materials
Mean: 7.731 Dev: 1.387
Value: 7.731

C1 (5.584)
C2 (7.432)
C3 (9.253)

Refinement
Mean: 7.582 Dev: 1.337
Value: 7.582

C1 (5.467)
C2 (7.317)
C3 (9.197)





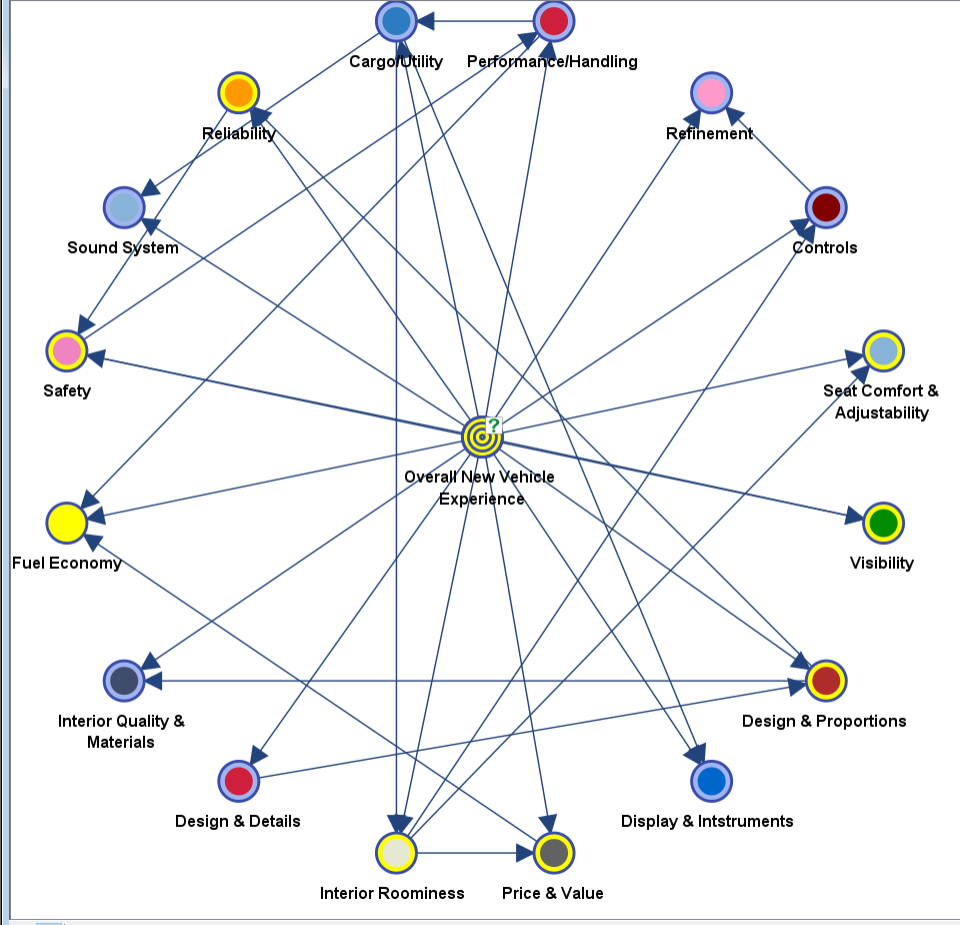
Joint Probability: 100.00%
 Log-Loss: 0
 Cases: 803
 Total Value: 131.563
 Mean Value: 7.739

| Attribute | Mean | Dev. | Value | C1 | C2 | C3 |
|--------------------------------|-------|-------|-------|--------|--------|--------|
| Overall New Vehicle Experience | 7.509 | 1.570 | 7.509 | | | |
| Design & Proportions | 8.120 | 1.231 | 8.120 | 11.29% | 42.70% | 46.02% |
| Design & Details | 7.793 | 1.373 | 7.793 | 22.85% | 39.21% | 37.94% |
| Performance/Handling | 7.892 | 1.202 | 7.892 | 13.58% | 47.16% | 39.24% |
| Interior Quality & Materials | 7.731 | 1.387 | 7.731 | 21.64% | 39.91% | 38.39% |
| Interior Roominess | 7.697 | 1.322 | 7.697 | 20.82% | 43.73% | 35.45% |
| Fuel Economy | 7.545 | 1.322 | 7.545 | 26.95% | 43.01% | 30.04% |
| Refinement | 7.582 | 1.337 | 7.582 | 19.72% | 46.81% | 33.48% |
| Safety | 8.048 | 1.241 | 8.048 | 11.43% | 46.27% | 42.30% |
| Seat Comfort & Adjustability | 7.530 | 1.345 | 7.530 | 23.76% | 46.28% | 29.96% |
| Reliability | 8.022 | 1.170 | 8.022 | 8.61% | 46.99% | 44.39% |
| Price & Value | 7.462 | 1.286 | 7.462 | 29.60% | 41.82% | 28.58% |
| Cargo/Utility | 7.711 | 1.261 | 7.711 | 17.03% | 48.52% | 34.46% |
| Display & Instruments | 7.885 | 1.245 | 7.885 | 19.17% | 42.61% | 38.22% |
| Visibility | 7.559 | 1.347 | 7.559 | 27.81% | 38.69% | 33.30% |
| Design & Proportions | 7.815 | 1.259 | 7.815 | 17.65% | 42.69% | 39.66% |
| Sound System | 7.652 | 1.465 | 7.652 | 25.31% | 40.92% | 33.77% |

Select an evidence set

| Index | Comment |
|-------|--|
| 0 | Target: Overall New Vehicle Experience Mean: 7.780 |
| 1 | Target: Overall New Vehicle Experience Mean: 7.870 |
| 2 | Target: Overall New Vehicle Experience Mean: 7.936 |
| 3 | Target: Overall New Vehicle Experience Mean: 7.958 |
| 4 | Target: Overall New Vehicle Experience Mean: 7.968 |
| 5 | Target: Overall New Vehicle Experience Mean: 7.981 |
| 6 | Target: Overall New Vehicle Experience Mean: 7.993 |
| 7 | Target: Overall New Vehicle Experience Mean: 7.995 |

8 Rows Include Not Observable



Joint Probability: 21.64%
 Log-Loss: 2.21
 Cases: 173.75
 Total Value: 138,290
 Mean Value: 8.135

| Category | Mean | Dev. | Value | C1 | C2 | C3 |
|--------------------------------|-------|-------|----------------|--------|--------|--------|
| Overall New Vehicle Experience | 7.995 | 1.449 | 7.995 (+0.486) | | | |
| Design & Proportions | 8.490 | 1.110 | 8.490 (+0.369) | 5.97% | 33.20% | 60.84% |
| Design & Details | 8.229 | 1.295 | 8.229 (+0.436) | 13.68% | 33.43% | 52.89% |
| Performance/Handling | 8.221 | 1.141 | 8.221 (+0.329) | 8.52% | 36.68% | 52.79% |
| Interior Quality & Materials | 8.105 | 1.317 | 8.105 (+0.373) | 14.20% | 34.44% | 51.36% |
| Interior Roominess | 8.143 | 1.264 | 8.143 (+0.446) | 12.58% | 35.53% | 51.89% |
| Refinement | 8.084 | 1.251 | 8.084 (+0.503) | 10.33% | 38.70% | 50.98% |
| Fuel Economy | 7.879 | 1.316 | 7.879 (+0.334) | 19.79% | 38.12% | 42.09% |
| Reliability | 8.347 | 1.081 | 8.347 (+0.325) | 4.70% | 37.21% | 58.09% |
| Cargo/Utility | 8.069 | 1.223 | 8.069 (+0.358) | 11.23% | 40.25% | 48.53% |
| Visibility | 7.857 | 1.298 | 7.857 (+0.298) | 20.68% | 35.59% | 43.73% |
| Display & Instruments | 8.300 | 1.162 | 8.300 (+0.416) | 10.81% | 35.00% | 54.19% |
| Seat Comfort & Adjustability | 7.931 | 1.337 | 7.931 (+0.401) | 15.90% | 40.43% | 43.67% |
| Controls | 8.296 | 1.135 | 8.296 (+0.481) | 8.64% | 33.11% | 58.25% |
| Price & Value | 7.824 | 1.277 | 7.824 (+0.362) | 20.47% | 38.63% | 40.91% |
| Safety | 8.390 | 1.162 | 8.390 (+0.342) | 6.84% | 37.18% | 55.98% |
| Sound System | 8.130 | 1.411 | 8.130 (+0.468) | 16.18% | 34.71% | 49.11% |

Thank You!



stefan.conrady@bayesia.us



[BayesianNetwork](#)



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