LISTENING IN

eBusiness Annual Conference
GLEN L. URBAN
April 18, 2002
OUTLINE

• Review Trusted Advisor
• “LISTENING IN” -- Advisor/Virtual Engineer
• Implications
  – New Product Opportunity Identification
  – Trust Based Marketing
VIRTUAL ADVISOR

• Help customers chose best product for them
• Unbiased – fair
• Full Information
• Competitive Comparisons
• Advocate for Customer
• Persona on the web
Hello, My name is Craig Lynch. I am the owner of Hillside Garage. We specialize in repairing trucks and sport utility vehicles.
Let's talk a little about how you will be using the truck.

Can you tell me the kind of things you will doing with the truck? You can check more than one use.

- Driving on rough roads
- Off-road driving
- Towing a trailer
- Driving on icy or snowy roads
- Other hauling
- Hauling home supplies
- Fishing or Hunting

I'm done with checking boxes.
Here are a few trucks that I think you might like. To learn more about a truck, click on its image.

Dodge Dakota Club Cab (2WD)

Dodge Dakota (4WD)

Dodge Dakota (2WD)

Chevy S-10 (2WD)
TECHNICAL VIRTUAL ADVISOR

- Prior Probabilities
- Constant Sum Preference -- Utility
- Dialogue – Q&A and Update Utility
- Question Order – Highest Value of Information
- Calculate Utility
- Recommendations
LISTEN IN

- Advisor/Customer Dialogue
- Listen for Unmet Needs
- Find New Product Opportunities
- Size Opportunities
NEED OPPORTUNITY CRITERIA

- Have Good Existing Product if Utility Up After Each Question
- If Utility for Most Preferred Alternative Drops After a Question – Unmet Need
- Look at Utility Profile
Dialog Responses – Needs Met
Dialog Responses -- Un Met Needs

Responses and Conflict Pairs

<table>
<thead>
<tr>
<th>PAIRS</th>
<th>SMALL TOW</th>
<th>SMALL ICE</th>
<th>SMALL 4 CYL</th>
<th>TOW ICE</th>
<th>TOW 4 CYL</th>
<th>ICE 4 CYL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORRELATION L. T. ZERO</td>
<td>-.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-.9</td>
<td>-.3</td>
</tr>
</tbody>
</table>

Responses and Conflict Pairs
Figure 9 – Drops in maximum overall utility identify unmet needs.
Opportunity Identification --
Click Stream

- Cluster Need Conflict Matrix
- Example: Small and Tow
- Engineering: Create Concept and Specifications
- Rerun Advisor with Concept and calculate share of choices to Simulate Potential
VIRTUAL ENGINEER

Generate Dialog for Conflict Elements

Automate dialog – Attribute

Inconsistency Pairs (most negative correlations)

Design Engineer’s Requirements Input

What / why

Open End
Why do you need a small truck?

- Low price
- Tight parking space
- Easy for parking maneuver
- Fuel economy
- Style
- Others:

I'm done with selecting.
What do you plan on towing?

- Big trailer (8,500 lbs)
- Small trailer (4,500 lbs)
- Boat trailer (6,000 lbs)
- Jet ski (1,000 lbs)
- Others: 
  approx.weight [ ] lbs
- Not sure

I'm done with selecting
What do you plan to haul?

- Bikes
- Construction Materials
- Generators
- Hay
- Other [_____] (approx. weight) [_____] lbs
  (approx. size) [_____] cubic feet
- Not sure

I'm done with selecting
USER SOLUTIONS

• Virtual Engineer Gives Requirements – Engineering Designs Solution
• Can Users Provide Solution Content as Well as Needs
• Design Pallet
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Engine
- Drive Type
- Transmission
- Hauling Capacity
- Towing Capacity
- Steering

**Engine type:**
- 4 Cylinders
- 6 Cylinders
- 8 Cylinders
- 10 Cylinders

**Est. Price:** $14497
**Towing Cap.:** 4427 lbs

**Bed Size:** 6 x 6 x 2 (LxWxH in feet)
**Payload Cap.:** 1509 lbs

**Cab size:** 10 x 6 x 6 (LxWxH in feet)
**Wheel Drive:** 2WD (Rear)

**Fuel Econ (city):** 21.1 mpg
**Transmission:** Manual

**Fuel Econ (hwy):** 26.2 mpg
**Engine:** 4 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Bed length
- Cab Size (4 doors)
- Cab Size (3 doors)
- Wheel Style

**Preset:**
- Compact: w=5 h=5
- Mid-size: w=6 h=6
- Full: w=7 h=7

**Cab width (feet):** 6
5 | 7

**Cab height (feet):** 5
5 | 7

**Est. Price:** $13255

**Bed Size:** 6 x 6 x 2 (LxWxH in feet)

**Cab size:** 10 x 6 x 5 (LxWxH in feet)

**Fuel Econ (city):** 21.4 mpg
**Fuel Econ (highway):** 26.4 mpg

**Towing Cap.:** 4427 lbs
**Payload Cap.:** 1500 lbs
**Wheel Drive:** 2WD (Rear)
**Transmission:** Manual
**Engine:** 4 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:
- Bed length
- Cab Size (by doors)
- Cab Size (by dimension)
- Wheel Style

Bed length (feet): 4

- Est. Price: $12013
- Towing Cap.: 4427 lbs
- Bed Size: 4 x 6 x 2 (LxWxH in feet)
- Payload Cap.: 1500 lbs
- Cab size: 10 x 6 x 5 (LxWxH in feet)
- Wheel Drive: 2WD (Rear)
- Fuel Econ (city): 21.6 mpg
- Transmission: Manual
- Fuel Econ (hwy): 26.6 mpg
- Engine: 4 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Engine
- Drive Type
- Transmission
- Hauling Capacity
- Towing Capacity
- Steering

Maximum Towing Capacity:
- Jet Ski: 1000 lbs
- Horse trailer: 4500 lbs
- Boat trailer: 6000 lbs
- Travel trailer: 8500 lbs

Estimated Price: $16191
Towing Cap.: 6000 lbs

Bed Size: 4 x 6 x 2 (LxWxH in feet)
Cab size: 10 x 6 x 5 (LxWxH in feet)
Fuel Econ (city): 21.6 mpg
Fuel Econ (hwy): 26.6 mpg
Payload Cap.: 1500 lbs
Wheel Drive: 2WD (Rear)
Transmission: Manual
Engine: 4 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:
- Color
- Body Look

Body Look of the truck:
- Standard
- Sporty
- Retro
- Hummer

Est. Price: $16597  
Bed Size: 4 x 6 x 2 (LxWxH in feet)  
Cab Size: 10 x 6 x 5 (LxWxH in feet)  
Fuel Econ (city): 21.6 mpg  
Fuel Econ (hwy): 25.3 mpg  
Towing Cap.: 6522 lbs  
Payload Cap.: 1500 lbs  
Wheel Drive: 2WD (Rear)  
Transmission: Manual  
Engine: 4 Cylinders
Design Palette

Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- **Color**
  - Red
  - Green
  - Blue
  - Black
  - White
  - Pink

- **Body Look**

**Color of the truck:**
- Green

**Est. Price:** $16597
**Towing Cap.:** 6522 lbs
**Bed Size:** 4 x 6 x 2 (LxWxH in feet)
**Payload Cap.:** 1500 lbs
**Cab size:** 10 x 6 x 5 (LxWxH in feet)
**Wheel Drive:** 2WD (Rear)
**Fuel Econ (city):** 21.6 mpg
**Transmission:** Manual
**Fuel Econ (hwy):** 25.3 mpg
**Engine:** 4 Cylinders
Now that you have finished designing your own truck, please tell us how you feel about your new design compared to the existing truck that has been recommended by your advisor.

Existing truck recommended by your advisor

Your design

<table>
<thead>
<tr>
<th></th>
<th>Existing Truck</th>
<th>Your Design</th>
<th>Existing Truck</th>
<th>Your Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Est. Price</td>
<td>$16010</td>
<td>$19133</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bed Size: 6 x 5 x 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cab size: 10 x 5 x 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Econ (city)</td>
<td>16.4 mpg</td>
<td>21.5 mpg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel Econ (high)</td>
<td>21.0 mpg</td>
<td>25.2 mpg</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Go back to design</td>
<td>I'm done with my evaluation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPLICATION

- Pickup Trucks
- August 2001
- 1092 User Sessions – Harris Interactive Panel
- Advisor/Virtual Engineer/Design Pallet Session – 30 Minutes
- Evaluative Questionnaire
EXAMPLE CONFLICTS

• Maneuver and Full 38%
• Compact and Tow and Haul 14%
• 6 Cylinder and Full 7%
Clustering:

- Maneuverable & Full (26%)
  - Standard (16%)
  - Powerful 10%
- Compact & Tow/Haul (13%)
- No Major Conflicts (61%)
VIRTUAL ENGINEER

• Evaluative
  – 88% Easy to Answer
  – 77% Reflected My Needs
High Maneuverability vs. Full Truck

(38%)

Reasons:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tight parking</td>
<td>58%</td>
</tr>
<tr>
<td>U-turn</td>
<td>26%</td>
</tr>
<tr>
<td>Frequent city</td>
<td>66%</td>
</tr>
<tr>
<td>Traffic jam</td>
<td>28%</td>
</tr>
<tr>
<td>Large payload</td>
<td>50%</td>
</tr>
<tr>
<td>Large passenger capacity</td>
<td>73%</td>
</tr>
<tr>
<td>Style</td>
<td>39%</td>
</tr>
</tbody>
</table>
### Towing Ability vs. Compact Truck (6%)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small trailer (4500lbs)</td>
<td>59%</td>
</tr>
<tr>
<td>Boat trailer (6000lbs)</td>
<td>27%</td>
</tr>
<tr>
<td>Jet Ski (1000lbs)</td>
<td>12%</td>
</tr>
<tr>
<td>Big trailer (8500lbs)</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reason</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Economy</td>
<td>87%</td>
</tr>
<tr>
<td>Low price</td>
<td>54%</td>
</tr>
<tr>
<td>Easy Maneuver</td>
<td>43%</td>
</tr>
<tr>
<td>Style</td>
<td>26%</td>
</tr>
<tr>
<td>Tight parking</td>
<td>22%</td>
</tr>
</tbody>
</table>
Hauling Ability vs. Compact Truck
(14%)

- Garden Supply: 59%
- Grocery: 57%
- Construction: 29%
- Bikes: 17%
- Generators: 5%
- Hay: 5%
- Surf board: 5%
- Motorcycle: 5%

- Fuel Economy: 85%
- Low price: 60%
- Easy Maneuver: 50%
- Tight parking: 27%
- Style: 25%
DESIGN PALLETT

- Evaluative
  - 82% Serious Exercise
  - 73% Would Buy Their Design
PALLET DESIGNS*

Design A – Big  $30,000,  Tow  4-Door  4WD  Auto
Design B – Mid  $27,000  Tow  4-Door  4WD  Auto
Design C – Mid  $22,000  Tow  4-Door  2WD  Auto
Design D – Mid  $21,000  Tow  4-Door  2WD  Manual
Design E – Small  $13,000  Some Tow  2-Door  2WD  Manual

*60% Change more than options
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Engine
  - Engine type:
    - 4 Cylinders
    - 6 Cylinders
    - 8 Cylinders
    - 10 Cylinders

- Drive Type
- Transmission
- Hauling Capacity
- Towing Capacity
- Steering

Specifications:

- Est. Price: $30244
- Towing Cap.: 8561 lbs
- Bed Size: 8 x 7 x 2 (LxWxH in feet)
- Payload Cap.: 3863 lbs
- Cab Size: 12 x 7 x 6 (LxWxH in feet)
- Wheel Drive: 4WD
- Fuel Econ (city): 13.5 mpg
- Transmission: 5-speed auto
- Fuel Econ (highway): 18.6 mpg
- Engine: 8 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Engine:
  - Drive Type
  - Transmission
  - Hauling Capacity
  - Towing Capacity
  - Steering

Engine type:
- 4 Cylinders
- 6 Cylinders
- 8 Cylinders
- 10 Cylinders

Estimated Price: $2,728
Towing Cap.: 8,561 lbs
Bed Size: 6 x 6 x 2 (LxWxH in feet)
Payload Cap.: 1,951 lbs
Cab Size: 12 x 6 x 6 (LxWxH in feet)
Wheel Drive: 4WD
Fuel Econ (city): 14.0 mpg
Transmission: 4-speed auto
Fuel Econ (highway): 18.9 mpg
Engine: 8 Cylinders
Please design your ideal truck that you would like to buy:

Choose below for more variable options:

**Engine**
- Drive Type
- Transmission
- Hauling Capacity
- Towing Capacity
- Steering

**Engine type:**
- ☐ 4 Cylinders
- ☐ 6 Cylinders
- □ 8 Cylinders
- ☐ 10 Cylinders

**Est. Price:** $22196

**Bed Size:** 6 x 6 x 2 (LxWxH in feet)

**Payload Cap.:** 2285 lbs

**Cab Size:** 12 x 6 x 6 (LxWxH in feet)

**Wheel Drive:** 2WD (Rear)

**Fuel Econ (city):** 14.5 mpg

**Transmission:** Manual

**Fuel Econ (hiwy):** 20.5 mpg

**Engine:** 8 Cylinders

**Towing Cap.:** 8959 lbs
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- **Engine**
  - Drive Type
  - Transmission
  - Hauling Capacity
  - Towing Capacity
  - Steering

**Engine type:**
- 4 Cylinders
- 6 Cylinders
- **8 Cylinders**
- 10 Cylinders

**Est. Price:** $21396

**Bed Size:** 6 x 6 x 2 (LxWxH in feet)

**Cab Size:** 12 x 6 x 6 (LxWxH in feet)

**Fuel Econ (city):** 14.5 mpg

**Fuel Econ (highway):** 20.5 mpg

**Towing Cap.:** 8959 lbs

**Payload Cap.:** 2285 lbs

**Wheel Drive:** 2WD (Rear)

**Transmission:** Manual

**Engine:** 8 Cylinders
Please design your ideal truck that you would like to buy.

Choose below for more variable options:

- Engine
- Drive Type
- Transmission
- Hauling Capacity
- Towing Capacity
- Steering

Engine type:
- 4 Cylinders
- 6 Cylinders
- 8 Cylinders
- 10 Cylinders

Est. Price: $13260
Towing Cap.: 4736 lbs
Bed Size: 6 x 5 x 2 (LxWxH in feet)
Payload Cap.: 1500 lbs
Cab size: 10 x 5 x 5 (LxWxH in feet)
Wheel Drive: 2WD (Rear)
Fuel Econ (city): 17.0 mpg
Transmission: Manual
Fuel Econ (hwy): 22.5 mpg
Engine: 6 Cylinders
User Design

**Big_Maneuverable:**

From Two Wheel Steering:

- Four Wheel Steering: +6

From Truck Width = 6 feet:

- Truck Width = 7 feet: +15

From Truck Height = 6 feet:

- Truck Height = 7 feet: +16

**Small_Tow_Haul:**

From Haul Grocery:

- Haul Lumber (3000 lbs): +21
- Haul Generator (4500 lbs): +3

From Tow Jet Ski:

- Tow boat (6000 lbs): +8
- Tow Horse (4500 lbs): +10
- Tow Travel (8500 lbs): +1

From Bed Length = 6 feet:

- Bed Length = 7 feet: +10
- Bed Length = 8 feet: +7
SIMULATED POTENTIAL

• One Share Point of Pickup Truck Market is $800 Million
• Full / Maneuver –
  – Four Wheel Steering
  – +$3,000
• Compact / Haul and/or Tow
  – Small Truck Plus strength frame, transmission, V6
  – +$2,000
• Share – Significant Potential
• GM now Introducing 4 Wheel Steering
MANAGERIAL IMPLICATIONS

• New Low Cost Way to Get Earlier Identification of Opportunities
• Next Do Formal Concept and Conjoint Design Research
• If Trusted Advisor Must have the Best Products to Succeed