



Using implicit associations to define the future sound of Electric Vehicles

Insight Show, June 30th 2011

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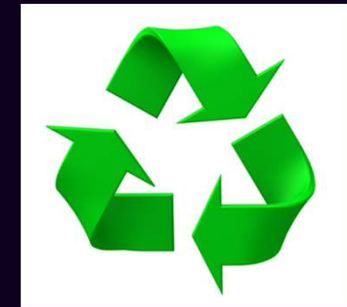
With comments..



I started by asking the audience how many of them were most likely to own an EV in the next 10 years



New technology evolution or (r)evolution = New Challenges





Sound



The lack of sound of EV engines is a key challenge because:

Safety – Driving experience

Car Manufacturers don't create sound,
they ask experts to do it for them



HARMAN

HARMAN designs, manufactures and markets a wide range of audio and infotainment solutions for the automotive, consumer and professional markets.

20 mio vehicles equipped

\$3,5 bn in Sales in 2010

11k employees,
3 continents

HALO SONIC™

- HARMAN and Lotus Engineering partnership
- Have developed two noise management solutions:

cancel unwanted
noise inside the car

generate the
desired sound of
an engine



Vehicles can sound however we want them to sound

Possibility to change the sound when we want

Adapting strategy to evolution of the market

*Opportunity to create
signature sounds for
brand, type, model,
context !*



Great Potential = Great Challenges

- ▶ Where do we start? > Blank sheet
- ▶ Many directions
- ▶ Many questions



The most appropriate sound is the one that
is the most coherent with the type of
vehicle, brand and context

2 similar cars in the same context may have the same engine noise on paper – a hum, but a Ford will most likely sound different than a BMW – the question is how different? Well that depends on the meaning we associate with each brand, type of vehicle and thus sound.

<i>Brand</i>	<i>Type</i>	<i>Context</i>	<i>Sound</i>
	Family Car	Urban Traffic	Hum
	Family Car	Urban Traffic	Hum

Friendly
Fun
Youthful

Serious
Respectable
Sophisticated



The most appropriate sound is the one that
is the most coherent with type of vehicle,
brand and context

It's a sound that conveys the same values;
the **same meanings**



Brand, vehicle type, sound meanings are

Implicit associations

*what we feel, our impressions,
and the meanings we associate*

intuitive, non-conscious



3 types of Implicit Associations

Functional

Emotional

Abstract

Conceptualisations
Conceptual associations



4 rules of Conceptual Associations



1. Everything has a Conceptual Cloud

Love

Passion

Violence

Warmth

Masculine

Feminine



2. Conceptualisations play a key role in decision making

If we had to choose a home insurance policy from 4 policies of the same price, but from 4 different companies we would still choose a company rather than another because of the meaning we associate with them – i.e. we choose Zurich because we feel an insurance should be serious and confident..



Serious
Confident



Dependable
Uncomplicated



Friendly
Honest



Traditional
Serious



3. Knowing the implicit associations is a condition of success



*'Most liked' doesn't mean
'most successful'*



*'Most successful' doesn't mean
'most liked'*



These are just 4 examples that show that explicit measures (liking, preferences, opinions) are not enough to create a successful product, the market is full of examples; brands that really want to differentiate need to take into account the implicit and this at all touch points (i.e. sound for EV, packaging, ads, product)



4. Implicit associations are hidden, non-conscious, intuitive

Yet accessible with the right tools!



Brandphonics was specifically designed to reveal
implicit associations

quantitatively

by allowing consumers to express
how they feel

intuitively



How?

By giving consumers:



Conceptual Lexicon



Simple & Intuitive Data
collection Methods



Analysis:
Conceptual profiles
Comparative measures



Back to our research..

Using implicit associations to define the
future sound of Electric Vehicles

Complete Research spectrum

1st stage - Explorative research - Opinions

- Understand needs & expectations towards EVs & petrol cars
- Define what type of sounds are most appropriate for EVs - explicitly

2nd stage - Explorative research - Conceptual Associations

- Reveal conceptual meaning of vehicle types and sound prototypes
- Provide different sound directions; incl. conceptual sound mapping

3rd stage - Creation of sound concepts (electric/synthetic and replica petrol)

4th stage: Sound concept evaluation

- Conceptual profiling of new sound concepts and car types
- Conceptual profiling of selected brands
- Measure of brand and concept fit; conceptual sound mapping

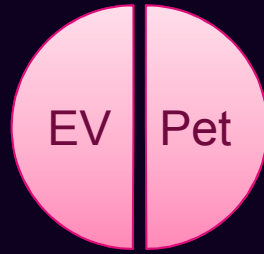
5th stage - Development of Sound Toolbox

Stages 1-2 : The Methodology

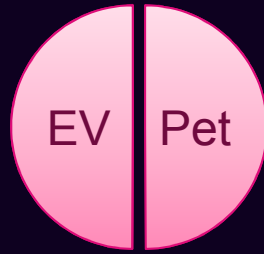


*Conceptual
Profile of
Car type
(images)*

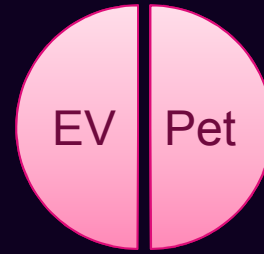
Cell 1
Family Car



Cell 2
4x4

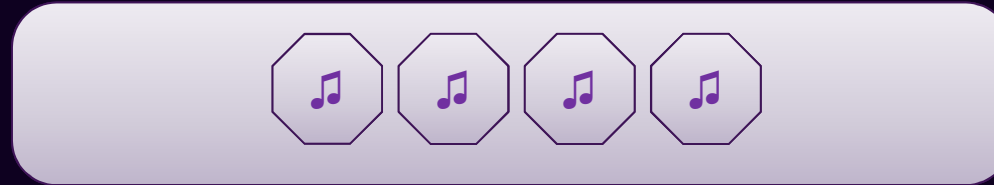


Cell 3
Sports Car



Conceptual

*Conceptual
Profile of
3/4 Car sounds
(3 petrol, 1 EV)*



*Opinions,
hedonics, PI
EV & Sounds*



Objective



Setting the scene

Stage 1 - Opinions

- Type of engine sound is **linked with the driving experience**
 - 4x4, sports cars, younger drivers > **replica petrol** (60%)
 - Family cars: equally divided **between electric/synthethised** and **replica petrol** (50/50)
- Sound level of **'petrol engines'** should be the same (4x4, sports, young) or quieter (family, women)
- Sound level of **'electric engines'** should be
 - Quieter (all)
 - As well as modern and smooth, rather a 'hum' or 'whirr' (tick list)



Setting the scene

Stage 1 - Opinions

- Sound needs to be linked to acceleration/deceleration
- Sound level should increase when accelerating and decelerating
- Respondents are highly interested in the ability to change sound to suit context
- Respondents believe the sound should differ and be recognisable by manufacturer and by type
 - Linked with driving experience

Clear indication of the great potential for Harman to develop sound signatures



Stage 2 - Conceptual Associations



Stage 2 - part 1

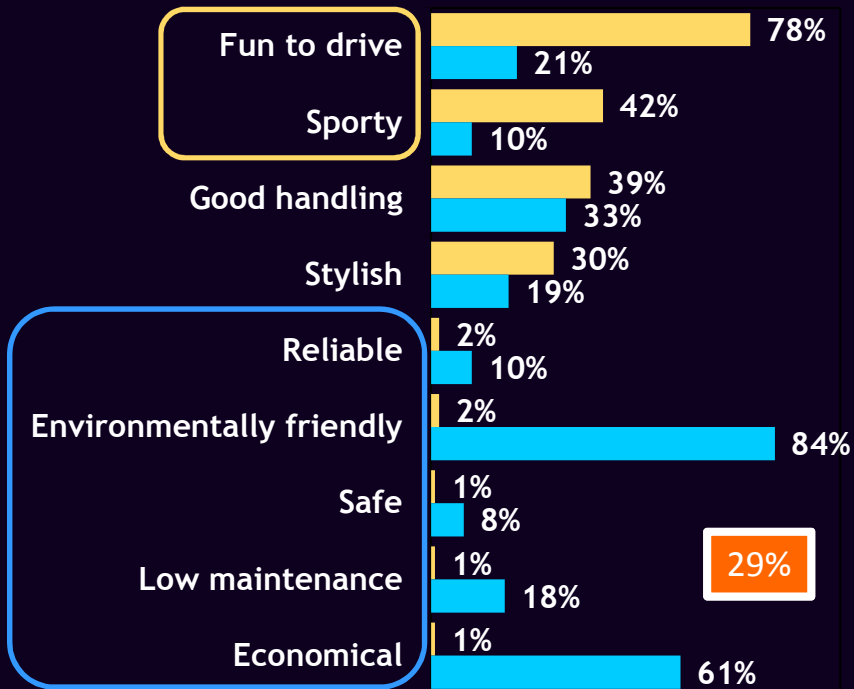
- The research provides us with complete **emotional** and **functional** profiles for all car types and potential engine types

	Family	4x4	Petrol
EV	✓ ✓	✓ ✓	✓ ✓
Petrol	✓ ✓	✓ ✓	✓ ✓

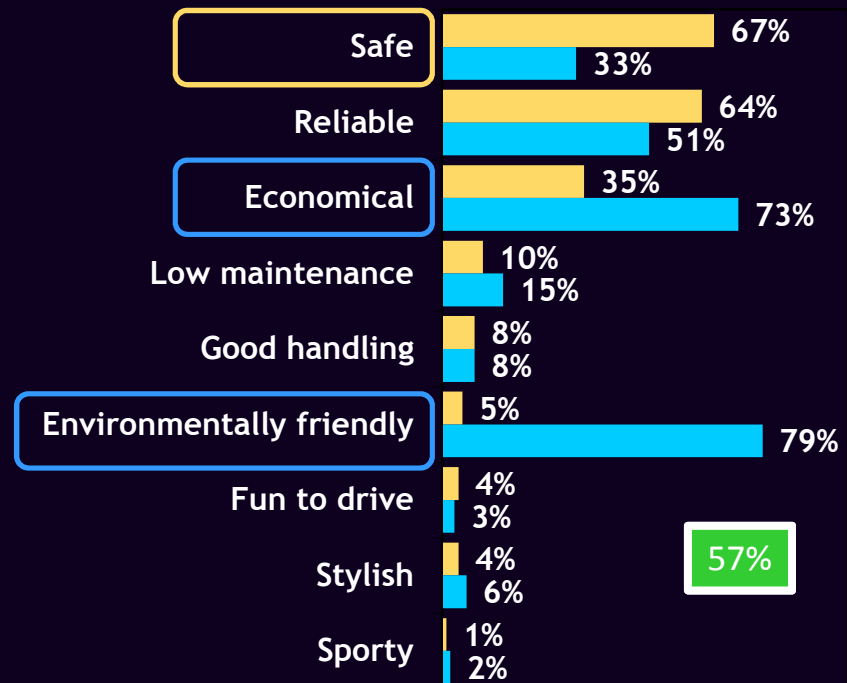
Functional profile example

Sports Car vs. Family Car

■ Petrol/diesel ■ Hybrid/electric



EVs that want to be sports cars need to convince more on 'sportivity' and 'fun to drive' aspects

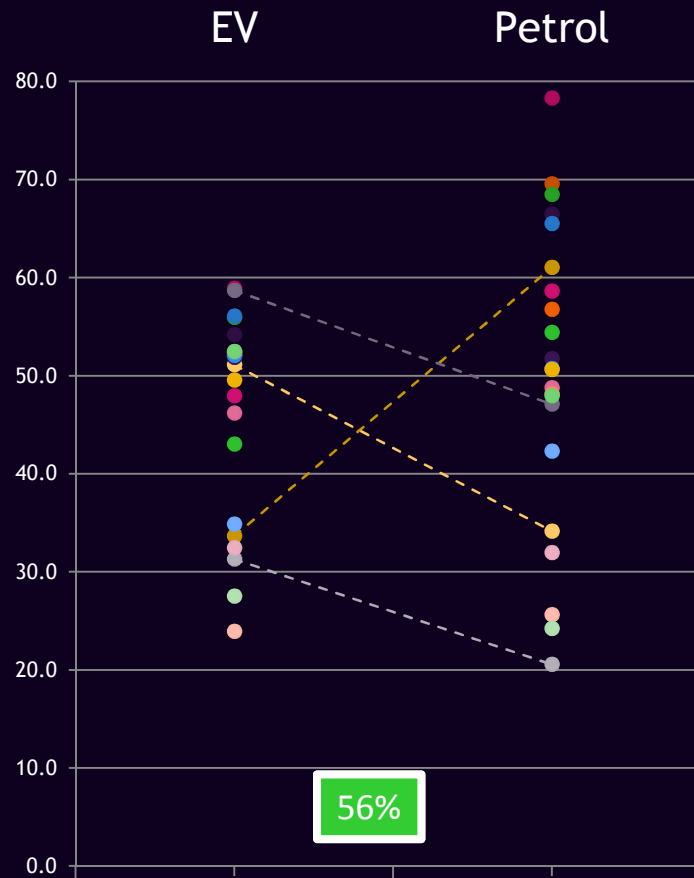
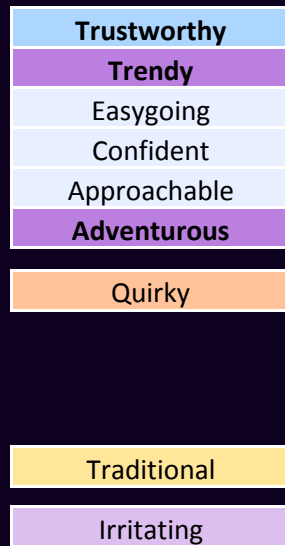


EVs are perceived rather similarly to family cars, but still need to convince on safety

Emotional profile example

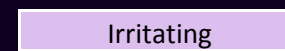
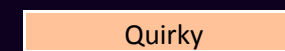
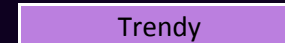
Family Car

Key Emotional Equities



56%

Key Emotional Equities





Stage 2 - part 2

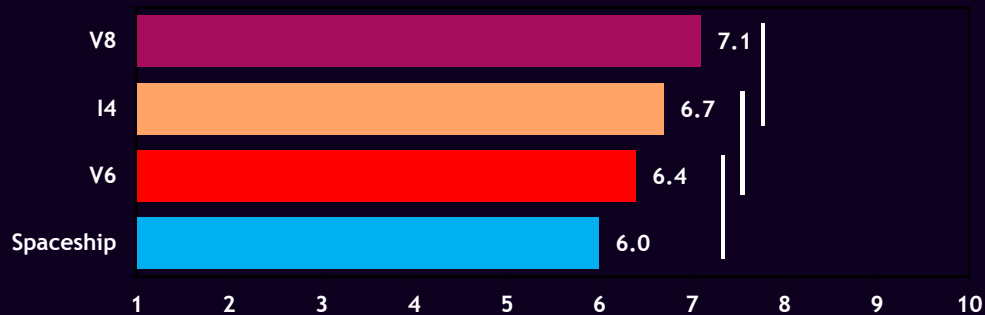
- 4 potential engine sounds are tested
- The research provides us with:
 - An explicit measure of their appropriateness vs. car type
 - complete **emotional** and **functional** profiles of 4 types of potential engine sounds

EV – Spaceship	Petrol 4 Cylinder	Petrol V6	Petrol V8	EV
✓✓	✓✓	✓✓	✓✓	✓✓

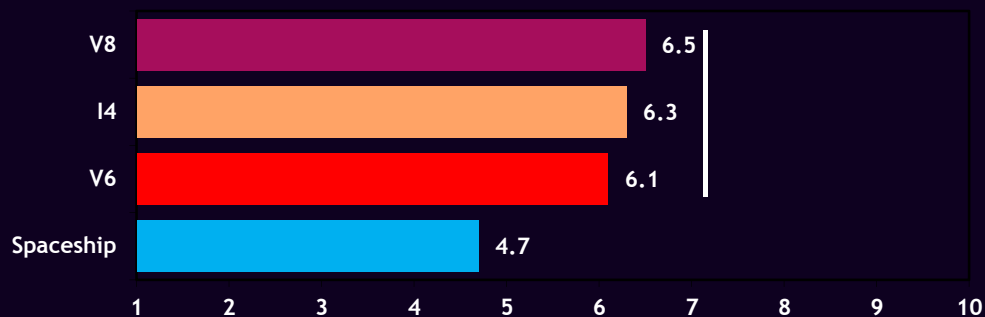
- We measure their fit with a conceptual EV profile

Explicit measure of Appropriateness

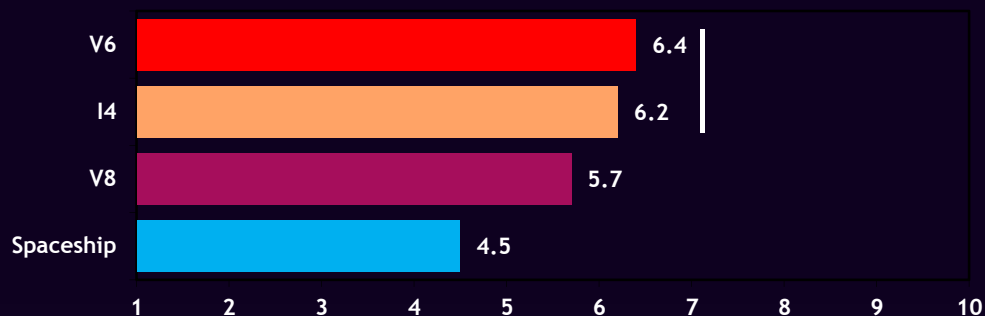
Family Car



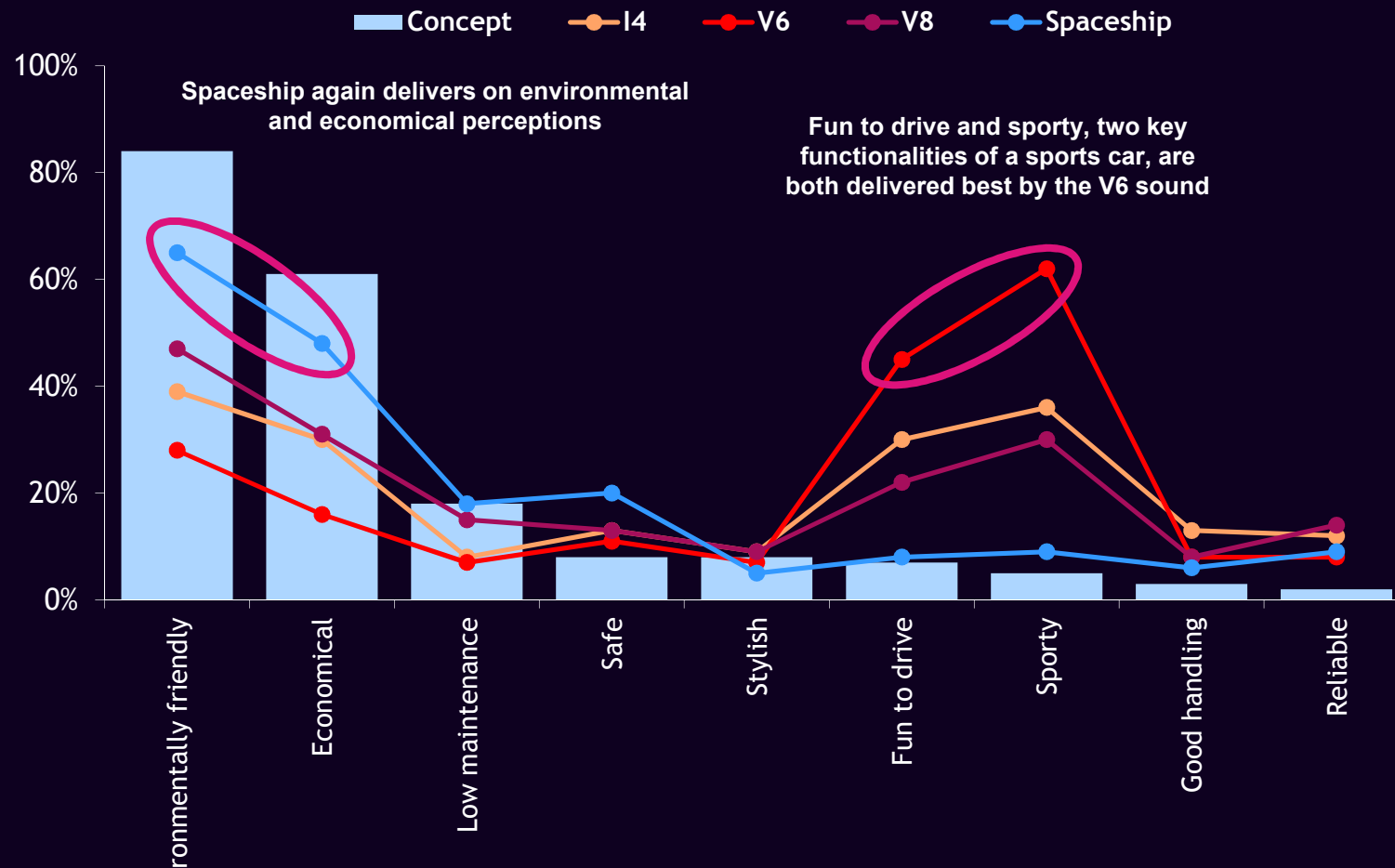
4x4



Sports Car

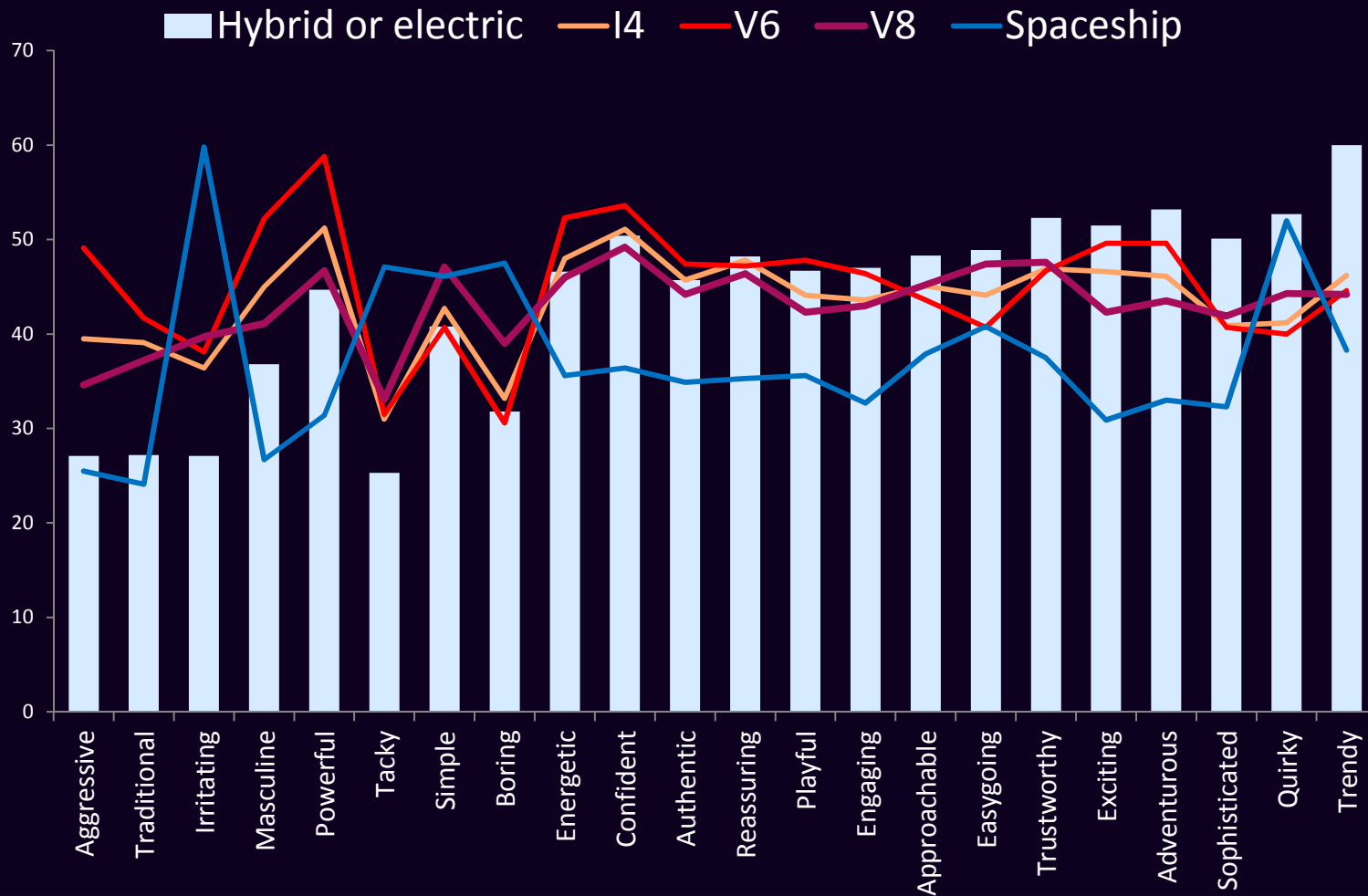


Functional profiles of Sounds vs. EV

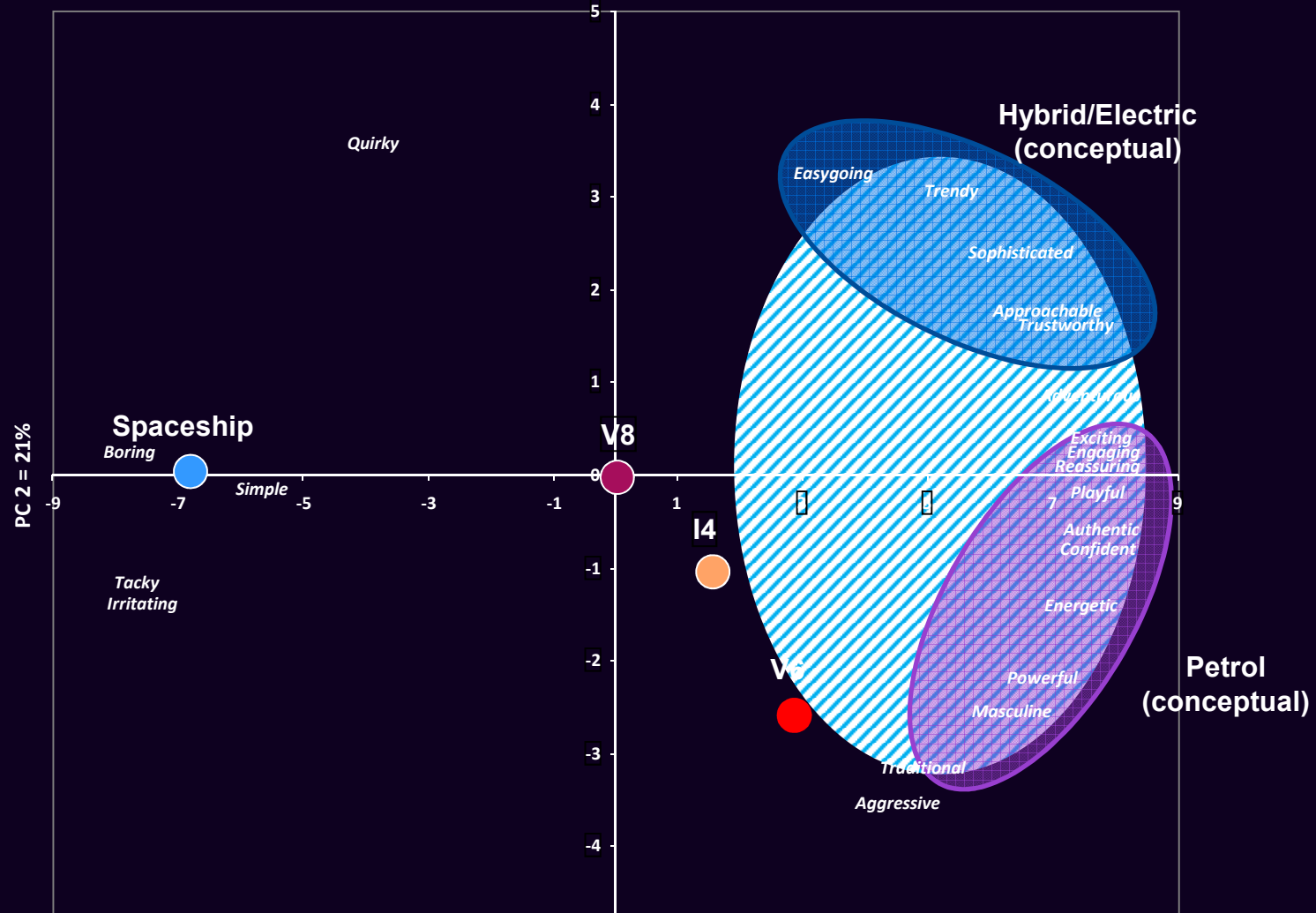


This shows that even a silly sound like the spaceship conveys functional associations such as 'environmentally friendly'

Emotional profiles of Sounds vs. EV



Emotional Sound Mapping - Sports Car



With this map we can see how each engine sound is located relative to the conceptual profiles of the EV and Petrol engines. In order for sounds to be relevant to these car types, Harman needs to shape engine sounds that fall into the patterned area.

This mapping gets even more strategically effective when we include brand and car type profiles. Which will be the case in the 4th stage.



Defining the future sound of Electric
Vehicles is about -



- Understanding the explicit and the implicit -
- Understanding the functional and the emotional of ALL elements (brand, vehicle type, engine type) -

Aligning all touch points to create a coherent and engaging driving experience



I wanted to finish with the revealing quote from Martin Lindstrom I found on Fastcompany.com 2 days earlier

When a brand truly lives its vision across every touch point and in every possible scenario - predictable and unpredictable, it becomes clear how [strong] the brand is

If a brand can [express] its core values without resorting to a detailed description, then the brand becomes a full representation of its vision

Implicit !

Martin Lindstrom
Fastcompany.com
June 27, 2011

What's interesting about this is that he's talking about business cards!

Like sounds, like shape, every touch point needs to convey the values of the brand – it takes Brandphonics methodologies to reveal exactly what they are...



Thank you

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