2014 U.S. Automotive Emerging Technologies Study

USING PSYCHOGRAPHIC SEGMENTATION | APRIL 2014

Consumer "Tech-pectations"

by Mike VanNieuwkuyk

Who are Socially Active Tech-Enthusiast Families and how do they differ from Luxury Unconnected Traditionalists? The *J.D. Power 2014 U.S. Automotive Emerging Technologies Study*[SM] will answer these questions and provide both OEMs and suppliers data that will aid in understanding the preferences of these and four other disparate consumer groups.

As auto manufacturers and suppliers seek to gain a stronger foothold in a marketplace of increasingly tech-savvy and tech-demanding consumers, it is important to understand which vehicle features and technologies consumers need and desire. Further, today's consumers are very selective in how much money they're willing to pay for these features and technologies.

The *2014 U.S. Automotive Emerging Technologies Study* provides manufacturers and suppliers with the insight to understand which technologies drive consumer purchase interests and how much price impacts those interests. This information is designed to help manufacturers and suppliers better establish feature cycle plans in order to deliver more segment-appropriate products and ultimately increase market share.

Subscribers will receive:

- Executive Summary
- Feature Specific Interest Analysis
- Feature Interest Calculator
- Study Questionnaire
- mTABWeb™ Data Set
- Access to the J.D. Power Business Center™

	Overall Industry	Socially Active Tech-Enthusiast Families	Socially Active Practical Families	Penny-Wise Tech-Enthusiasts	Practical Traditionalists	Luxury Unconnected Tradtionalists	Luxury Tech-Enthusiasts
Convenience	1	1	1	1	2	2	1
Vehicle Aerodynamics	2	2	2	2	1	1	2
Collision Protection	3	6	5	3	3	3	3
Safety Services	4	3	4	4	5	6	7
Navigation	5	5	6	5	6	5	4
Connectivity	6	4	3	6	7	4	6
Engine Fuel Efficiency	7	7	7	7	4	8	5
Visibility Enhancements	8	11	8	8	8	7	8
Driver Monitoring	9	8	9	10	9	11	10
Comfort	10	9	11	9	10	9	9
Usability	11	11	12	11	11	10	11
Driver Assistance	12	10	10	12	12	12	12
Energy Collection	13	13	13	13	13	13	13

Technology Category Interests

Use psychographic profiles to target consumer interest in features and technologies.

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Psychographic Segmentation Profiles

Know which consumers fit into each segmentation profile.

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We All Want the Same Things… Sometimes

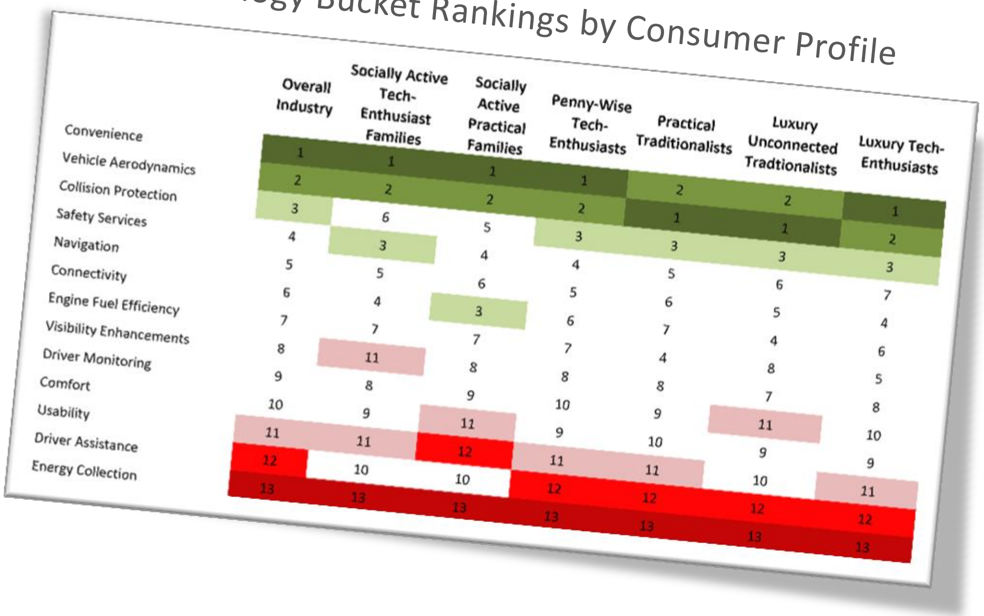
by Rob Preston

The *2014 US Automotive Emerging Technologies Study* captures interest levels among vehicle owners for 61 features and technologies they may desire on their next new vehicle (see page 5 for a detailed list).

The 2014 study sorts these features into 13 separate categories, each containing a set of similar characteristics, allowing J.D. Power to understand how interest shifts across the groupings.

Looking at the overall interest level for the features in these categories across the six different psychographic profiles provides some telling insights. The Convenience and Vehicle Aerodynamics categories consistently rank among the top two most popular set of features in each profile group, and Collision Protection often comes in at third. The three least popular sets of features are somewhat similar, but with some variation among the profile groups. Generally though, Energy Collection and Driver Assistance are at the bottom.

Technology Bucket Rankings by Consumer Profile



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Energy Collection	13	13	13	13	13	13	13

Ranks based on average percentage of customers who say they "definitely" or "probably" would have interest in the feature at the market price for their next vehicle

There is quite a bit of variation among the mid-interest technology categories. Generally, Navigation falls right smack in the middle for most profile groups; however, Safety Services and Engine Fuel Efficiency vary quite a bit.

INTEREST IN "CONNECTIVITY"

The Connectivity bucket of features and technologies ranks higher among Socially Active Practical Families.

FAST FACTS

14 Percentage Points

Difference between interest levels in the highest- and lowest-ranked technology categories among Socially Active Tech-Enthusiast Families

49 Percentage Points

Difference between interest levels in the highest- and lowest-ranked technology categories among Luxury Unconnected Traditionalists

Understanding Interest Levels

Digging deeper into the profiles, variation on several different levels becomes clear. For example, interest in all forms of the features and technologies examined in this study are highest among Socially Active Tech-Enthusiast Families, who love technology in their vehicles and universally have a high interest in them.

Conversely, Practical Traditionalists have, generally, the lowest levels of interest in any of the technologies. Their highest level of interest is in Vehicle Aerodynamics, but interest level is 27 percentage points lower than the lowest interest level in the Socially Active Tech-Enthusiast Families.

As consumer preference and usage can vary considerably, understanding your target audience and what they look for in vehicle technology is critical to providing the vehicle experience needed to satisfy their interests.

About the Study

The *J.D. Power 2014 U.S. Automotive Emerging Technologies Study*[SM] is designed to help OEMs and suppliers more accurately identify the features and technologies vehicle owners are most interested in and identify how consumer-facing prices affect that level of interest. More specifically, J.D. Power examines pre-price and post-price purchase interest for features related to infotainment, convenience, safety, and fuel efficiency.

The 2014 U.S. Automotive Emerging Technologies Study captures consumer interest in 61 features across 13 technology categories, which include:

- Collision Protection
- Comfort
- Connectivity
- Convenience
- Driver Monitoring
- Driving Assistance
- Energy Collection
- Engine Fuel Efficiencies
- Navigation
- Safety Service
- Usability
- Vehicle Aerodynamics
- Visibility Enhancements

The individual features that fall into these groups can be found in the Background section of the study.

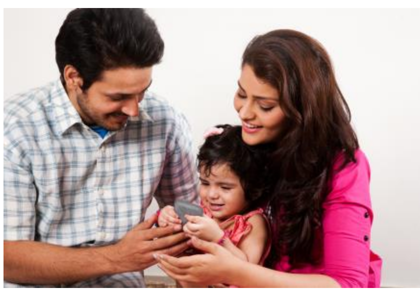
Additionally, all vehicle owners complete a market basket exercise—Non-Premium vehicle owners are given a hypothetical budget of $3,500 to spend, and Premium owners are given a hypothetical budget of $7,000.

The features chosen during the first market basket exercise are considered the Market Basket—Initial Features Section. After the Initial Features Section is completed, respondents are asked to complete the exercise a second time using a higher hypothetical budget, where the amount spent in the Initial Features Section on traditional optional features—such as leather seats, sunroof/moonroof, or aluminum wheels—is added to the $3,500 for Non-Premium vehicle owners, or $7,000 for Premium owners. This second market basket exercise is the Market Basket—Secondary Features Section.

Psychographic Profiles

J.D. Power performed a segmentation analysis using psychographic and behavioral questions from the questionnaire, as well as demographics such as age, gender, marital status, number of children in the household, education, and miles driven. The primary goal of the segmentation analysis is to identify groups, or clusters, of individuals who share similar attitudes, while being maximally different from other groups of individuals. The general multivariate procedures used to identify the consumer segments include factor analysis, discriminate analysis, and cluster analysis.

Socially Active Tech-Enthusiast Families



- The youngest group comprised primarily of Gen Y and Gen X
- Likely married, largest percentage having children
- Household income in middle range of segmentation groups
- Greatest interest in vehicle technologies—all categories
- Active with texting and posting
- Drive the fewest miles annually

Socially Active Practical Families

- The second-youngest group also comprised primarily of Gen Y and Gen X
- Greatest percentage of singles, less likely to have children
- Second-lowest household income
- Generally not drawn to and will not pay for vehicle technologies
- Active with texting and posting
- Drive the second-fewest miles annually

Penny-Wise Tech-Enthusiasts

- The third youngest group comprised primarily of Gen X
- High percentage of singles
- Lowest household income
- Shop for best deal and safety features
- Seek fuel-efficient vehicles
- Active with texting and posting
- In middle of groups for miles driven annually

Practical Traditionalist

- The second-oldest group comprised primarily of Boomers and some Gen X
- Predominately married, not likely to have children in the household
- Household income in middle range of segmentation groups
- Shop for best deal, fuel economy, and reliability
- Most likely to view vehicle as just basic transportation
- Not active with texting and posting
- In middle of groups for miles driven annually

Luxury Unconnected Traditional

- The third-oldest group comprised primarily of Boomers and Gen X
- Second-highest percentage of married, not likely to have children in the household
- Second-highest household income among the segmentation groups
- Considered automotive enthusiasts
- Shop for luxury appointments, vehicle options, and features
- Value drivability/fun to drive
- Some texting activity, but not likely to post
- Drive among the most miles annually

Luxury Tech-Enthusiasts

- The oldest group comprised primarily from Baby Boomers
- Highest percentage of married, not likely to have children in the household
- Highest household income among the segmentation groups
- Considered an automotive enthusiast
- Shop for luxury appointments, vehicle options and features
- Willing to pay for latest vehicle technologies, early adopter enthusiast
- Some texting activity, but not likely to post
- Drive among the most miles annually

2014 Technologies Captured

The *2014 U.S. Automotive Emerging Technologies Study* captures interest levels among vehicle owners for 61 features and technologies they may desire on their next new vehicle (listed below). These technologies may be a stand-alone offering or considered a base offering in which other related features or technologies may be combined or packaged together. Pre-price and priced interests are gauged for many features. Three price points are established to gauge at-price interest (low, mid, and high), with each vehicle owner evaluating the features at just one of these three levels. For analysis, unless otherwise stated, the mid-point price is considered the "market" price.

Collision Protection

- Emergency Braking and Steering System
- Enhanced Collision Mitigation System
- Low-Speed Collision Avoidance System
- Smart Intersection

Comfort

- Active Sound Management
- Air-Balance Fragrance Package
- Customizable Home Screen
- Electronic Window Tint Adjustment
- Programmable Instrument Cluster
- Vehicle Body Control

Connectivity

- Cloud Online Data Storage
- Device/Application Link
- Mobile Router
- Mobile Router Subscription
- Multi-User Infotainment System
- Vehicle Communication System
- Wireless Connectivity System
- Wireless Infotainment System Updates

Convenience

- Near Field Communication
- Voice-Activated Personal Assistant System
- Wireless Charging System

Driver Monitoring

- Biometric Driver Sensors
- Blind Spot Detection and Prevention
- Drowsiness Detection System
- Lane Departure Prevention System
- Wi-Fi Direct Pedestrian Detection System

Driving Assistance

- Autonomous Driving Mode
- Enhanced Adaptive Cruise Control
- Fully Autonomous Parking System
- Speed Limit Assist
- Traffic Jam Assist

Energy Collection

- Energy Recovery Suspension
- Solar Glass Roof

Engine Fuel Efficiencies

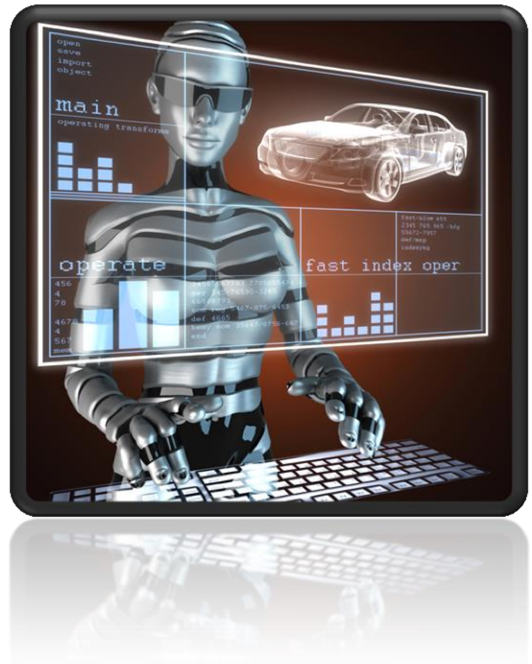
- Cylinder Deactivation
- In-Wheel Motor
- Stop/Start System

Navigation

- Factory-Installed Dual-View Navigation System
- Lifetime Navigation Map Updates
- Real-Time Traffic
- Smartphone Navigation Vehicle Interface

Safety Service

- Advanced Accident Notification System
- Personal Assistance Service
- Predictive Maintenance
- Remote Vehicle Diagnostics



Usability

- Eye Tracking Controls
- Hand Gesture Activated Doors
- Hand Gesture Controlled Cockpit
- Hand Gesture Controlled Seat
- Natural Language Voice Activation
- Smartphone Voice Integration
- Tactile Touch Screen

Vehicle Aerodynamics

- Active Front Air Dam
- Active Rear-Spoiler
- Active Shutter Grille Vents
- Active Wheel Shutters

Visibility Enhancements

- Adaptive High-Beam Assist
- Automatic Head Restraint
- Laser Headlights
- Next Generation Head-Up Display (HUD)
- Smart Headlights
- Surround-View Camera System

2014 U.S. AUTOMOTIVE EMERGING TECHNOLOGIES STUDY

J.D. Power
2625 Townsgate Road, Suite 100
Westlake Village, CA 91361
(805) 418-8000 Tel
jdpower.com