



Zendrive

**2017 North American
User-Based Insurance
Product Leadership Award**

FROST & SULLIVAN

BEST
2017 **PRACTICES**
AWARD

**NORTH AMERICAN
USER-BASED INSURANCE
PRODUCT LEADERSHIP AWARD**

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Background and Company Performance

Industry Challenges

Usage-based car insurance started in the late 2000s as a niche experimental effort by a number of insurance companies in select markets. Fueled by the increase in number of connected cars and smartphones, it has become a mainstream offer by most insurance carriers, especially across North America and Europe. Information can be accessed online or via apps allowing customers to monitor their driving patterns and make adjustments in order to improve their chances for greater discounts. Big insurance names now offer both mileage-based and driving behavior-related discounts. Customers can even choose an insurer as they leave a dealership with a new car. 'Pay as you drive, pay how you drive' (PHYD) models are likely to become preferred metrics for calculating premiums. Beyond 2020, the greater influence of Big Data analytics likely will help options such as 'manage how you drive' (MHYD) gain momentum.

For the first 15 years of the telematics industry, all solutions required dedicated hardware for vehicles and city infrastructure. Unfortunately, the cost and operational complexity of deploying hardware-based monitoring solutions—whether OBD II, black boxes, or dash cams—are very high; an attractive return on investment (ROI) in a hardware-centric solution space remained a challenge. Also, vehicle-centric data gathered by traditional OBD II solutions did not include driver behavior. Distracted driving accounts for 20% to 25% of all collisions annually in the United States alone, and most hardware solutions were completely blind to this major safety risk.

The high cost of deploying hardware made it difficult for insurers to gain the adoption required to justify discounts for consumers or fleets. Drivers had little incentive to download a driving-monitoring app, so even insurers that developed in-house mobile solutions saw limited adoption. In addition, user-based insurance (UBI) solutions' back-end analytics and "smarts" have traditionally relied on outdated technology that fails to take advantage of advances in artificial intelligence (particularly machine learning and deep learning) and modern infrastructure and design that improve the volume and flow of data that can be gathered and analyzed.

A recent analysis conducted by Frost & Sullivan found that there is an appetite for UBI policies, which are expected to impact close to 100 million drivers by 2020—primarily in Italy, the United Kingdom, and the United States. The connected car insurance industry is being disrupted by start-up companies including smartphone app developers, quote comparison aggregators, and cloud exchange platform players that are leveraging software as a service models.

A start-up company named Zendrive is completely changing the UBI market by collecting driver behavior data with the help of smartphone sensors and converting this into actionable insights. Zendrive shifted the paradigm in two ways:

- It eliminated reliance on hardware because its solution can be distributed at minimal cost; resulting in faster, better ROI to insurers and better discounts for drivers/fleets. Smartphone sensors also directly address a major blind spot of traditional hardware solutions: phone use while driving.
- It built the world's first and only mobile developer platform for driver safety, which creates a new customer acquisition channel that could disrupt the way insurance is bought and sold. Its technology is embedded into popular apps with tens of millions of users (e.g. Life360, which offers collision detection and teenage-driver safety features), allowing for extensive reach that an insurance carrier would have difficulty accessing through traditional channels.

Product Family Attributes and Business Impact

Reliability and Quality

Driven by its passion to reduce accidents on the road and move towards its mission of Vision Zero (enabling a future with zero road fatalities globally), Zendrive develops solutions for fleet management and insurance companies. Zendrive has been very innovative in designing market-friendly solutions that measure driver behavior through smartphone accelerometers, gyroscopes, and GPS sensors, unlike competitors that collect data through OBD II port solutions. Zendrive's solution measures driver caution, control, and focus while on the road, and automatically detects collisions by measuring a variety of factors such as sharp acceleration, mobile usage, length and time of trip, speeding, and hard braking. Data processed by Zendrive's 'driver-centric analytics platform' returns actionable insight about driver coaching or rewards for continuous fleet improvement and management services.

A test done by the University of Illinois, Urbana-Champaign found that Zendrive's measurements were as/or more accurate than OBD solutions for 13 out of 14 driving risk factors, including speeding and phone usage.

To ensure quality and reliability, Zendrive has quantified key performance measures for its product and performs not only typical software stability and regression tests but also real-world driving tests to empirically measure metrics such as battery drain—no small effort since Zendrive runs on thousands of types of mobile devices.

Frost & Sullivan is quite impressed with Zendrive's best practices, which include:

- Continuously improving and expanding testing: With each new capability, Zendrive adds a comprehensive set of tests and automated mechanisms to ensure no unintended impacts to things like battery usage
- Product "dogfooding": Zendrive employees and family members download and use the technology before it is released to customers

- Data feedback loops: Zendrive works with partners and customers to enable continuous improvement to core product algorithms, yielding a competitive advantage and virtuous loop (more data yields a better product, which yields more customers, which in turns yields more data)

Customer Testimonial

“We spent over 6 months rigorously testing and vetting various companies. We chose Zendrive’s SDK because it was superior to its competitors in terms of battery consumption, stability, trip detection and tracking accuracy.”

Alex Haro, Co-Founder and President, Life360

Match to Needs

Another factor that impressed Frost & Sullivan is that Zendrive employs a structured approach to harvesting product insight from customers to share with its product and engineering teams. Its North America-based customer success team consists of product development specialists and customer service and implementation engineers and is responsible for end-to-end implementation of the Zendrive solution. The team helps customers understand and optimize features to obtain the best results, and is available around the clock to answer customer inquiries and collect feedback.

An evaluation phase begins before a customer signs a formal agreement. Zendrive conducts a discovery interview with customer product teams to ensure that the offering aligns with their requirements and follow up with status meetings. A Customer Success Manager (CSM) is responsible for capturing and sharing feedback in this phase via internal tools/systems as well as status meetings.

The second phase is onboarding, during which Zendrive educates new customers about relevant features. Zendrive tracks product and platform usage to verify that customers are following recommendations, and also sends weekly and monthly usage summaries to help customers monitor performance.

During the optimization phase, the customer success team continues monitoring product and platform usage, conducts product satisfaction surveys, and makes recommendations regarding feature usefulness and desirability. Customers that purchase a premium service also participate in ongoing product feedback sessions with product and engineering teams, and their feature requests and improvements are given priority.

Continual interactions with clients improve customer satisfaction, trust, and loyalty, in line with Zendrive’s goal of best-in-class customer experience.

Customer Testimonial

"Zendrive worked with our team to develop a feature that enables real-time access to information that our customers wanted. Zendrive developed the new capability quickly and supported our rollout. To this day, they still support our new feature development and provide our customers with value, which makes us happy. "

Anu Bhaskar, Co-founder, CTO, Hurdlr

Design

Innovation has always been Zendrive's primary focus. Unlike other aftermarket solutions that focus on OBD II solutions limited to car diagnostics, Zendrive focuses on collecting data through smartphone sensors. The solution was tested at BMW's crash test lab, and was shown to be accurate for collisions occurring 20 mph or higher. The solution can tell the difference between a hard brake and a collision when a phone is in a mount, a pocket, or a cup holder. Developers can integrate the Zendrive software development kit (SDK) into existing apps for life-saving OnStar-like functionality. The SDK is available for iOS and Android smartphones.

The product design team focuses on three core elements to ensure ease in customer adoption and usability:

- **Intuitiveness**, to, minimize training and increase usability
- **Clean interface**, for usability and at-a-glance understanding
- **Map-based data visualization**, to quickly glean insights without forcing users to search for and pore over data

Customer Testimonial

"Zendrive works towards Vision Zero, shared mobility and connected vehicles, and since they work closely drivers and 'civilians,' their dataset is very robust in terms of size, detail and growth. Zendrive's ability to connect the dots between mobility and safety could help transform cities."

Gabe Klein, former head of transportation for Washington, D.C., and the City of Chicago

Growth Potential

Zendrive has grown exponentially in miles accumulated and analyzed, with more than 1,000 sign-ups for its platform and numerous deployments. By October 2016, Zendrive had collected and analyzed more than 1 billion miles of driving data, and it is now analyzing several billion miles every month—amounting to trillions of data points per week—

unparalleled visibility into driver behavior and transportation patterns that can benefit cities, autonomous vehicle manufacturers, and insurers globally. This has led to many partnerships, including with Otto, a maker of autonomous trucking technology that Uber recently acquired, which was able to cut its insurance cost by more than 50%. Through its partnership with Life360, Zendrive's technology is now accessible to drivers via an app that has more than 50 million registered users.

Customer Testimonial

"We selected Zendrive due to their superior breadth, precision, and accuracy. Zendrive is also leveraging their portfolio of insurer partners to develop new mobile, behavior-based models, creating the ultimate win-win scenario."

Itamar Novick, Chief Business Officer, Life360

Operational Efficiency

Zendrive's workforce designs technologies that will support the mobility solutions of the future. Its engineers are at the forefront of developing intuitive solutions for fleets, insurance carriers, valets, rideshare companies roadside assistance and towing providers, emergency services companies with apps, and mapping and navigation companies and many more who can benefit from unique features like Collision Detection and Driver Analytics.

Zendrive has formed a specialized team consisting of PhD's, professors, designers, developers, engineers and data scientists who are involved in both product development and direct customer support services. A second line of customer support focuses on supplying updated software for applications.

Customer Acquisition

Frost & Sullivan is convinced that Zendrive possesses tremendous growth potential. Volt, a ridesharing company based in Istanbul, said the integration with Zendrive was smooth and intuitive, the SDK documentation extremely simple, and the Zendrive team responsive with fast, quality guidance. Zendrive's integrated development environment improves its efficiency and time to market. This has paved the way for several fleet management and insurance companies to license its products.

Customer Testimonial

"By partnering with Zendrive, we were able to make safety data really transparent not only to our drivers, but to the dealers and manufacturers we work with as well. Zendrive is easy to integrate, easy for our drivers to use, and enables much greater efficiencies for us."

Spencer Richardson, Co-Founder and CEO of DropCar

Validation in the Field¹

Zendrive and New York University on May 3 announced a joint preliminary study of road safety in New York City where university researchers compared driver behavior data to collision data on a large scale. Looking at Zendrive data and NYPD data from July to December 2015, NYU researchers found a 70% correlation between Zendrive risky driver behavior data and NYPD collision data. The study analyzed 127,423 collisions reported by the NYPD.

The release of the study coincided with Zendrive announcing that it had passed the 15 billion miles-driven milestone of data collected on motorists it had tracked – up from the 1 billion-mile mark hit in October 2016. The 15 billion-mile threshold, which was passed in seven months, took Progressive, the most prominent insurance company in usage-based insurance (UBI), a total of 18 years (from 1998-2016) to reach. Zendrive is on pace to double Progressive's mileage figure before the end of 2017.

Conclusion

Frost & Sullivan firmly believes Zendrive to have a superior product in the market. Overall the company has exhibited excellent growth potential and dominance in the UBI market in the automotive industry and it continues to build a strong brand image by addressing its customers' unique needs. The high-quality and reliable service from an experienced team has also played a paramount role in expanding Zendrive's business amid heavy competition. Because of its strong overall performance, Zendrive is recognized with Frost & Sullivan's 2017 Product Leadership Award.

¹ The data in this section was provided courtesy of Zendrive
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Significance of Product Leadership

Ultimately, growth in any organization depends upon customers purchasing from a company and then making the decision to return time and again. A comprehensive product line, filled with high-quality, value-driven options, is the key to building an engaged customer base. To achieve and maintain product excellence, an organization must strive to be best-in-class in three key areas: understanding demand, nurturing the brand, and differentiating from the competition.



Understanding Product Leadership

Demand forecasting, branding, and differentiating all play a critical role in finding growth opportunities for your product line. This three-fold focus, however, must be complemented by an equally rigorous focus on pursuing those opportunities to a best-in-class standard. Customer communications, customer feedback, pricing, and competitor actions must all be managed and monitored for ongoing success. If an organization can successfully parlay product excellence into positive business impact, increased market share will inevitably follow over time.

Key Benchmarking Criteria

For the Product Leadership Award, Frost & Sullivan analysts independently evaluated two key factors—Product Family Attributes and Business Impact—according to the criteria identified below.

Product Family Attributes

Criterion 1: Match to Needs

Requirement: Customer needs directly influence and inspire the design and positioning of the product family.

Criterion 2: Reliability and Quality

Requirement: Products consistently meet or exceed customer expectations for performance and length of service.

Criterion 3: Product/Service Value

Requirement: Products or services offer the best value for the price, compared to similar offerings in the market.

Criterion 4: Positioning

Requirement: Products or services address unique, unmet need that competitors cannot easily replicate or replace.

Criterion 5: Design

Requirement: The product features an innovative design, enhancing both visual appeal and ease of use.

Business Impact

Criterion 1: Financial Performance

Requirement: Overall financial performance is strong in terms of revenues, revenue growth, operating margin, and other key financial metrics.

Criterion 2: Customer Acquisition

Requirement: Product strength enables acquisition of new customers, even as it enhances retention of current customers.

Criterion 3: Operational Efficiency

Requirement: Staff is able to perform assigned tasks productively, quickly, and to a high quality standard.

Criterion 4: Growth Potential

Requirements: Product quality strengthens brand, reinforces customer loyalty, and enhances growth potential.

Criterion 5: Human Capital

Requirement: Company culture is characterized by a strong commitment to product quality and customer impact, which in turn enhances employee morale and retention.

Best Practices Recognition: 10 Steps to Researching, Identifying, and Recognizing Best Practices

Frost & Sullivan analysts follow a 10-step process to evaluate Award candidates and assess their fit with select best practice criteria. The reputation and integrity of the Awards are based on close adherence to this process.

STEP	OBJECTIVE	KEY ACTIVITIES	OUTPUT
1 Monitor, target, and screen	Identify Award recipient candidates from around the globe	<ul style="list-style-type: none"> Conduct in-depth industry research Identify emerging sectors Scan multiple geographies 	Pipeline of candidates who potentially meet all best-practice criteria
2 Perform 360-degree research	Perform comprehensive, 360-degree research on all candidates in the pipeline	<ul style="list-style-type: none"> Interview thought leaders and industry practitioners Assess candidates' fit with best-practice criteria Rank all candidates 	Matrix positioning of all candidates' performance relative to one another
3 Invite thought leadership in best practices	Perform in-depth examination of all candidates	<ul style="list-style-type: none"> Confirm best-practice criteria Examine eligibility of all candidates Identify any information gaps 	Detailed profiles of all ranked candidates
4 Initiate research director review	Conduct an unbiased evaluation of all candidate profiles	<ul style="list-style-type: none"> Brainstorm ranking options Invite multiple perspectives on candidates' performance Update candidate profiles 	Final prioritization of all eligible candidates and companion best-practice positioning paper
5 Assemble panel of industry experts	Present findings to an expert panel of industry thought leaders	<ul style="list-style-type: none"> Share findings Strengthen cases for candidate eligibility Prioritize candidates 	Refined list of prioritized Award candidates
6 Conduct global industry review	Build consensus on Award candidates' eligibility	<ul style="list-style-type: none"> Hold global team meeting to review all candidates Pressure-test fit with criteria Confirm inclusion of all eligible candidates 	Final list of eligible Award candidates, representing success stories worldwide
7 Perform quality check	Develop official Award consideration materials	<ul style="list-style-type: none"> Perform final performance benchmarking activities Write nominations Perform quality review 	High-quality, accurate, and creative presentation of nominees' successes
8 Reconnect with panel of industry experts	Finalize the selection of the best-practice Award recipient	<ul style="list-style-type: none"> Review analysis with panel Build consensus Select recipient 	Decision on which company performs best against all best-practice criteria
9 Communicate recognition	Inform Award recipient of Award recognition	<ul style="list-style-type: none"> Present Award to the CEO Inspire the organization for continued success Celebrate the recipient's performance 	Announcement of Award and plan for how recipient can use the Award to enhance the brand
10 Take strategic action	Upon licensing, company is able to share Award news with stakeholders and customers	<ul style="list-style-type: none"> Coordinate media outreach Design a marketing plan Assess Award's role in future strategic planning 	Widespread awareness of recipient's Award status among investors, media personnel, and employees

The Intersection between 360-Degree Research and Best Practices Awards

Research Methodology

Frost & Sullivan's 360-degree research methodology represents the analytical rigor of our research process. It offers a 360-degree-view of industry challenges, trends, and issues by integrating all 7 of Frost & Sullivan's research methodologies. Too often companies make important growth decisions based on a narrow understanding of their environment, leading to errors of both omission and commission. Successful growth strategies are founded on a thorough understanding of market, technical, economic, financial, customer, best practices, and demographic analyses. The integration of these research disciplines into the 360-degree research methodology provides an evaluation platform for benchmarking industry participants and for identifying those performing at best-in-class levels.

360-DEGREE RESEARCH: SEEING ORDER IN THE CHAOS



About Frost & Sullivan

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership. The company's Growth Partnership Service provides the CEO and the CEO's Growth Team with disciplined research and best practice models to drive the generation, evaluation, and implementation of powerful growth strategies. Frost & Sullivan leverages more than 50 years of experience in partnering with Global 1000 companies, emerging businesses, and the investment community from 45 offices on six continents. To join our Growth Partnership, please visit <http://www.frost.com>.