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How Focus on UX Can Accelerate the Monetization of Car Data

Whitepaper

UX design in automotive

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Bamboo Apps is a full-stack mobile development company committed to perfection in design and simplicity of processes. We make mobile development hustle-free, so our clients can focus on growing their businesses with beautiful apps.

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Summary

Connected cars generate about 25 GB of data per hour of driving, as estimated by McKinsey & Company. As vehicles continue to gain more autonomy, that number will tremendously increase. Each autonomous car is expected to generate hourly up to 4000 GB of data – roughly as much as 3000 people.

Massive amount of vehicle data creates a new revenue stream for automotive companies. By 2030 the car data may become a $450-750 billion market, according to McKinsey & Company's forecast.

That said, car data is quite reasonably declared the new oil. However, industry players still have to overcome the challenges that form the gap between the potential value of vehicle data and the revenue mobility companies actually generate from related products and services:

- developing a clear value proposition for customers and acquiring users;
- leveraging quality and complexity of car data products/services as well as the development costs;
- designing a strategy to engage and retain users.

Adopting a market-back approach and gaining a deep understanding of user requirements can be a viable strategy for addressing those issues. So, in this whitepaper Bamboo Apps explores how focus on user experience and tools of UX design can help automotive players accelerate the monetization of car data-enabled features.

Capturing the Value Proposition

Providing users with a value proposition is crucial for car data monetization (CDM). Car owners are more motivated to pay for a connected experience if they clearly understand the relevance and value of data-enabled services.

Of course, some use cases let businesses opt-in for other monetization models, rather than subscription or one-time payment included in the car's cost. But all CDM strategies rely on drivers' willingness to share data. Thus, companies still need to deliver a compelling message to convince users into sharing information. But as an industry-wide survey shows, most businesses find this step to CDM especially challenging.

Share of industry players acknowledging the challenge to communicate a value proposition

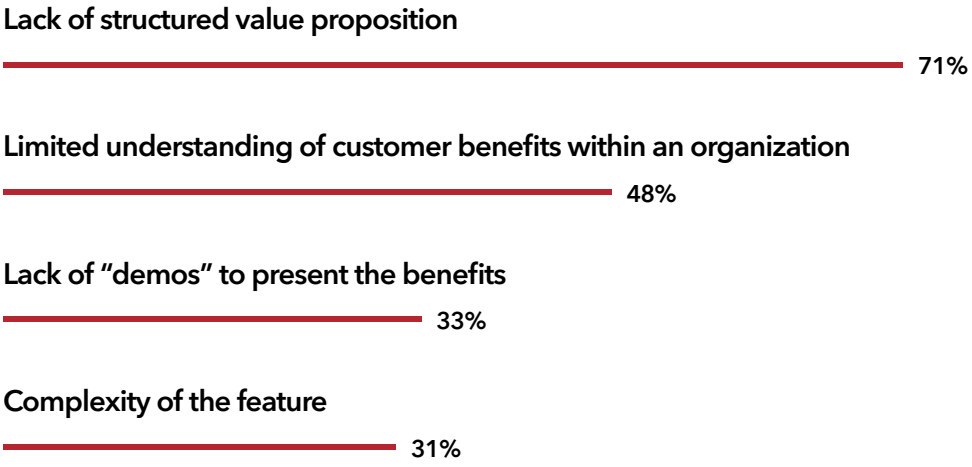
McKinsey & Company, Car Data Monetization Survey 2017

Difficulty to communicate a clear value proposition results in low customer interest in the connected experience. Whereas in general, there is a high demand for navigation and mobility services: more than 70% of consumers are ready to share their data to access such features

and more than 40% of users even consider changing a car brand to gain more connectivity benefits.

So, why do businesses struggle to deliver a value proposition that will resonate with the needs of that pool of consumers? The majority of automotive companies mention the lack of structured value offer as well as a limited understanding of what advantages end-users gain from the car data services.

Issues that automotive businesses face in delivering to consumers a clear vision on connectivity benefits



McKinsey & Company, Car Data Monetization Survey 2017

Essentially, this means that OEM, suppliers, and service providers have little insight into users' pain points and requirements when it comes to connected experience.

The issue comes from the traditional approach to designing in-vehicle connectivity features. Most automotive companies follow the product-forward strategy, designing connectivity solutions based on a possible enhancement of existing vehicle hardware and software and then trying to align it with consumer needs. Such an approach has already proved ineffective for car data monetization, therefore, industry players willing to access the CDM revenue stream have to add market-forward design to the success playbook.

Focus on user experience will allow automotive businesses to create truly effective car data products. One of the most powerful tools for the purposes of gaining an ultimate understanding of customer pain points and expectations is UX research. It employs a variety of techniques and tools that help to gather valuable data about users and the ways they interact with connectivity features.

Such methods of UX research as user interviews, usability testing, and contextual inquiries, not only allow to gather the necessary data but also to validate the assumptions made by the design team. The findings of UX research can be then used for such aspects of customer-centric design as:

- **Opportunity mapping.** Aligning insights about user preferences and requirements with industry trends and market analysis to determine existing and possible future opportunities for new car data features.
- **Designing user journeys and experiences.** Understanding the gap between current and desired connected experience and adjusting connected services to meet customer expectations at all touch points.
- **Creating narratives and scenarios.** User experience is becoming more and more personal. Every consumer has their own way to interact with connected services. Thus, car data products need to be tailored to all of those use cases.

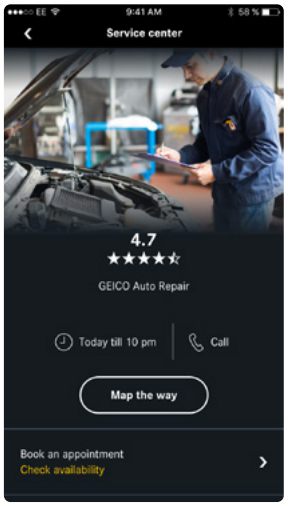
Therefore, investing in UX research, industry players get a double advantage by building a path to effective car data monetization, as well as reducing the costs of delivering a successful product.

Use Case

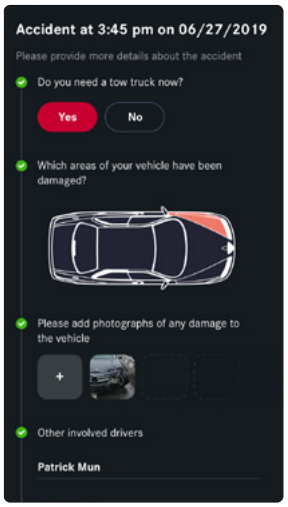
UX research for the collision management solution

The growing gap between supply and demand of expertise makes it nearly impossible to cover business needs only with the help of in-house teams. Thus, automotive companies have to rely on outsourcing to stay ahead of the game. That was the case with Axitech, a provider of the collision management solution for OEM and SME, which hired Bamboo Apps to deliver UX/UI design for the intelligent accident management app.

The goal of the project was to improve the existing app mockups to make the user's journey straightforward, fast, and effective in terms of managing the after-accident procedures (capturing and filing a crash report to an insurer, finding and booking a service center and/or a replacement car).



Bamboo Apps' team conducted a series of interviews with drivers and insurance companies. Insights from potential users allowed to gather information about drivers' behavior in case of a crash and their expectations of assistance in managing the accident. Collecting data from insurers, in its turn, helped to align forms for crash reporting with real-life damage claims, as well as to make the forms intuitive and fillable within a couple of minutes.



Combined with our experience in designing and developing companion apps for OEM, this allowed for the creation of intuitive and user-friendly UX/UI design, and thought-through integration of crash assistance functionality into an OEM software.

You can read more about the design we delivered for Axitech on our website.

Balancing Quality, Complexity, and Costs

The growing number of connectivity features emerging on the market shows that businesses are determined to bring to customers a better connected experience and consistently pursue the opportunity to monetize vehicle data. However, the progress is slowed down, because, despite the global focus on innovation and CDM, various departments inside automotive companies may be committed to catering conflicting interests. Innovation and customer experience departments are aiming at delivering new features, while engineering and managing teams are pushing for high quality and limited complexity of solutions, and costs reduction.

Early adoption of user-focused design can be effective in balancing business needs. Gathering as many insights into consumer pain-points and behavior patterns as possible ensures the delivery of a product that addresses user demands and allows for a delightful experience. Implemented before the beginning of the development process, user research also offers a cost reduction potential.

When automotive businesses have user data at their disposal, it removes all the budget-draining guesswork from the development process. Companies can put all effort into developing features that are most relevant to consumers. Designed with user demands in mind, such product or service will also easier acquire users and will require fewer improvements and redesign spends after the release.

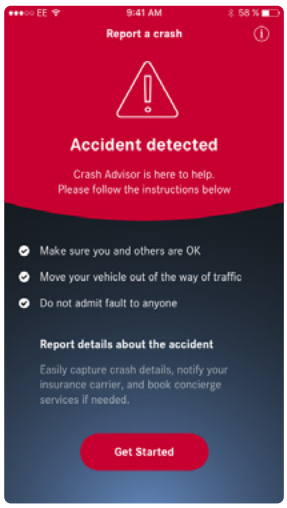
Adoption of UX design patterns can also contribute to reducing the cost of developing car data features as it speeds up the process. In addition, this UX technique is suitable for ensuring the quality and reducing the complexity of car data products, since UX patterns are essentially effective strategies for dealing with common or reoccurring issues in interaction design and engineering.

Use Case

UX patterns for the collision management solution

Car accidents are a very stressful experience that leaves drivers and passengers disoriented. Therefore, any accident assistance software should provide a clear journey path, so the user can quickly and easily access relevant functionality.

In the case of Axitech collision management app, Bamboo Apps followed UX patterns to design a straightforward path for a user's journey after an accident was automatically detected by vehicle sensors. Accident alert is automatically sent to a connected smartphone, which triggers the blocking of the other functionality of the companion app. Noteworthy, the color scheme of the alert message was chosen to urge users and promote them to take action. With this approach, the users don't have to manually access the accident assistance functions of the app, which saves time and directs them further into the crash management procedure.



UX patterns can be centered around user distraction or confusion, the usability of in-vehicle infotainment services and instrument clusters, safety, and other problems. In all the applicable use cases this tool helps to choose an optimal solution, which as a result saves development time and budget, as well as allows to create a state-of-the-art experience for users.

Automotive players shouldn't also underestimate the power of other UX tools — prototyping and user testing. Connected features are generally very complex, which raises the cost of mistakes during design and development. Presenting a prototype of a car data product to the potential users allows to gather valuable feedback and improve the possible issues with little expenses. In the long run, this will also ensure good user experience and, consequently, a better user retention rate.

Additionally, prototyping gives an opportunity to test integrations of a certain connected functionality with an original system, which is especially useful if a car data service is a part of more complex driving experience and software. At this stage of design process companies also can control and adjust the complexity of the solution itself and a connectivity ecosystem.

User Retention

User retention is as important as attracting new consumers to car data-enabled services and products. Virtually, it's an additional route to revenue.

Building an effective user retention strategy requires establishing seamless customer communication experience for the users of connected services. If it's created, automotive businesses can upsell and cross-sell by personalizing the offers, building connections, and helping users get the very best from their vehicles.

In practice, crafting such communication and after-sales experience starts with user research and identification of the frictions that could potentially impact customer willingness to consider additional services or products.

Let's assume a situation when a car owner signs a dealership loyalty contract, installs the dealer's mobile app connected to the vehicle. Then, when it comes to servicing a car, the user doesn't understand the importance of the alerts about malfunctions or lacks the time to find and book the required service.

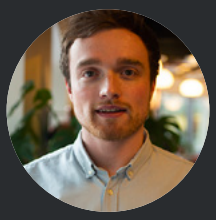
Implementing techniques of UX research, dealerships can gather insights into such and other reasons for low customer engagement.

Once they have the necessary information on hand, companies can proceed to find the best

way to address those issues and decrease the gap between the current experience and user expectations. For example, dealers and service centers can prioritize analyzing the data collected from vehicles according to consumer's preferences for assistance and reminders.

They can also find the best form, schedule, and modality of delivering the offers and alerts to users. And, of course, businesses can build a user-friendly experience for easy acceptance of those offers and respond to the alerts, by implementing UX guidelines and patterns.

Aligned with general car ownership experience, such a user-centered strategy will boost retention rates and build brand loyalty among the consumers. Combined with other benefits of a focus on user experience and implementation of UX design tools, this will allow industry players to accelerate the monetization of car data while maintaining consumer satisfaction with connectivity services and products.



John Strutton

Head of Product

Axitech

“Understanding The Customer Is A Key Source Of Competitive Advantage”

Historically there have been a lot of products and features in automotive that are created product-forward because seeking immediate feedback in large-scale engineering is very challenging. However, with the connected car businesses being predominantly focused on creating engaging customer experiences through software, there is an emerging need to focus on the customer, because it’s a key source of competitive advantage.

There are many ways to get insights about the users, but given the global scale of automotive businesses, the scalability of these approaches is key. Generally, analytics and experimentation tools have been underutilized, whereas they offer the best, fastest, and cheapest way to be data-driven in decision making. The industry is only beginning to realize the value of this, and with its adoption, we will see emerging products that achieve the market fit early in the development cycle. UX is extremely important for capturing and communicating the value of car data products and services. User experience is, essentially, how well the product serves to meet the needs of the customer. So self evidently, if businesses focus on UX, they are being more intentional with how their teams design and position products to maximize the value created. There is always a cost implication on delivering high-quality products, but through adopting the lean methodologies, customer value can be delivered early and often, which builds up a clearer picture on where effort should be placed in to be most effective.

Of course, to quote Steve Blank, «No plan survives first contact with customers». Connected car services are challenging to execute and generally take longer to develop than independent products, so it is even more costly to get things wrong. There is generally an underappreciation for customer-validated learning in the automotive industry, and prototyping is just the first step to this validation activity.

Adoption of common UX patterns can be another strategy to greatly benefit the speed of development and integration of car data products with the ecosystem of connected services. Those integrations can be assessed in context with the wider design vision. The ecosystem with the best UX will always prevail, so careful attention needs to be paid at the boundaries where the integration parties meet. Being on the other side is also challenging, as customization of services and maintenance of variants for each ecosystem partner presents a challenging commercial situation. For this reason, both UX patterns and SOA best practices are crucial to ensure integrations can be mutually beneficial.

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Contacts

contact@bambooapps.eu

+372 602 7353

Harju maakond, Tallinn, Kesklinna linnaosa,

Maakri tn 19-7k, 10145, Estonia

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