E-commerce & Auto Retail:

Strategies for Success

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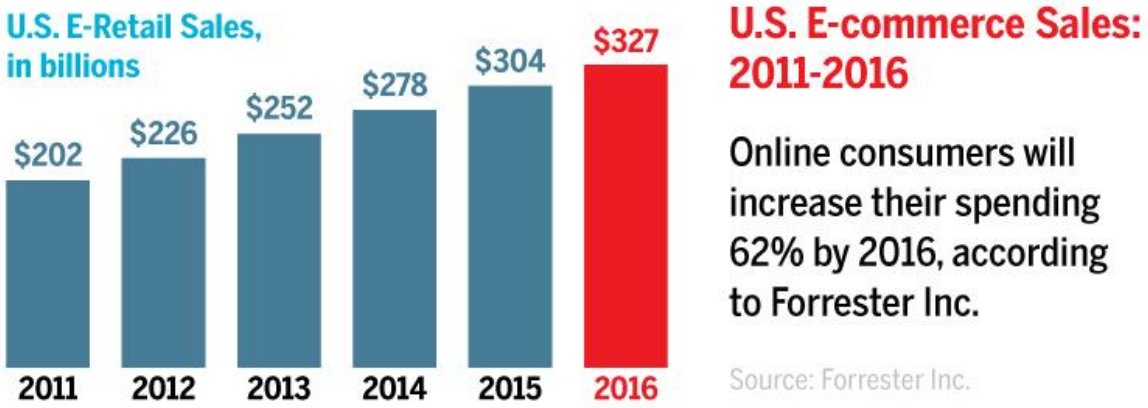
Introduction

E-Commerce has been one of the fastest growing areas within the US economy, and is expected to show continued strong growth. According to Forrester Inc., US e-commerce sales value totaled ~$200 Billion in 2011 and is expected to reach ~$330 Billion in 2016 – a growth of 62% over just 5 years.



Despite this growth, the automotive retail industry – an extremely large industry with $500-600B of sales in 2013 – has yet to completely adopt e-commerce as a significant and standalone sales channel. Instead, most auto retailers / dealerships use the internet primarily as an advertising channel and make the sale at the dealership.

Due to this restricted use of the web as a lead-generation channel, the largest online companies for auto retail are typically “classifieds” type websites, such as AutoTrader, Cars.com and Craigslist. When compared to the “browse>buy>pay>delivery” service offered by traditional online retailers such as Amazon or Zappos, these auto classifieds only offer the “browse” experience.

From the consumers’ perspective, these classifieds websites are useful for only a specific part of the purchase pathway - to narrow down potential cars. From there, however, the actual evaluation and buying experience has remained largely similar in the past several decades – a “kick the tires” kind of experience.

Nonetheless, online automotive retail is an emerging technology space with potential for large disruption. eBay motors has become very successful at selling specialty cars online and has been one of the fastest growing verticals within eBay. TrueCar.com and

CarSense are offering variations of the “browse>buy>pay>delivery” experiences. However, none of these offerings are completely mainstream or significant in size yet.

In this paper, we study the emerging technology space of online automotive retail. Our focus is solely on the used car market, instead of new, for two reasons: (1) the used car market is a larger market (~2-3x the size of the new car market), (2) online sales of new cars is heavily regulated and mostly forbidden.

The study uses frameworks to identify and discuss strategies for success in developing standalone e-commerce models for auto retail. These strategies are considered particularly from the perspective of a startup company or a mid-sized dealership looking to drive car sales through an online sales channel.

Research Objective & Scope

This study identifies strategies for building a successful online car sales business. In this paper, we touch on the following points:

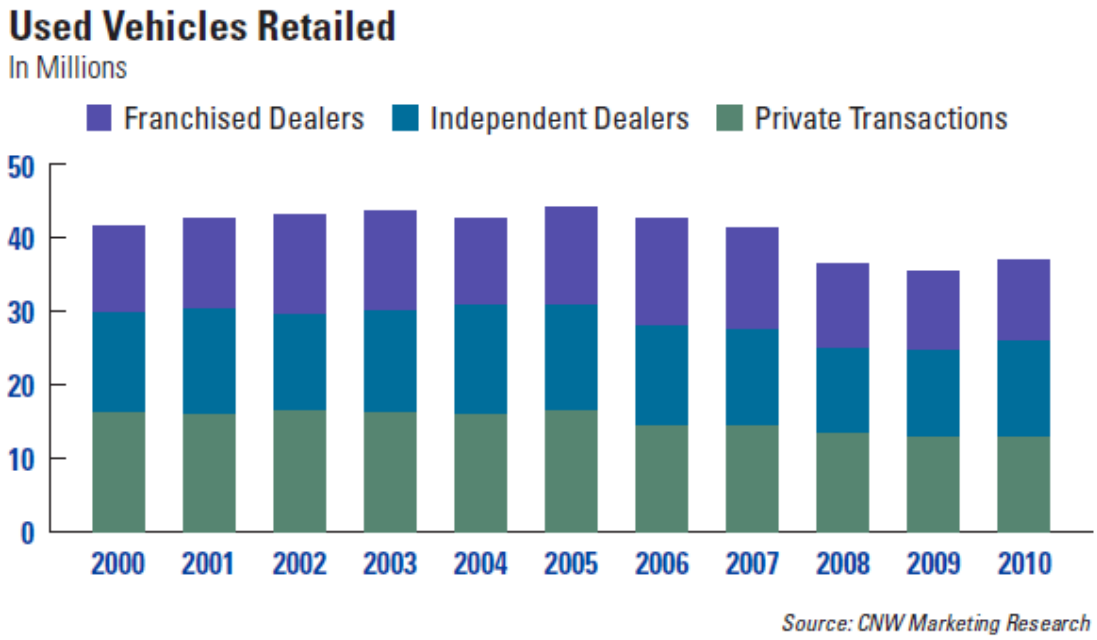
- Overview of the used car market
    - Before diving into a subset of the used car industry, the online car sales, we need to get a first understanding of the overall industry
    - We present where an online car sales company would fit in the existing online automotive space
- Selection of frameworks for analysis
    - Wharton on Managing Emerging Technologies has given us frameworks to study the online used car sales industry. We considered four frameworks and narrowed down our work on two
- E-commerce auto-retail analysis
    - We study the e-commerce auto-retail from the prospective of the "Continuous Exploration and Learning" framework
    - We then use the "Using Alliances to Build Competitive Advantage" to study the e-commerce auto retail from another perspective.

Using certain research methodologies and these frameworks, we identify key strategies for building a successful e-commerce business model for car sales.

Overview of the Used Car Market

Market size

According to U.S. census data, ~55 million new and used vehicles were sold in the U.S. in 2010, representing a $500-600 billion market. Of these 55 million, ~15 million were new cars sold by franchise dealers, and ~40 million were used cars, sold almost evenly among franchise dealers, independent dealers, and private sellers.



Recent Market Performance

Until 2007, the used car market size has been fairly steady, hovering around 40 million units per year. Used car sales volume decreased from 2007 to 2009, but recovered slightly in 2010. This recovery is expected to continue into 2013 and beyond, primarily driven by an improving economy since the car industry is cyclical with the economy. In addition, new car sales have begun to increase, which will increase the supply of used cars in the next several years.

Retail Channels

The U.S. used car retail marketplace is highly fragmented. There are approximately 17,700 franchised automotive dealerships in the U.S. which sell both new and used

vehicles. In addition, used vehicles are sold by approximately 37,500 independent used vehicle dealers, as well as millions of private individuals.

The largest players in the used car market are shown below.

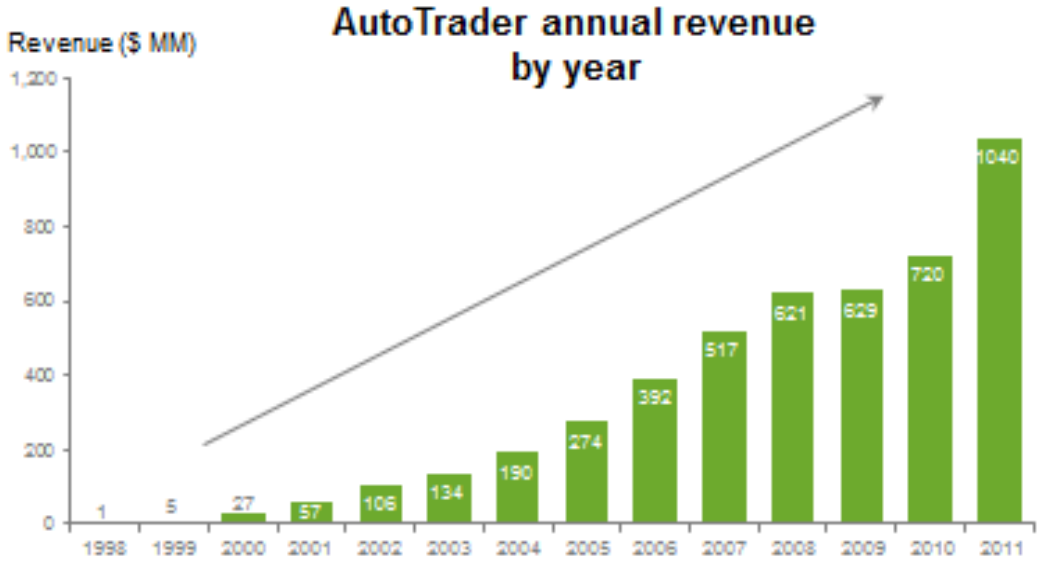
		Total 2010 Used Units	% of Total Market
* 1	CarMax	659,242	1.8%
* 2	AutoNation	160,126	0.4%
* 3	Penske	178,775	0.5%
* 4	Sonic	115,506	0.3%
5	Van Tuyl	129,067	0.3%
* 6	Group 1	99,525	0.3%
7	Hendrick	88,897	0.2%
* 8	Asbury	74,413	0.2%
* 9	Lithia	49,474	0.1%
10	Larry H. Miller	53,339	0.1%
	Top 10 Total	1,608,364	4.4%
	Total U.S. Used Vehicle Registrations	36,898,000	100.0%

** = Publicly traded. Note that unit counts include both retail and wholesale.*

Source: Autonews, AAIA 2012 Industry Factbook

Key Trend: Rise of Online Classifieds

In the online world, there has been a strong growth of lead generation channels for automotive sales. In the 80s and 90s, automotive classifieds were primarily based in print. However, since the mid 90s, online classifieds have replaced print as the main channel for advertising used cars. AutoTrader – a leading auto classified site – has shown strong sales growth and now has over a billion dollars in annual revenue.



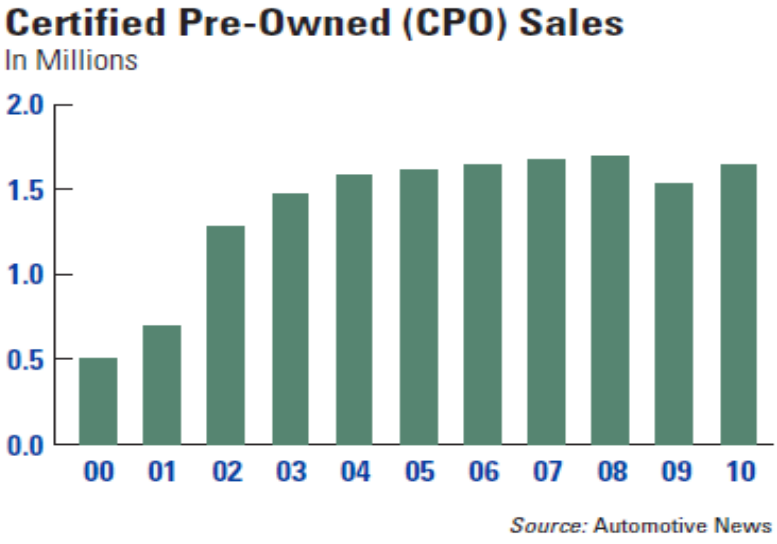
Key Trend: Emergence of Online Retail Channel

In recent years, there have been small but growing examples of online retail channels for used cars. The most prominent among them is eBay Motors. Since being launched as a separate vertical by eBay in 2000, eBay motors has grown rapidly and now has ~$8 Billion in transactions occurring each year. Many of these sales are sight-unseen sales, where the buyer pays for the car based on information available just online or over the phone.

A similar emergence was seen in the mid 90s for lead-generation when online classifieds like AutoTrader rose to replace physical lead sources like Credit Unions and Newspapers as the primary lead generation channels. Certain retailers such as Texas Direct Auto in the US and Car Shop in the UK believe in the potential for online retailing and have harnessed eBay Motors (and, in the case of CarShop, developed a standalone e-commerce platform) to sell cars. With models such as these, the word of online auto retailers is starting to become larger, though it is still much smaller than the volume sold by traditional dealerships such as CarMax.

Key Trend: Growth of CPO

In 2010, Certified Pre-Owned sales rose 7% compared to the previous year to 1.6 million units – a rapid growth since 2000 (~0.5 million units). Luxury brands have long embraced certification as a way of supporting the sale of off-lease vehicles. Now, mass-market brands such as Toyota, Honda, etc. are making a strong push in this segment and had the largest gains in 2010. This suggests a strong consumer desire for used cars with the appropriate guarantees and certifications.

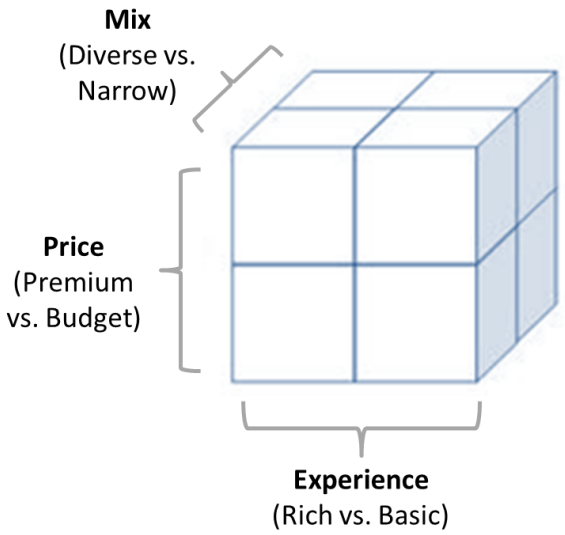


Used Car Retail Models

We observe a number of retail models within used car dealers. They can be classified along three key dimensions:

1. **Price**: This dimension reflects the price (relative to market price) sellers charge for a car. The price is either “Premium” or “Budget/ regular”

2. **Experience**: This dimension reflects the experience and add-on features sellers offer to buyers through their salespeople, customer service, and phone/ web channels. The experience is either "Rich" or "Basic". An example of "Rich" experience is CarMax, which offers fixed-prices, 30-day warranty and 7-day money back guarantee, whereas a "Basic" experience would include none of this.
3. **Mix**: This dimension reflects the range of vehicle assortment offered by sellers. The mix is either "Diverse" or "Narrow"



The following table provides examples of dealership types for the various combinations along these dimensions.

Price	Experience	Mix	Example
Premium	Rich	Diverse	Large reputed dealers (e.g. CarMax)
Premium	Rich	Narrow	Collectible car dealers
Premium	Basic	Diverse	--
Premium	Basic	Narrow	High-margin franchise dealers
Budget	Rich	Diverse	Some **online** sellers (e.g. Texas Direct Auto) / dealers
Budget	Rich	Narrow	Specialty **online** sellers / Low-margin franchise dealers

Budget	Basic	Diverse	Some **online** sellers / Large Independent dealers
Budget	Basic	Narrow	Some **online** sellers / Small independent dealers

Currently, online auto retailers focus on Budget pricing, with various experience and mix combinations. The variation in mix is mostly an issue of access and capital. Sellers are car types they have access to and in volumes allowed by their capital base.

The variation in experience, however, is because sellers are still trying to learn and identify the right experience for online retail. Because of the nascence of this retail model, sellers don't have a good sense for the experience that consumers desire. As part of this study, we will shed light on the necessary elements for the right online experience for used car retail.

Theoretical Frameworks for Analysis

When selecting frameworks for this study, it is important to pick those frameworks compatible with the characteristics of emerging e-retailers in a nascent area. Based on our experience, the following factors are particularly important to execute for these companies:

- Understanding the market potential
- Developing the right product offerings and value proposition
- Securing funding
- Creating an effective go-to-market strategy

"Wharton on Managing Emerging Technologies" provides several relevant tools/ frameworks with which to analyze these four steps in greater detail. We have picked out four candidate frameworks corresponding to each of the four steps. From within these four, we then choose the two most relevant frameworks to develop the study.

The remainder of this section has three areas:

1. Brief description of each of the four initial candidate frameworks;
2. Explain the rationale for the selection of the final two frameworks;
3. More details on the selected frameworks in the context of used-car e-commerce.

Candidate Frameworks

The following candidate frameworks were considered for each of the four steps:

Main Factors		*Candidate Frameworks*
Understanding market potential	→	Continuous exploration and learning
Developing the right product offerings and value proposition	→	Appropriating the gains from innovation
Securing funding	→	Innovative financial ftrategies
Creating an effective go-to-market strategy	→	Using alliances to build competitive advantage

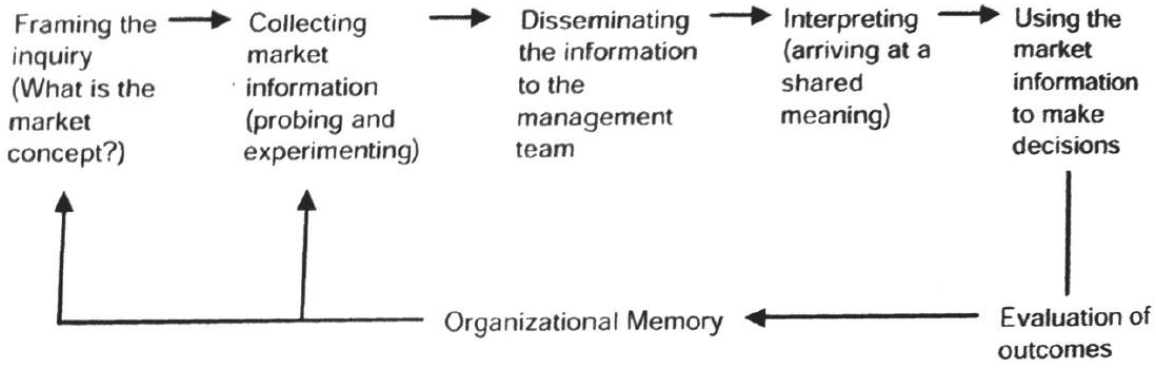
Continuous Exploration and Learning

A key challenge in analyzing e-commerce models for used cars is that – as with most emerging areas – relatively few sellers and buyers currently use this model. To tackle this challenge, we need to determine demand for product offerings that aren't fully fleshed out from customers who don't yet know about them. This is made harder since the rate of market acceptance and seller evolution are uncertain, making traditional methods of marketing assessment less helpful.

In this case, the framework of Continuous Exploration and Learning provides a useful assessment of future markets for emerging technology applications. The underlying advantage in this framework comes from "informed anticipation". Through a rapid succession of market probes or experiments – with each successive experiment refined based on previous results – we are better positioned to anticipate and develop critical inflection points in the market ahead of competitors. The most successful startups for used car e-commerce will be able to surface opportunities faster, invest in better options and mold the market to their advantage.

Several successful products – including fiber optics, cellular phones, and CT scanners – were guided by the "probe and learn" approach that is integral to this framework. This approach is similar to the market sensing process below, as noted in *"Wharton on Managing Emerging Technologies"*.

Learning about Markets for Emerging Technologies



There are three persistent barriers that firms encounter when trying to utilize this approach:

1. In the "Acquiring information" phase, there's a bias towards avoiding ambiguity and presuming unwarranted familiarity with the market, which leads to loss/ avoidance of key information.

2. In the “Information dissemination” phase, departments or functions get chunks of information or interpret these in narrow silos instead of taking a holistic perspective
3. In the “Usage of market information” phase, firms tend to act on information only when it conforms to prior expectations or when market research methodology is deemed technically sound.

Appropriating the Gains from Innovation

In the used-car e-commerce market, we believe that the key components of technological innovations have already been developed and mobilized in various industries. These innovations include the tools to electronic condition reports, databases to track vehicle histories through electronic service records, and carriers to transport vehicles in a low-cost manner. Moreover, eBay motors has been able to harness these disparate technologies and knit together a compelling offering for used car e-commerce. However, theirs is one approach to appropriating the gains from innovation. Startups can develop other differentiated models to appropriate further gains.

For many companies, strong intellectual property protection (through patents, copyrights, trademarks, etc.) can be a key to success. However, just obtaining IP or developing unique technology alone is not the only key to the success of the company. The true differentiator here is the ability to pull out advantages or value from innovations.

In addition to legal protection of intellectual property, companies typically use three other mechanisms to protect innovation gains – secrecy, acquiring complementary assets, lead time over competitors.

Secrecy – more commonly referred to as Trade Secrets – is a type of protection that requires no strong legal support. Essentially, companies keep key technologies or business model information secret from other firms, especially those that are difficult to reverse engineer. An example is Coca-Cola’s age-old recipe for its unique flavor. This can be a long-term protection if the company is able to maintain the secret. However, in case other firms independently discover the same technology, no legal protection is provided.

Acquiring complementary assets that fill in critical holes of a business model is a second mechanism. In eBay motors' case, it already had a customer base and a sale platform. It added car listings by dealers by aggressively pursuing them and creating financing and shipping partnerships, to fill in those holes for the online car-buying process. These complementary assets can greatly increase the original value from a technology.

Increasing lead time over competitors is the third mechanism. Longer the head-start a firm has on knitting together the right use for a technology, the better it is able to develop a strong reputation, increase switching costs for customers, and climb up the learning curve. These benefits can be crucial to the long-run advantages a firm builds.

Innovative Financial Strategies

When dealing with large-ticket items such as cars, startups need to be innovative in financing their inventory and working capital, which can be harder to do than for a small-ticket e-commerce startup. In addition to inventory and working capital requirements, startups also need capital to invest in customer acquisition and building the right team.

Traditional funding strategies include funding from angel investors, venture capital, government agencies, and issuance of public securities (e.g. debt, stock, convertible equities). However, innovative funding strategies like stock warrant off-balance sheet research and development securities (SWORDS) are also considered, especially when requiring heavy research. SWORDS is a form of equity investments for research projects rather than the entire firm. Their advantages include:

- Greater earning per share
- Greater valuation of future cash flows
- Lower cost of capital
- Lower information asymmetry
- Lower downside risk of the parent companies.

Using Alliances to Build Competitive Advantage

Alliances can play a key role in the development and eventual success of emerging technology companies. They offer a way to share valuable resources and spread the risks as well as costs inherent in developing new technology applications. They also may provide access to complementary capabilities, access to new markets and resources that can enhance competitive positions.

As technologies develop, so does the nature of the alliances, typically falling into one of the following categories:

- Providing early windows on technologies
- Creating options
- Achieving positioning

The more mature the technology, the more it moves to the lower parts of this list.

There are four key success factors to good alliances:

1. Knowledge sharing
2. Finding complementary partners
3. Creating and managing specialized assets in a partnership
4. Establishing effective governance systems

With the right setup for these factors, partnerships and alliances can be a key success factor for harnessing the power of emerging technologies

Selection of appropriate frameworks

We discussed four main factors and candidate frameworks in the previous sections:

- Continuous exploration and learning
- Appropriating the gains from innovation
- Innovative financial strategies
- Using alliances to build competitive advantage

In selecting the final framework, we consider the perspective of a dealership/ early-stage company working to launch a used-car e-commerce business. Based on the success of EBay motors, we believe that business model innovation rather than high R&D will drive success in this market. Moreover, these companies typically have limited resources and small budgets to work with. As such, we select frameworks suited to these considerations – startup firms and low-R&D.

We believe #1 (Continuous exploration and learning) and #4 (Using alliances to build competitive advantage) are the most suitable frameworks to use, given these considerations. “Continuous exploration and learning” is inherent in a launch-strategy already used by startups nowadays – launching a Minimum Viable Product, and then getting direct customer feedback to continuously iterate and refine the product. As such, this framework fits in well given the startup-focused lens we are using.

As mentioned earlier, EBay motors has been successful in developing a compelling offering for used-car retail without investing in R&D. Though they extracted gains from existing technologies, it was really the alliances and go-to-market strategy they put in place that allowed them to be successful. For example, they partnered with a number of financing and shipping companies to provide customers with an easy and comfortable buying experience. As such, we believe alliances will play a key role in identifying the right success factors.

The other two frameworks – "Appropriating the gains from innovation" and "Innovative financial strategies" – while relevant are less useful given the startup and low-R&D lenses. In a low R&D scenario, there are fewer discoveries to protect. Both legally-supported protection mechanisms as well as others like Trade Secrets become less important in this scenario.

Financing is important for all companies across all industries. However, most e-retailers rely heavily on venture capital and angel funding. SWORDS or similar funding sources are not typically used in the types of firms we are studying since there are not clearly defined R&D projects.

Given all these considerations, we chose these two frameworks:

- Continuous exploration and learning
- Using alliances to build competitive advantage

Relevance and utility of selected frameworks

Continuous Exploration and Learning

As noted before, the framework of Continuous Exploration and Learning provides a useful assessment of future markets for emerging technology applications. The underlying advantage in this framework comes from "informed anticipation". Through a rapid succession of market probes, firms are better positioned to anticipate and develop critical inflection points in the market ahead of competitors.

The process of Continuous Exploration and Learning can take years or decades to perform successfully. For example, GE's digital X-ray which started shipping in 1996 was based on a series of "probe and learn" iterations that began in 1975. With e-commerce retailers, this process can be faster because of a shorter product-build and go-to-market cycle. Even then, this process can take months or years.

However, several key lessons can often surface from the initial set of iterations. As such, for this study, we ran a number of iterations/ experiments in a few months. As part of these experiments, we created a dummy company – "Philly Cars" – so that we could get real-world feedback. Based on the framework and the results from the experiments, we developed the initial hit-list of key success factors for used car e-commerce.

We ran a survey to test and refine core hypotheses. Our survey included ~30 questions and was administered to ~250 people of various demographics. The questions were focused on used car buying preferences. Accuracy was be ensured with validation questions and response time thresholds.

Next we ran a number of ad-experiments under the "Philly cars" brand in various channels, including eBay motors and Craigslist. We created ads with various types of vehicles, and measured customer reactions to them. The intent was to understand the current pool of online car buyers and refine the product offering through a data driven approach.

Finally, we performed detailed one-on-one interviews to help us improve our findings. We involved former and prospective car-buyers in our interviews, so that we understood the perspectives of both groups, as well as their requirements and decision-drivers in the buying process.

As we ran these research techniques, we continued to test and refine our hypotheses, increasing the focus on those being validated. With these efforts, we answered key sections of our research questions within the continuous exploration framework.

Using alliances to build competitive advantage

In addition to EBay's successful partnerships with financing and shipping providers, early interviews highlighted the need for strong alliances in the used car industry. Given the regulatory tangles in this industry, relatively high per-unit cost of the vehicle, and complexity in evaluating and transferring the asset, proven industry experience is a key asset that a partner would bring to the table. Moreover, the exploratory and learning lead time can be shortened, since a partner may already have certain insight and knowledge to offer.

To flesh out this framework, we primarily used expert interviews. We interviewed several contacts in the automotive and e-commerce spaces, including:

Automotive retail experts

- C-level executive of Asbury Auto Dealership network
- Previous executive at CarShop UK (one of UK's largest online car retailers)
- Regional Manager at CarMax
- Director of Strategy at CapitalOne Auto Finance
- Founder of Amco Motor Sales
- Executive at Hendrick Motors

Automotive supply experts

- Executive at Manheim Auto Auctions
- Publisher of Automotive Fleet Magazine
- Founder of Automotive Relationship Systems
- BCG consultant with Automotive focus

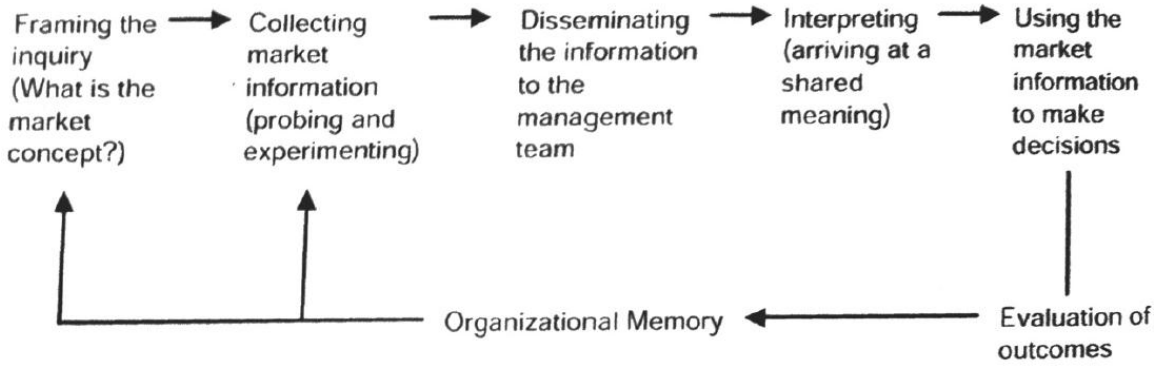
e-Commerce experts

- Web entrepreneur and angel investor
- Wharton marketing professor and e-commerce expert

Using the insight gathered from these interviews, we identified the need for partnerships for startups or small dealerships engaging in used-car e-commerce.

Continuous Exploration & Learning

As noted earlier, the framework of Continuous Exploration and Learning provides a useful assessment of future markets for emerging technology applications. The underlying advantage in this framework comes from "informed anticipation". Through a rapid succession of market probes or experiments – with each successive experiment refined based on previous results – firms are better positioned to anticipate and develop critical inflection points in the market ahead of competitors. The most successful startups for used car e-commerce will be able to surface opportunities faster, invest in better options and mold the market to their advantage.



As part of this approach, we ran 3 sets of market probes, with each one building on learnings from the previous ones:

1. Survey
2. Ad experiments
3. Customer interviews

First Market Probe: Survey

Framing the Inquiry

As part of this market probe, we focused on answering the following questions:

- What are the major issues car-buyers face when buying cars today?
- How may online buying address these issues?
- What gender and age groups are likely to consider buying online?
- What concerns do buyers have for online car buying?
- What may address these online buying concerns?

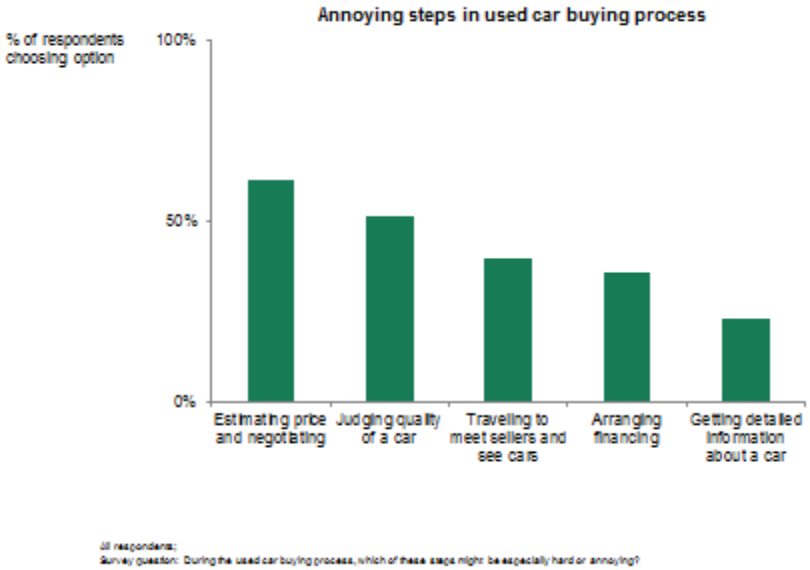
Probing & Experimenting

To answer these questions, we ran a survey of ~30 questions administered to ~250 people of various demographics. Accuracy was ensured by using validation questions and response time thresholds.

Disseminating the Information & Interpreting

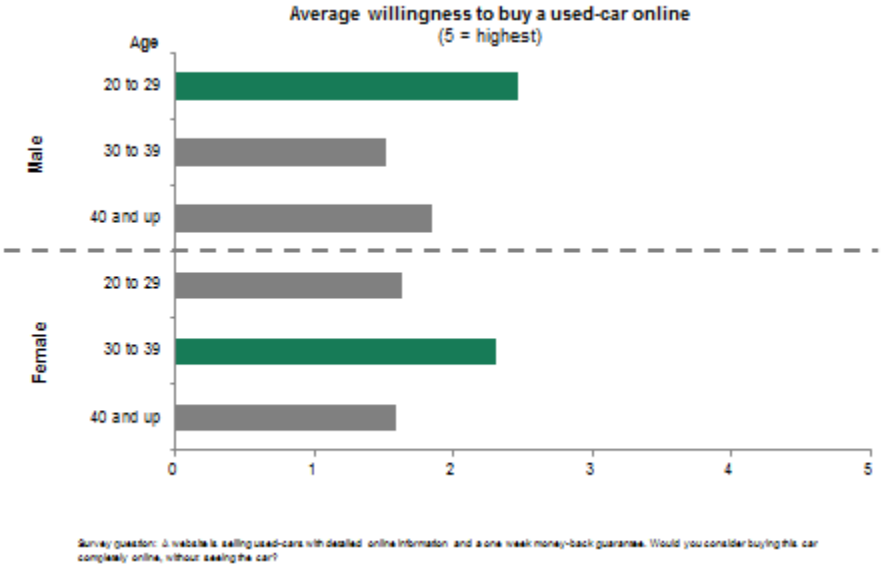
Overall findings from the survey suggest a strong need for trust (e.g. guarantee, warranty) and information (e.g. service records, condition report) to be able to sell cars online. The key findings were:

- Key elements within the car buying experience are seen as hard & annoying. Estimating price, negotiating, and judging car quality were rated as annoying by at least half the respondents.

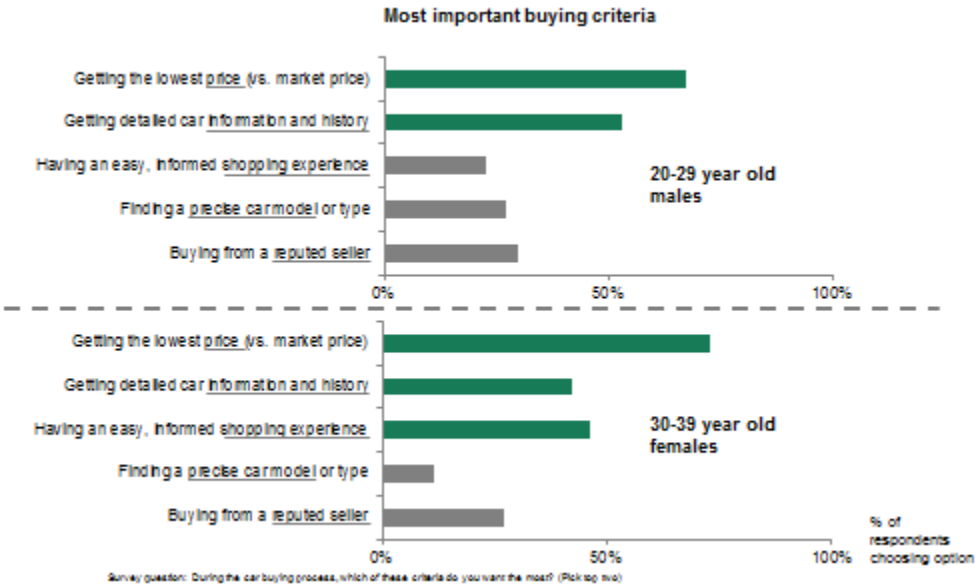


All respondents;
Survey question: During the used car buying process, which of these steps might be especially hard or annoying?

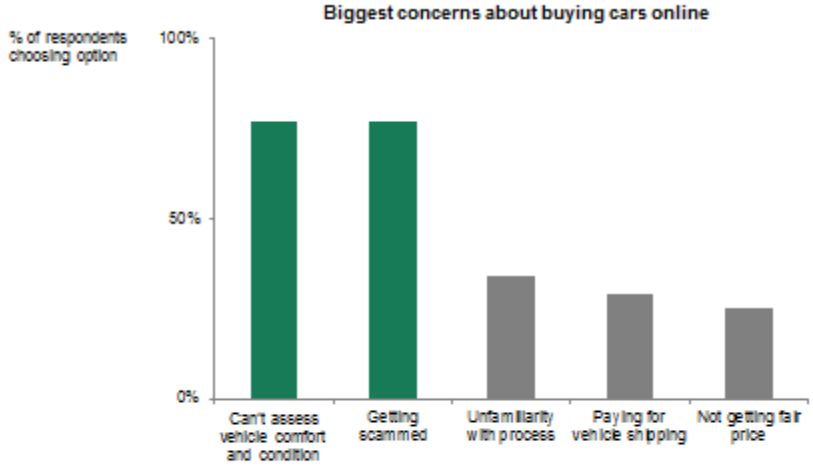
- Online car buying target segment appears to be 20-29 year old males. This was in line with our pre-survey hypothesis, since this age group has more familiarity with e-commerce since a younger age. Unexpectedly, however, a secondary segment of interest also appeared: 30-39 year old females. These differences exhibited by these two segments are statistically significant at a p-value of less than 0.05, as shown in the appendix.



- In terms of what they looked for when buying online, target males (20-29) pointed to price and information. Interestingly, target females (30-39) emphasized the shopping experience, in addition to the price and information. This suggests that the experiential features of e-commerce – e.g. buying from home, getting multiple sources of online information, lack of sales pressure – make online car buying an attractive option for target females. These differences are statistically significant at a p-value of less than 0.05, as shown in the appendix.

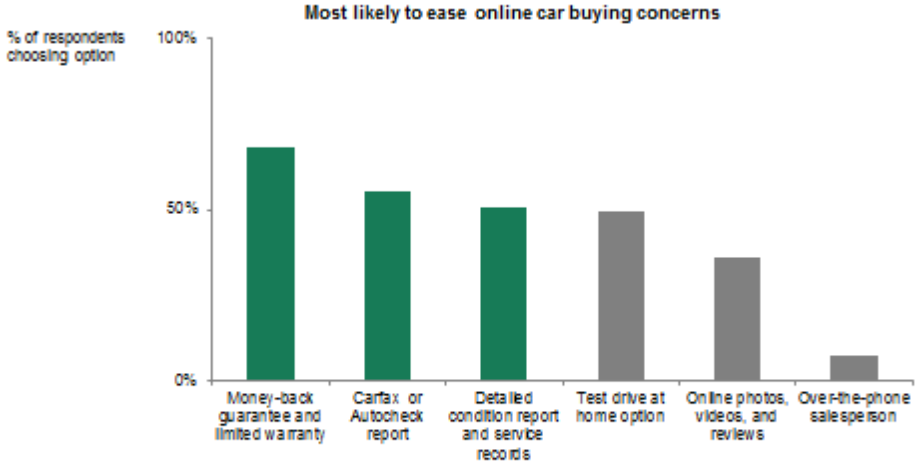


- However, major concerns do exist about buying cars online. Primarily, these concerns are about confidence and trust - both in the vehicle and seller.



All respondents;
Survey question: What are your biggest concerns about buying cars completely online?

- Of a few suggested options to alleviate online buying concerns, a money-back guarantee, limited warranty, and history and condition reports resonate with most with survey respondents.



All respondents;
Survey question: Which of these features is most likely to ease your concerns about buying completely online?

Making Decisions & Evaluating Outcomes

Based on this information, we arrive at the following findings:

- **There is strong interest in pricing guidance, fixed prices & condition reports**. An online buying experience – to be considered a compelling alternative to traditional car-buying – would do well to address the key issues highlighted as "annoying", particularly estimating price, negotiating, and judging car quality. As such, guidance to help consumers understand and compare pricing (e.g. links to Kelley Blue Book or Edmunds pricing), fixed no-haggle prices, and detailed condition reports highlighting any potential issues would help online car-buying be more successful.
- **High-potential segments are 20-29 year old males and 30-39 year old females.** As highlighted in the graphs above, these two segments seem to be the most probable to buying used cars online. These two segments have clear differences in their willingness to buy online when compared to other segments (as shown by a t-test with p-value of <0.05, noted in the appendix). This allows for more specific marketing strategies to target these segments (e.g. targeting specific publications or constraining by age and gender for advertising using Facebook or Facebook-enabled platforms).
- **Trust is very important for buyers**. This trust factor comes from both avoiding scam (32% of participants list scam as their main concern) and knowing what customers are buying (31% of participants list judging a car as their main concern); this suggests that small startups or dealerships may have a harder time gaining traction with online car selling than larger companies with established brand names. This is one reason partnerships may be valuable to these smaller companies, which we will address within the next framework.
- **Money-back guarantee and Warranty are important**. 25% of participants listed money-back guarantee and warranty as ways to ease online buying concerns. Particularly given the trust issues most buyers have, these two features appear to go a long way in addressing the concerns regarding online-buying.

To build on these initial conclusions and flesh out other areas of understanding, we ran another market probe with ad experiments.

Second Market Probe: Ad experiments

Framing the Inquiry

As part of this market probe, we focused on answering the following questions:

- Who are the current online vehicle buyers?
- What vehicle types are generating the most interest among these buyers?
- How does this pool of buyers compare to the high-potential segments identified in the previous market probe?

Probing & Experimenting

To answer these questions, we created ~30 eBay motors ads for various cars. These were based on real cars, had accurate condition information and were priced at a fair-market price. Here is an example of one such ad:

2010 Ford Escape XLT

Price: $13,600

DESCRIPTION:

We are selling a **2010 Ford Escape** with **49,419 miles**. It is well maintained and in great mechanical condition. We are a Philadelphia-based seller committed to providing consumers with a peaceful car-buying experience.

Features

- 49,419 miles
- 6-Speed Automatic
- 2.5 L, 4-cylinder engine
- SUV
- 22 City / 28 Highway
- 4-Door
- Sterling Grey Metallic
- Charcoal Black Cloth

Additional Equipment

- Dual air bags
- Traction control
- Power brakes
- Power steering
- Power mirrors
- Power locks
- Power windows
- Fog lamps

For these ads, vehicles from three categories were chosen:

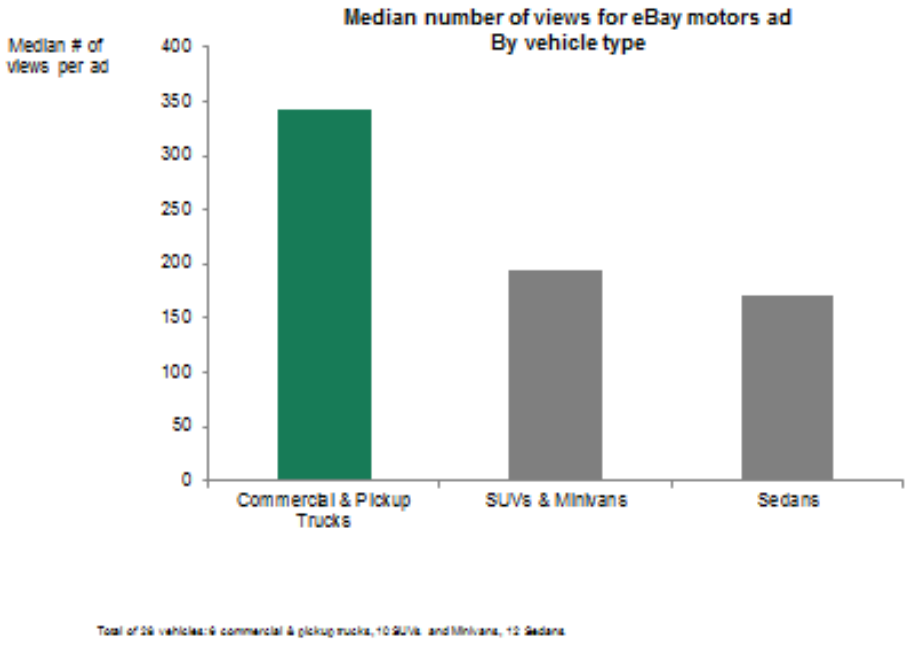
- Commercial & pickup trucks
- SUVs & Minivans
- Sedans

The intent was to understand which of these car types would be most popular among eBay Motors customers, who are the majority of online cars buyers today. For this, various metrics were tracked, including “views”, “bids” and “sales”.

We also worked to understand the types of buyers who were interested by either interviewing them or by studying their profiles and sale/ purchase histories.

Disseminating the Information & Interpreting

From these experiments, we discovered that the vehicles that generated the most interest on eBay motors were Commercial & Pickup Trucks, which had almost twice the number of views when compared to SUVs & Minivans or Sedans.



Total of 28 vehicles: 6 commercial & pickup trucks, 10 SUVs and Minivans, 12 Sedans

Our interpretation – that many of the current online vehicle buyers are buying for business-related reasons – was reinforced by our research into the types of buyers. Many of the bidders had histories of buying several vehicles and mechanical parts online, suggesting they were small dealerships or "car flippers". Others were involved with small and medium businesses and were shopping for a vehicle online to satisfy a business need.

This interpretation was further confirmed when we interviewed representatives of eBay Motors, who noted commercial vehicles were in demand on their platform and used an example to illustrate why: "*A plumber in San Francisco may be looking for a Ford F-250 for his small business. But these types of vehicles are not very popular among SF consumers, so his pool of used options is limited. He would strongly consider buying on eBay motors, because he access to cars from sellers in Texas, where this vehicle is much more popular. Moreover, unlike when buying a personal vehicle, he's less concerned about cosmetic details and exterior damage and this makes buying online more palatable"*.

There are, however, other significant types of online buyers that were suggested by our experiments, research and interviews. For example:

- Buyers looking for rare or unique cars
- Buyers looking for low-priced used luxury cars

Making Decisions & Evaluating Outcomes

Based on this information, we arrive at the following conclusions:

- **Early adopters of online car-buying differ from high-potential segments**. Commercial buyers, unique vehicle buyers, and low-priced luxury buyers are all segments that span a diverse set of demographics. Startups and small dealerships should target these groups initially to get a foothold into the market and then try to tackle other segments.
- **An additional lens is needed to understand consumers with high-potential for online purchase**. The early adopters cannot be characterized by demographics alone, and this may apply to next stage adopters as well. A psychographic / behavioral segmentation will help provide a deeper understanding of potential buyers.

<u>Third Market Probe: Customer interviews</u>

Framing the Inquiry

As part of this market probe, we focused on answering the following questions:

- What are the various car buying segments in the market?
- Within the demographics emerging from the first market probe, what psychographic or behavioral characteristics signal a high-potential online vehicle buyer?
- How do buyers with these characteristics react to the success factors highlighted by the survey (e.g. Guarantee, Warranty, etc.)?

Probing & Experimenting

A number of car-buyers were interviewed in one-on-one settings. In addition to understanding their past car-buying experiences, the interviews also assessed their reaction to an online-only car-buying model.

Disseminating the Information & Interpreting

Various ideas and key messages emerging from these interviews were qualitatively identified.

Making Decisions & Evaluating Outcomes

Based on this information, we arrive at the following conclusions:

- **High-potential online buyers have certain key characteristics** (in addition to being part of the demographics identified in the survey and having a strong comfort with online buying). They have 2 or more of the following features:
    - **Limited-Access**: They are in areas with a limited pool of used vehicle options nearby (typically rural or less-urban). They have a strong need for a car, requiring one for a daily commute, grocery shopping, weekend visits, etc. They may not find a car with their preferred characteristics nearby and would consider buying online.
    - **Price Sensitive**: They are college students, graduate students, or recent graduates who just entered the workforce. For them, vehicle reliability is a key factor to judge – they cannot afford a car that needs constant maintenance. Aesthetic attributes (design, color, add-on features) are less important. They consider online stores as having lower prices, typically based on experience from other categories.
    - **Brand Agnostic**: They have little interest in what company makes the vehicle. They are not very knowledgeable about cars or nuances between brands, and are not looking to signal status via car. These buyers may turn online to gather information and eventually consider buying online as well.
    - **Reluctant Consumer**: They consider the used-car shopping experience inconvenient and unpleasant. They are concerned about dealing with car salesmen and their negotiation tactics. These buyers would buy online to avoid the traditional car-buying experience.

During these interviews, the following factors were highlighted as being particularly effective in addressing buyer concerns about buying online:

- Money-back guarantee
- Included warranty
- Detailed information about the car, including a condition report, hi-res photos and vehicle history information
- Pricing information and no-haggle prices

These are in line with the factors emerging from the survey.

Using Alliances to Build Competitive Advantage

As noted earlier, having the right alliances can provide a significant competitive advantage. As technologies develop, so does the nature of the alliances, typically falling into one of the following categories:

- Providing early windows on technologies
- Creating options
- Achieving positioning

The more mature the technology, the more it moves to the lower parts of this list.

Alliances can be useful to provide early windows on technologies when there is a high amount of technological uncertainty. However, for used car retailing, the technology and process is starting to become more certain based on eBay Motors' business model. However, there is still a significant amount of demand uncertainty. As such, for online sellers of used cars, alliances will be helpful primarily for creating options and achieving positioning.

To understand alliances better, we interviewed a number of experts within the automotive industry, including automotive retail experts, automotive supply experts, and e-commerce experts. Based on their feedback, it became apparent that the supply side and demand side would require differing natures of alliances.

Alliances on the supply side

Alliances may be valuable on the supply side, as sellers try to understand the right part of the value chain to plug into for supply. These alliances are particularly helpful for creating options for startup companies. Sellers have various supply options to consider, including

- Private auto auctions
- Government auto auctions
- Trade-ins
- Partnerships with corporate sellers (e.g. Fleet management companies, Rental car companies, etc.)

Each of these supply sources has pros and cons to consider. For example, trade-ins are typically a low cost source of supply but limit ability to manage mix of offerings. Auctions allow for better management of mix while being relatively more expensive.

Partnerships with corporate sellers can offer large volumes of cars at low prices (and low capital, if structured as a consignment sale), but require a greater business development effort.

Instead of picking just one, startups that build alliances with multiple types of these suppliers will be well positioned to tap into the most suitable supply sources as the market evolves.

Alliances on the demand side

On the demand side, alliances may be helpful in achieving the right positioning. Partnerships with certain partners may allow a startup to test various offerings and achieve the right mix without having to develop individual features by itself. Potential partners include:

- Warranty companies
- Shipping companies
- Financing companies
- Technology providers

For example, as seen from the continuous learning and exploration framework, a warranty is a key part of creating the right customer experience. However, developing the capabilities to offer an in-house warranty is a major undertaking. By working with a partner, a startup can test various offerings and tailor the warranty to choose the most suitable option. A similar case can be made for shipping, financing and technology choices.

Creating successful alliances

There are four key success factors to good alliances, which apply to alliances for startup companies in automotive retail as well. These are:

1. **Knowledge sharing**: Partner organizations need to develop good knowledge sharing routines and processes to ensure that necessary information is shared with all parties. Successful knowledge sharing allows information to be utilized to its fullest extent, resulting in more successful decision making.

2. **Finding complementary partners**: Especially when choosing partners for the option value they add, it is ideal to have partners whose asset mixes are

complementary to each other. This minimizes duplication of effort and capability, and maximizes the output of the partnership.

3. **Creating and managing co-specialized assets in a partnership**: Successful partnerships create new, valuable assets over time. These partnerships benefit from a clear process to manage the assets and capabilities that each partner creates.

4. **Establishing effective governance systems**: As partners develop more co-specialized assets, they become more invested in the partnership. As such, there needs to be an effective governance system for the overall alliance.

With the right setup for these factors, partnerships and alliances can be a key success factor for harnessing the power of emerging technologies

Conclusion

The used car market is a large market with significant potential for e-commerce as a channel to sell vehicles. To explore how to utilize this channel successfully, we went through the following effort:

- We studied the used car market and understood the current state as well as the key trends affecting the market
- We selected four potential frameworks to help us frame the key issues and potential approaches
- From these four, we narrowed down to two key frameworks and laid out methodologies for using both
- Within the first framework – Continuous Learning and Exploration – we performed three market probes to better understand consumer target segments and preferences
- Within the second framework – Using Alliances to Build Competitive Advantage – we interviewed key personnel with in the automotive and e-commerce industry.

Based on these efforts, we understood and described key success factors for automotive e-commerce. These success factors, organized by the framework used, are:

Strategic insights from Continuous Learning and Exploration

- Long-term high-potential target segments differ from likely group of initial adopters for used car e-commerce
- Early adopters are likely to be commercial buyers, unique vehicle buyers, and low-priced luxury buyers.
- Long-term high potential segments are 20-29 year old males and 30-39 year old females, with certain characteristics
    - They are in areas with a limited pool of used vehicle options nearby (typically rural or less-urban) with a strong need for a car.
    - They are price-sensitive, and typically include college students, graduate students, or recent graduates who just entered the workforce
    - They are brand agnostic, are not very knowledgeable about cars or nuances between brands, and are not looking to signal status via car.
    - They are reluctant consumers and consider the used-car shopping experience inconvenient and unpleasant.
- Trust – both for the car and the seller – is a key consideration among buyers.
- Within the product offering, buyers strongly prefer the following characteristics:

- Pricing guidance (for example, on what a “fair price” is)
- Fixed or transparent prices with little negotiation needed
- Condition and vehicle history reports
- Included warranty
- Money-back guarantee for a certain period

Strategic insights from Using Alliances to Build Competitive Advantage

- On the supply side, alliances may be valuable as sellers try to understand the right part of the value chain to plug into for supply. These alliances are particularly helpful for creating options for startup companies. Sellers have various supply options to consider, including private auto auctions, government auto auctions, trade-ins, partnerships with corporate sellers (e.g. Fleet management companies, Rental car companies, etc.)
- On the demand side, alliances may be helpful in achieving the right positioning. Partnerships with certain partners may allow a startup to test various offerings and achieve the right mix without having to develop individual features by itself. Potential partners include warranty companies, shipping companies, financing companies, and technology providers

From the perspective we have used – that of a startup or small dealer looking to build a used car e-commerce business – these success factors can help build a more viable business model and achieve a more successful market positioning.

Researchers and business professionals looking to build on this work should consider exploring the following additional areas:

- What marketing channels and strategies may work well with the business model and partnership success factors explored in this paper.
- How these findings may apply for e-commerce across the category of large-ticket durable goods (e.g. electric appliances, furniture).

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Appendix

Survey questions and response

	Count	Avg	Std Dev
No. of respondents	244		
Age		33	12
Gender			
Female	109		
Male	135		
Race			
African American	15		
Asian	17		
Hispanic	14		
Other	5		
Pacific Islander	1		
White/Caucasian	192		
Residential Area			
Rural area/ countryside	20		
Small town	67		
Suburb of large city	101		
Within metro area of large city	56		
Education			
2-year College Degree	24		
4-year College Degree	87		
Doctoral Degree	3		
High School / GED	35		
Masters Degree	12		
Professional Degree (JD, MD)	4		
Some College	79		
Employment			
Full-time/ part-time employed	147		
Homemaker	13		
Retired	6		
Student	49		
Unemployed	29		

	Count	Avg	Std Dev
Income			
$0 - $25,000	56		
$25,001 - $50,000	86		
$50,001 - $75,000	45		
$75,001 - $100,000	28		
$100,001 - $125,000	9		
$125,001 - $150,000	6		
$150,001 - $175,000	7		
$175,001 - $200,000	4		
$200,001+	3		
Previous car purchase			
No	20		
Yes - a NEW car	32		
Yes - a USED car	192		
Preferred type of vehicle			
Economy sedan (e.g. Toyota Corolla)	95		
Luxury vehicle (e.g. Lexus ES) Choice	28		
Regular sedan (e.g. Toyota Camry)	63		
SUV/ Pick-up (e.g. Toyota Highlander)	46		
Wagon/ minivan (e.g. Toyota Sienna)	12		
Considering only a specific vehicle?			
No - this and a wide variety of vehicles	64		
No - this and similar vehicles only	140		
Yes - this Make & Model only	40		
Price range			
Below $ 2,000	9		
$ 2,000 - 4,000	34		
$ 4,000 - 6,000	32		
$ 6,000 - 8,000	28		
$ 8,000 - 10,000	31		
$ 10,000 - 12,000	32		
$ 12,000 - 14,000	24		
$ 14,000 - 16,000	10		
$ 16,000 - 18,000	10		
$ 18,000 - 20,000	14		
Above $ 20,000	20		

	Count	Avg	Std Dev
Mileage			
0 - 20,000	12		
100,000 - 120,000	19		
120,000 - 140,000	9		
20,000 - 40,000	35		
40,000 - 60,000	62		
60,000 - 80,000	47		
80,000 - 100,000	54		
Above 140,000	6		
Willingness to buy on phone (scale of 1-5, 5=highest)		1.9	1.2
Importance of warranty			
Dealer warranty or certification	147		
Do not require any included warranty or certification	54		
Original factory warranty or certification	43		
Preferred type of financing			
Bank or credit union loan	74		
Dealer loan	30		
Family and friends	8		
Loan from other private lender	3		
Personal funds	129		
Hard or Annoying steps in car buying			
Traveling	97		
Judging	126		
Price	150		
Financing	87		
Information	57		
Criteria for car buying (pick two)			
Price	168		
Experience	61		
Precise car	43		
Seller rep	74		
Info	142		
Importance for info/ trust (scale of 1-5, 5=highest)			
Photos		3.8	0.8
Carfax		4.3	0.7
CR		4.4	0.7
Testdrive		4.3	0.7
Salesperson		2.9	1.1
Guarantee/ Warranty		4.3	0.8
Willingness to buy online (scale of 1-5, 5=highest)		1.9	1.2

	Count	Avg	Std Dev
Biggest concerns for buying online			
Judging	187		
Scam	189		
Price	62		
Shipping	71		
Process	83		
Most likely to ease online buying concerns			
Photos	88		
Carfax	135		
CR	123		
TDH	121		
Phone sales	17		
Gua/war	166		

Statistical tests for select data

Willingness to buy used car online by segment

One tailed T-test, with unequal variance assumed				
P-values	**Fem 20 to 29**	**Fem 30 to 39**	**Male 20 to 29**	**Male 30 to 39**
Fem 20 to 29		0.01876	0.00016	0.27728
Fem 30 to 39			0.32220	0.00715
Male 20 to 29				0.00001
Male 30 to 39				

Using the t-test and comparing the responses to the question regarding willingness to buy online for pairs of select segments, we see that Females 30-39 and Males 20-29 are statistically different from other segments.

Major criteria for buying cars online by key segments

	All responses %	**Fem 30-39 actual**	**Mal 20-29 actual**	**Fem 30-39 expected**	**Mal 20-29 expected**
Price	69%	19	47	17.9	48.2
Experience	25%	12	16	4.8	11.8
Precise car	18%	3	19	2.1	2.8
Seller rep	30%	7	21	0.9	5.8
Info	58%	11	37	4.1	12.2
Total		26	70		
Chi square test p-value					
1.07211E-52					

With this test, we see that there are statistical differences in criteria valued by Males 20-29 and Females 30-39.

Major concerns for buying online and likelihood of easing those concerns

Concerns for buying online	Actual	Expected	Chisq p-value
Judging	187	122	3.80579E-28
Scam	189	122	
Price	62	122	
Shipping	71	122	
Process	83	122	

Ease online buying concerns	Actual	Expected	Chisq p-value
Gua/war	166	122	1.28135E-23
Photos	88	122	
Carfax	135	122	
CR	123	122	
TDH	121	122	
Phonesales	17	122	

Car/ truck ad example

PHILLY CARS
The best value on the market.

WE SHIP
WE FINANCE
WE WARRANTY
YOU SAVE

2008 International 4300

Condition: Pre-Owned Regular

Mileage: 181,755

Stock Number: 5V50/19641/VC792376

Location: Wheeling, IL

Transmission: 6-Speed Manual Transmission

Engine: International D245 (10-cylinder Diesel)

Drivetrain: Single Drive

Exterior Color: White

Interior Color: Vinyl

VIN: 1HTMMAAM28H542861

SUMMARY:

This 2008 International 4300 is real work truck that any business would be lucky to have, and any trucker would be happy to take home. It has tons of space for transporting goods and drives like a dream. It is not a beat-up vehicle-it is sturdy, reliable, and built tough. We sourced this car from a fleet auction, and are hoping to sell it to a lucky eBay buyer before it goes back to be re-listed at an auto auction (where it will sell for a much higher price). Don't hesitate to read further and learn more about this superb truck.