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Best Used-car Selling Service in US

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EXECUTIVE SUMMARY

During the Covid-19 pandemic, a shift in the way people do things has been seen across many different industries, the automobile industry is not the exception, new car production and distribution has decreased based on the restrictions placed by many countries to ensure the safety of its citizens, this has made it quite difficult on the new car dealerships, in addition, people are seeing that the need for a car has gone down significantly since working from home has become a more and more common. However, there is a sector of the automotive industry that is having a boom, used cars. The used car sales sector is seeing a big increase due to mainly two factors, first, essential workers are still required to show up to work and are required transportation due to the reduction and/or fear on using mass transportation; and second, with the many layoffs that happened in the early months of the pandemic, people were unable to make the payments or needed a cheaper option from their current vehicles.

In this project, our team decided to look a bit more into this situation and create a comparison between the many alternatives that are available to sellers wanting to sell or change their vehicles. The main focus was to try and identify what are the most important factors that people look for when trying to sell a car and match these factors to the different alternatives that are available locally or online so the sellers get the best value from their sell, in short, we wanted to find out which is the best car-selling service available in the US that brings the best value to a person trying to sell their vehicle in today's market?

An HDM, model is then created in order to create an expert comparison between the criteria identified previously and some of the services available, from selling individually, trade-in, selling to a used car dealership, and hiring an agent, in order to come up to the best solution to our dilemma.

BACKGROUND

The goal of this study is to find the best-used car selling service. Used car sales have been rapidly growing during COVID-19, growth has shifted the market significantly, enough that dealerships have redirected marketing and sales to focus on the used car market due to supply chain issues causing a shortage of new vehicles supplied from factories that had been shut down for months[8]. This study is significant, as it covers current information encompassing multiple industries and economic impacts affected locally and globally. The supply and demand for new cars have decreased and used cars are becoming more valuable in an unstable economy.

When COVID-19 hit the U.S. last spring, the government forced a mandatory shutdown with the exception of essential employees. The impact resulted in a negative ripple effect throughout the rental-car industry. Companies halted all operations as travel plans were canceled. Months went by with no solution or end in sight and as a result, car rental companies started to resale their depreciating inventory[19]. COVID-19 led to increased used car sales as people sensitive to auto cost in the recession were seeking alternatives to avoid mass transportation[5].

As dire as the economic impact may seem to auto sales, there are several key upsides to the emerging issues. An increase in both demand and vehicle value of used cars has occurred, leading to an opportunity for current vehicle owners to take advantage of this market shift.

Carvana, Carmax and AutoNation since Covid

Carvana Co (CVNA:NYSE)

USD

Last | 3:41:32 PM EDT

214.375 -2.55 (-1.1759%)

6 Month ANKMX



Figure 1 Carvana, Carmax, and AutoNation since COVID: As of April 2020 - Sales of used vehicles in the U.S. have rebounded after dropping 38%. June 2020, used-vehicle sales rose 17% above the pre-pandemic forecasts. [5]

PROBLEM DEFINITION

When selling a vehicle, most people will try to use some form of a classified ad, either using the internet or resources available locally to them and hope for the best, but there are several ways to sell that may not be considered initially, in this project we have set ourselves to identify; which is the best car-selling service available in the US that brings the best value to a person trying to sell their vehicle in today's market?

In order to identify the best car-selling service we first need to ask some key questions:

- How do people usually sell their vehicles?
- What are the challenges to selling?
- How much time does it typically take to sell?
- What criteria are most important to people selling a vehicle?
- What services are available?
- What are the top car-selling platforms?

It is a known fact that some of the available services will lean more heavily towards some criteria while others will lean another way, there also might be differences based on the type of vehicle being sold, It is important to note that there is no "one fits all solution" to this problem but we can identify that depending on the needs of a specific owner, certain services may be better than others. In order to reduce our spectrum, we have decided to focus on the sale of an average household vehicle.

Based on the above, we have set ourselves to try and identify which services are most in line with each of the criteria identified by the experts to correlate the needs of the sellers to the best service available.

EMERGING ISSUES

There are several emerging issues from the economic and social changes impacting used car sales. These issues include business restrictions, auction closures, and supply chain issues with new cars. As dire as the economic impact may seem to auto sales, there are several key upsides to the emerging issues including increased demand for used cars, technology advances changing the market, new job creation, and many more. An increase in both demand and value of used cars has created an opportunity for current vehicle owners to take advantage of this market shift.

Business Restrictions

Many businesses had been either closed or had limited capacity for in-person showings creating a challenging environment under any circumstances. The business impacts include used car dealerships, private agencies, auctions, and any non-essential jobs. A major limitation of social distancing restrictions had removed the ability to perform test drives with the seller.

Auction Closures

Digital innovations have been developed rapidly from businesses that are affected by auction closures. The National Auto Auction Association has dedicated its website to providing COVID-19 updates and serving as a resource center, updating the business community's upcoming events. Dealer-to-Dealer auctions have customized software apps to help with inventory management, providing clients with convenient ways to shop, offering real-time auctions with live auctioneers and bidding.[18]

New Car Supply Chain Issues

As stockpiles dwindle, automakers and their global supply chains have not been able to meet the continuing demand, exposing structural flaws in an industry that won't return to normal anytime soon.[18] A recent study from Ernst & Young uncovered that only 20% of dealers plan to invest in their digital presence through 2020.[17] This could be due to the shortage of microchips to build smart cars and the industry shifting over to used car sales. Complications with microchip shortages and a pandemic have speculators projecting a slow market rebound some time or after 2025. Dealerships may wait for the new technology before heavily investing.

Increasing Used Car Demand/Value

The average listing price for used cars rose more than \$700 from June to July 2020. The used car demand may pick up in 2021 as more people return to their normal lives and are more willing to spend money on a new vehicle[19]

Technology Being Used to Change the Market

Cobots are automation technologies interspersed between human workers on the line, promoting social distancing. Wearables help machine operators problem-solve remotely. Remote-controlled devices are also gaining traction.[20] Using automation requires less personal contact and has been proven to assist with supply chain management.

New Job Creation

This topic is unique as there is no data projecting a positive trend in the auto industry that guarantees job security in the near future. There are many articles reporting a positive direction towards the industry reinventing its future with cutting-edge development integrating digital technologies and changing supply chain management. Facts are this is a multi-billion dollar industry that affects the world globally. Many specialists and Corporations worldwide are teaming up, when one half of the workforce is sleeping the other half is working. Hopefully, they have good communication skills and pass downs to save downtime.

Virtual Test Drives

With a VR headset, test drives allow us to see cars inside and out, the value of equipment needed for the full experience means we'll usually have to head to a dealership for a virtual test drive. Augmented reality, however, can be achieved from any location.[16] As with any new technology in the beginning stages, there are improvements to be made.

Digital Title Transfers

An electronic car title also referred to as an e-title, is a digital record of the ownership of a vehicle. Electronic titles and information related to them are transmitted between lenders and state Department of Motor Vehicle agencies using the Electronic Lien and Title system.[15]

The Electronic Lien and Title System

The ELT system lets lenders that are listed as lien holders on vehicle titles communicate digitally with state DMVs. This system facilitates paperless transactions for the addition and deletion of lien holders while providing vehicle owners with the option to take possession of a paper certificate when liens have been satisfied.[15]

How the Transfer Process Works

When the purchase of a vehicle is financed, the lender is listed on the certificate of title as a lienholder. This listing will stay on the title until the loan is paid in full. When a car is purchased in a state that participates in the ELT system, the title will be held by the lender in a digital format. Once the borrower pays off the loan in full, the lender will transmit a release of the lien to the DMV, which will delete the name of the lienholder on the title and mail the modified certificate to the owner of the car[15].

Drawbacks of an Electronic Title

Owners who use an electronic title will have a waiting period of a few days before the title can be converted and mailed as a paper title.[15]

Audio Motor Profile (AMP™)

Audio Motor Profile is a feature that allows dealers to hear high-definition engine sounds of the vehicles they are considering buying[14]

Virtual Vehicle Inspections

Digital inspections are vehicle inspections performed by technicians using a tablet device to record the results. On some platforms, the inspection results are printed out and added to a shop management system (SMS) manually[12] MTM, Inc introduced its new virtual vehicle inspection process. "Through the virtual vehicle inspection process, facilitated via the online video chatting service Skype, MTM has increased efficiency and made it quicker and easier for transportation providers to meet credentialing requirements"[13]This service is only available for its subcontracted transportation vendors. RideShare Mechanics is another company offering this service to UBER and LYFT drivers. As of March 2021, a virtual vehicle inspection is available and limited to certain markets.

LITERATURE REVIEW

The COVID-19 pandemic has clashed with the auto sector, but one part of the industry is faring better than it was before the crisis: used cars.

There are various reasons for the recent hike in interest in used cars, and they are all connected to COVID-19.

The pandemic halted new car production for nine weeks, so there are fewer new cars and experts say the reason used cars are hot right now is because of supply and demand, and in some cases, production shifted to medical equipment. Automotive News reported that North American car and light-truck production was 6.6 million units for the first seven months of the year. That is three million fewer than during the same time in 2019.

There is an increased watchfulness about getting into public transportation or ride-hailing cars with strangers and in some cases, production shifted to medical equipment. Automotive News reported that North American car and light-truck production was 6.6 million units for the first seven months of the year. That is three million fewer than during the same time in 2019.

Then, the customers who are not as interested in new cars right now are facing a drop in income due to a job loss or work cutbacks.

The first signs of the used-car boom came in May and June, following the overall economic downturn the U.S. saw in March and April following the first wave of stay-at-home orders caused by the pandemic here. J.D Power Economist, calculated that auto dealers sold 2.1 million used vehicles in May and June, 9 percent more than they did in those same two months in 2019. In fact, Edmunds found franchised car dealers sold 1.2 million used cars and trucks in June, which was more than in any month since 2007.

AutoNation and CarMax have been expanding their used car efforts, and their stocks have rebounded strongly from the COVID-19 stock market bottom in March. Carvana, which unlike ACV Auctions goes direct to consumers in selling used cars without dealers in the middle, has seen its stock increase from a \$30 low point in March to over \$200 today. Cars.com reported earnings that sent its shares up 25%.[4]

With the substantial increase in demand for Used cars, the complexity of understanding and choosing the right platform for selling a used car by the individuals for their lifestyle had become a time-taking and tedious process. And hence we did extensive research to get to acknowledge the used car market and problems faced by the individuals. We believed that it is necessary to help the individuals with selling their cars with them facing the new challenges after the COVID-19 and want to come up with the best platform for selling their used cars. As we all know, consumers are the key to the survival of the

second-hand car market, therefore, correctly mastering the basic principle of consumer decision-making, and which factors shall influence their purchasing and selling are helpful to make market strategy and management strategy.

Sales Process

Auto Industry efforts are quick to adapt and overcome challenges to reaching their customer base. “Dealerships are tapping into digital markets in order to recapture market share. “Digital acceleration goals in the business world being compressed from years to months has been a major theme of the coronavirus economy across market sectors.” [5] The demand for cars is still present in 2021, and the used sales market is strong, but the inability to connect customers to used cars is driving a paradigm shift. This means competition with the dealers when using online platforms to market and sell.

Primary Sales Modes

The primary sales modes are Trade-Ins, Dealership, Individual, and Agent. For the purpose of this study, a brief description has been given to each one:

- **Trade-Ins** are primarily done through car dealerships in exchange for a discount on another vehicle. Vehicle owners generally get less value when dealing with Brick and mortar companies that have high overhead. This option is convenient for the individual who does not mind absorbing those hidden fees.
- **Other Vehicle Trade-Ins** include auto donations, supporting non-profit organizations in exchange for a tax deduction. Some people choose this option with older cars that no longer work, instead of paying repair costs to sell the vehicle.
- **Dealerships** such as CarMax, Carvana, and Car Gurus are fairly competitive with prices, compared to a local private dealership. Some have limited brick and mortar locations and or mainly associated with online services. The process of buying or selling has been streamlined to accommodate large volumes of traffic. Sellers typically receive a non-negotiable offer, minus the processing and convenience fees.
- **Individual Sales** options include online sites Craigslist, Facebook, and Marketplace. The seller has the ability to set a price for the transaction, which offers a more lucrative path and requires more work and time needed in creating the listing, actively marketing and monitoring, response to inquiries, and meeting in-person to complete the sale. The trade-offs can be very lucrative.
- **Sales by Agent.** The agent service offers a way to list a vehicle and reach a broad customer base by leveraging an already established marketing platform. A great example of the sale by agent model is AutoTrader. Services provided by AutoTrader include listing a car for a flat fee of \$49 and leveraging Kelly Blue Book to price the vehicle[11]. The digital listings are also able to pull the VIN number and generate a vehicle history report, allow users to post photos, and give options to renew listings to improve marketing.

METHODOLOGY

In order to create the HDM model, we created an initial framework (Figure 2) for the problem that would cover the overall objective, criteria, and alternatives to evaluate. Our Criteria were determined based on our research on the internet, PSU library articles, and our knowledge and experience. The alternatives list we derived after researching top services used by people to sell used cars.

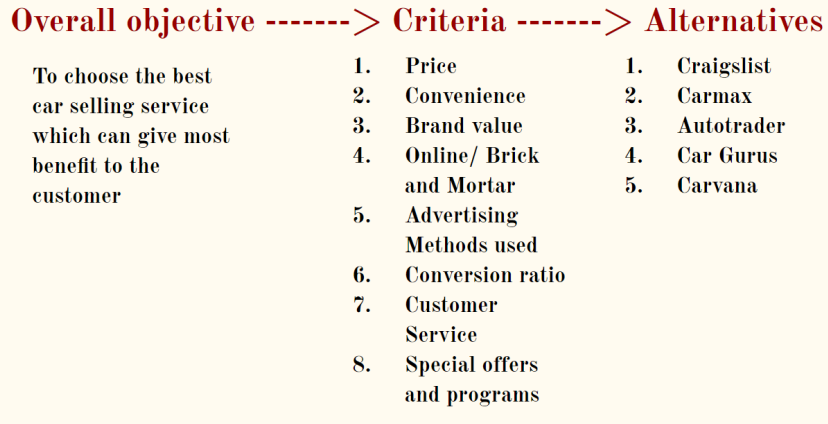


Figure 2: Initial Framework

Refining the Criteria and Alternatives :

As only one team member had real experience and knowledge of selling a car in the US market, we wanted to explore other peoples’ experience of selling used cars. As a team, we prepared a survey of 12 questions and asked the user to rate their knowledge of the car selling process, the convenience factors they think are important to them, and the aspects that bothered them.

Google Survey(Appendix) :

Around 25 people responded to the survey, and there were some interesting results.

Some highlights :

- Half of the respondents were between the 20s and 30s and they had spent more than 5 hours on research before selling their cars.
- Most people had a pleasant experience selling their cars and only spent days on the process.
- We got a good sample of the population who had used different methods for selling the cars.
- The most critical factor for the respondents was the price, followed by convenience and efficiency.
- Paperwork, followed by negotiation and time-consumption, were the factors that bothered them the most.

The results from the survey helped us revisit our criteria and alternatives. We prepared criteria and sub-criteria (Figure 3) to cover all aspects that are important for a customer's experience while using any service to sell the used car. We chose the most important sub-criteria and categorized them into different criteria, as shown in Figure 3. The alternatives(services) were also categorized into Dealership, Individual, Trade-In, and Agent To Sell, as shown in Figure 3.

Efficiency	<ul style="list-style-type: none"> • Time spent on prior search • Time spent during the process
Price	<ul style="list-style-type: none"> • Negotiation • Tax Benefits
Convenience	<ul style="list-style-type: none"> • Paperwork • Car Evaluation
Technology	<ul style="list-style-type: none"> • Transaction Methods • Advertisement Methods
Customer Service	<ul style="list-style-type: none"> • Trust • Accountability

Figure 3: Revised Criteria

Dealership (Carmax, Car Gurus, etc)
Individual (Craigslist, Facebook, etc.)
Trade In (Dealership)
Agent to sell (Autotrader)

Figure 4: Revised Alternatives

FINAL HDM MODEL

Using these, we created our final HDM model with Objective, Aspects, Factors, and Services as shown in Figure 5. In the model, we also provided examples for the services types so the experts can easily understand what comes under Dealership, Individual, Trade-In, and Agent to sell.

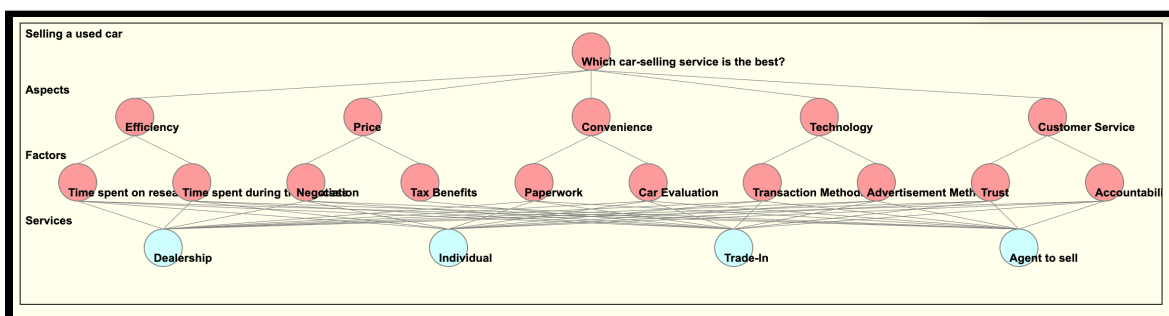


Figure 5: Final HDM

Expert Panel

We distributed our model amongst the people who had some experience selling the car. So mainly our experts were the friends of the team members who were experienced. The team members also decided

to be the experts with the knowledge they had gained from their research. We also included the Professor and the Teaching Assistant in the Expert Panel.

Data Analysis and Results

Due to our project's nature, we were not able to ask professionals and researchers in the field. Instead, we searched for people who had sold a car, as we believed they would provide a fair judgment because they had already been through the process. They were qualified as experts because they had a more profound understanding than people who haven't sold a car before. We validated experts' expertise with a survey. We asked respondents who have participated in our survey to help us with the HDM model. Due to the complexity and time-consumption of the model, they seldom responded. As a result, we asked our friends and family members to fill out the HDM model with the appropriate explanations and guidance. Experienced team members who had similar backgrounds filled out the model. 13 experts were able to complete the HDM model with validated results. The four car-selling service alternatives are Dealership, Individual, Trade-In, Agent to sell. The overall results are shown below:

Table 1 : Overall Results From HDM Model

Which car-selling service is the best?	Dealership	Individual	Trade-In	Agent to sell	Inconsistency
Expert 1	0.2	0.24	0.33	0.23	0
Expert 2	0.24	0.23	0.3	0.23	0
Expert 3	0.21	0.21	0.36	0.22	0.02
Expert 4	0.23	0.22	0.35	0.2	0
Expert 5	0.25	0.19	0.33	0.23	0.03
Expert 6	0.32	0.19	0.23	0.26	0.02
Expert 7	0.4	0.15	0.35	0.1	0.03
Expert 8	0.36	0.17	0.31	0.16	0.06
Expert 9	0.19	0.22	0.36	0.22	0
Expert 10	0.2	0.21	0.35	0.24	0.02
Expert 11	0.21	0.14	0.54	0.12	0.03
Expert 12	0.07	0.07	0.77	0.08	0.02
Expert 13	0.12	0.43	0.3	0.14	0.07
Mean	0.23	0.21	0.38	0.19	
Minimum	0.07	0.07	0.23	0.08	
Maximum	0.4	0.43	0.77	0.26	
Std. Deviation	0.09	0.08	0.13	0.06	
Disagreement					0.073

Among the 13 experts, Trade-in was chosen as the first option (mean = 0.38). The inconsistency and disagreement are in range (≤ 0.1).

Mean overall results

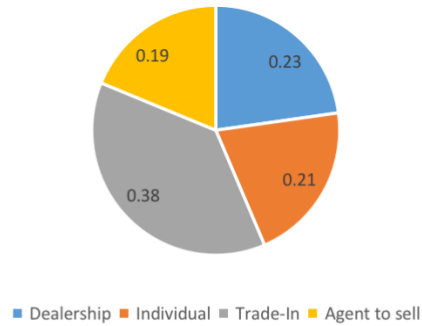


Figure 6. Consolidated overall results

The consolidated results showed Trade-In(38%) as the top choice, followed by Dealership (23%), Individual(21%) and Agent to sell(19%).

Table 2 : Criteria Importance data - Consolidated

	Efficiency	Price	Convenience	Technology	Customer Service
Expert 1	0.17	0.36	0.2	0.14	0.13
Expert 2	0.16	0.32	0.16	0.22	0.14
Expert 3	0.13	0.4	0.2	0.11	0.16
Expert 4	0.2	0.2	0.24	0.16	0.2
Expert 5	0.4	0.18	0.17	0.05	0.22
Expert 6	0.28	0.17	0.2	0.16	0.19
Expert 7	0.1	0.26	0.09	0.18	0.38
Expert 8	0.54	0.29	0.12	0.02	0.02
Expert 9	0.17	0.21	0.15	0.25	0.21
Expert 10	0.16	0.23	0.2	0.11	0.31
Expert 11	0.31	0.19	0.28	0.12	0.1
Expert 12	0.14	0.11	0.42	0.04	0.29
Expert 13	0.17	0.2	0.16	0.18	0.29
Mean	0.23	0.24	0.2	0.13	0.2

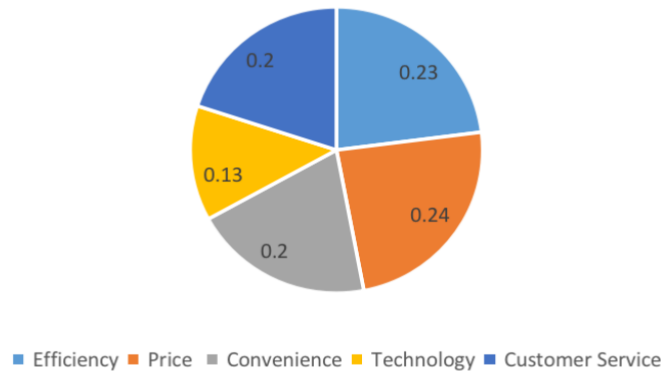


Figure 7 : Consolidated Criteria Result

The final result for the alternatives was impactful and a little bit unexpected. If we looked into the second level of the hierarchy, the pairwise comparison results helped us understand why Trade-in was the best option. In the consolidated results for the criteria importance, experts valued Price(24%) the highest, closely followed by Efficiency(23%). The tie for the third factor was between convenience (20%) and customer service (20%). Technology(13%) is the least valued factor. Trade-in possesses an advantageous position in terms of these aspects.

Table 3 : Sub-criteria evaluation data - Consolidated

	Timespent on research	Timespent during the process	Negotiation	Tax benefits	Paperwork	Car evaluation	Transaction methods	Advertisement methods	Trust	Accountability
Expert 1	0.4	0.6	0.63	0.37	0.54	0.46	0.62	0.38	0.37	0.63
Expert 2	0.65	0.35	0.67	0.33	0.61	0.39	0.62	0.38	0.34	0.66
Expert 3	0.65	0.35	0.6	0.4	0.4	0.6	0.5	0.5	0.4	0.6
Expert 4	0.58	0.42	0.4	0.6	0.4	0.6	0.57	0.43	0.55	0.45
Expert 5	0.5	0.5	0.26	0.74	0.01	0.99	0.87	0.13	0.5	0.5
Expert 6	0.75	0.25	0.75	0.25	0.3	0.7	0.5	0.5	0.7	0.3
Expert 7	0.24	0.76	0.79	0.21	0.4	0.6	0.8	0.2	0.22	0.78
Expert 8	0.51	0.49	0.97	0.03	0.88	0.12	0.99	0.01	0.13	0.87
Expert 9	0.4	0.6	0.35	0.65	0.4	0.6	0.44	0.56	0.56	0.44
Expert 10	0.42	0.58	0.36	0.64	0.42	0.58	0.35	0.65	0.54	0.46
Expert 11	0.66	0.34	0.36	0.64	0.16	0.84	0.47	0.53	0.75	0.25
Expert 12	0.21	0.79	0.82	0.18	0.49	0.51	0.5	0.5	0.5	0.5
Expert 13	0.28	0.72	0.72	0.28	0.7	0.3	0.23	0.77	0.72	0.28
Mean	0.48	0.52	0.59	0.41	0.44	0.56	0.57	0.43	0.48	0.52
Sub-criteria importance	0.096	0.104	0.119	0.082	0.088	0.112	0.114	0.086	0.096	0.104

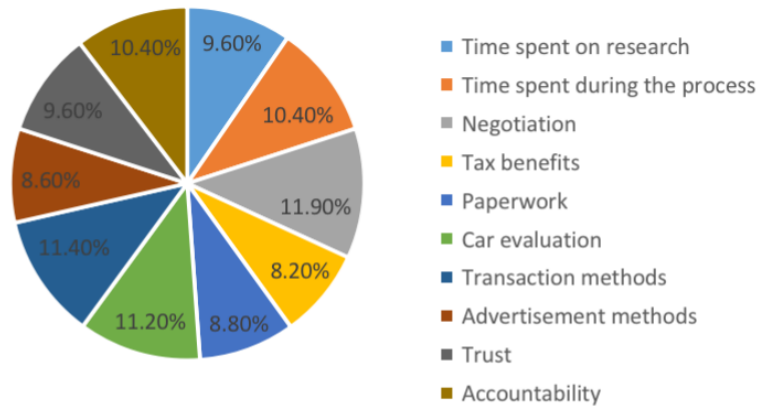


Figure 8. Consolidated Sub-Criteria Result

Looking at the third level of the hierarchy, despite variations in individual answers, the differences between sub-criteria were minimal. Unsurprisingly, Negotiation (11.9%) was taking the lead, followed by Paperwork(11.4%) and Car evaluation(11.2%). The least valued factor was Advertisement methods(8.6%). Thus, we can conclude that all ten sub-criteria shared relatively the same priority. Overall, we believed that our model had provided reliable results on the alternatives, criteria, and subcriteria for the best car selling service in the United States.

LIMITATIONS AND FUTURE RESEARCH:

Limitations:

HDM is an excellent methodology to analyze the data for the most appropriate decisions. Hence most time is spent on analyzing the data and not trying to do the PCM cumbersome math. However, no methodology is devoid of limitations. There are two major limitations in this study.

The first limitation is that the current analysis was conducted for the individuals within the United States and the results solely apply to the US markets. Changes in consumer preferences and advances in technology offer car companies the chance to modernize their business models and launch to better serve consumer needs. For example, in a country like Norway, most individuals use electric cars and have different consumer preferences and hence the criteria and sub-criteria widely vary compared to the US markets.

Though a wide variety of decision-making methods are utilized for this analysis, the model lacks all the five STEEP (Social, Technological, Environmental, Economic, and Political) perspectives, which is the second limitation.

In the business world, there are immense pressures of taking quick decisions and acting on those decisions without any careful analysis of the circumstances. Thus, the implementation of STEEP can help

in determining which external factors would impact the revenues and assists in predicting the trends in the future.

The main goal of the STEEP analysis is to determine the required strategies for the future and understand the market before the introduction of any new brand. In the decision-making model, a change in one factor will also lead to the change in another one. For instance, technological factors can influence economic factors or political decisions that can have economic consequences.

Future Research:

For Future research, the model can be generalized with the help of R & D teams of various industries or companies at the demographic level according to the consumer preferences and advances in technology to better serve consumers' needs. But the same factors pose major threats to existing retail channels for both automakers and their dealer partners. However, the model can be further studied by including Desirability and Sensitivity analysis which can enrich decision making by giving weights and rankings and also considering what-if scenarios.

The desirability function approach is one of the most widely used methods in the industry for the optimization of multiple response processes. With the aid of desirability functions, we may have had a chance to review areas of big gaps in the model.

In MCDM problems, each alternative has several criteria and subcriteria, which can easily be converted into overall desirability value. The goal of the DMs is to identify an alternative that can meet the requirements most appropriately. It is anticipated that the most suitable alternative can easily be identified by observing the computed overall desirability values for different alternatives. An alternative with a higher overall desirability value implies better suitability for a Best Alternative.

The scores obtained by the application of the desirability function approach are observed to be an opaque function of the criteria weights. The impact of variation in criteria weights on the output of the desirability function approach can be analyzed by performing weight sensitivity analysis.

To build a rational decision model, judgments from experts, stakeholders, and decision-makers extracted; and sensitivity analysis applied for what-if scenarios. It shows how a solution to a decision model changes as the assumptions are varied. Sensitivity Analysis determines how different values of an independent variable affect a specific dependent variable under a given set of assumptions. It is a way to predict the outcome of a decision given a certain range of variables. It allows the reviewer to assess the impact that changes in a certain parameter will have on the model's conclusions.

It helps understand the dynamics of a decision problem, whether the decision strategy is robust, and helps in identifying the important elements to construct a requisite decision model.

CONCLUSION

This project's objective was to find the best car-selling service within the four alternatives using Hierarchical Decision Model (HDM). The criteria, subcriteria were established based on the inputs collected from the survey and market research. We chose the alternatives as they represented the most commonly used methods in the used-car selling process. With the help of experts, we were able to determine the best option - Trade-in. The result was consistent with the top two criteria- Efficiency and Price. However, we were not able to sort sub-criteria by importance due to trivial differences. Despite

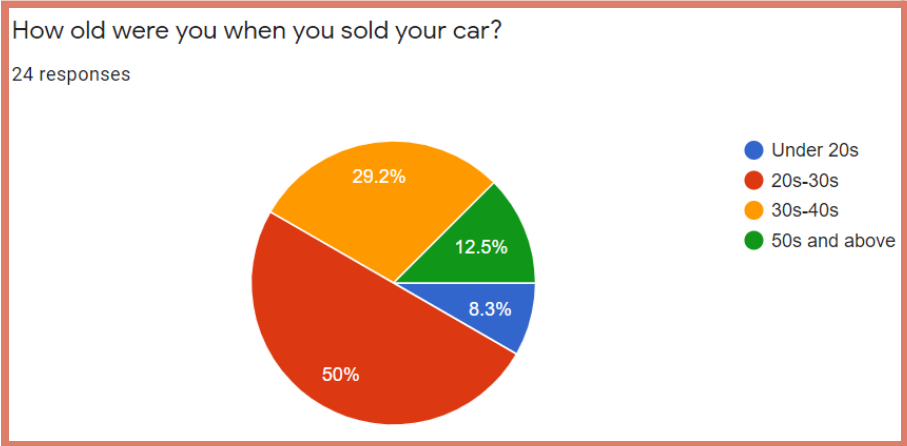
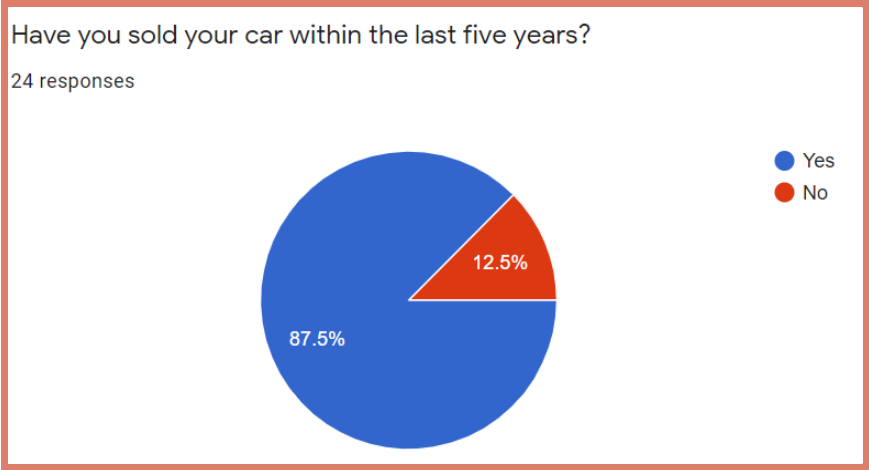
the limitation on perspectives and experts' opinion on this project, we hope this report can provide insight to first-time car sellers in the United States to pick out the best service.

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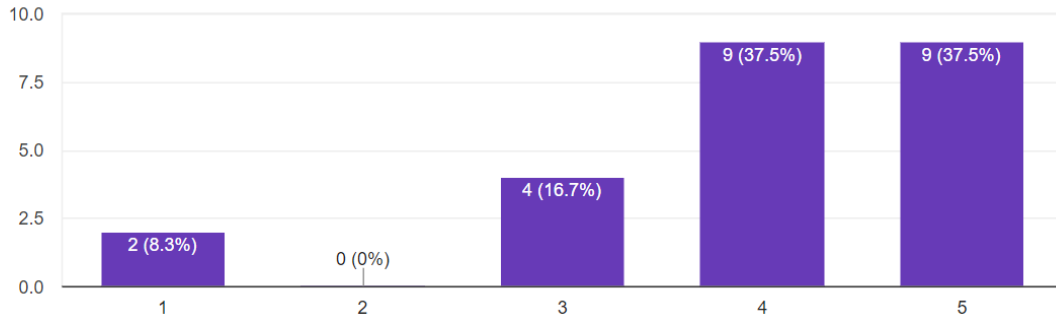
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APPENDIX – GOOGLE SURVEY RESULTS



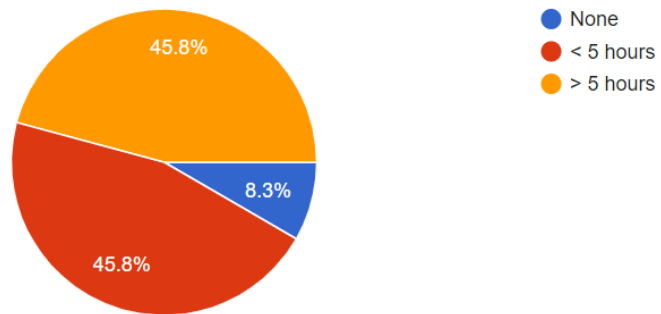
On a scale of 1-5 (1 represents the worst experience, 5 represents the best experience), how did you feel about your car-selling experience?

24 responses



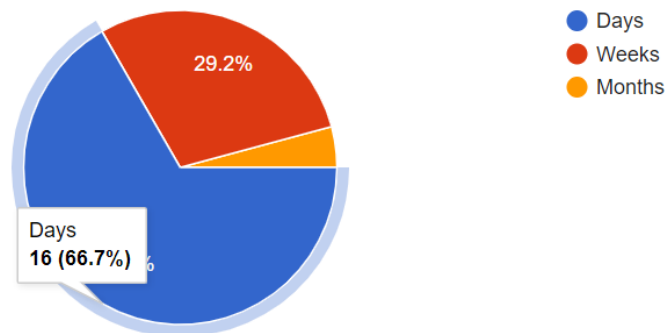
How much research did you do prior to selling your car?

24 responses



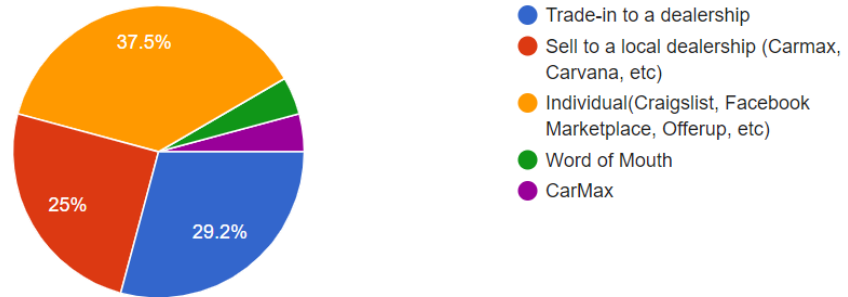
How long did it take to sell your car?

24 responses



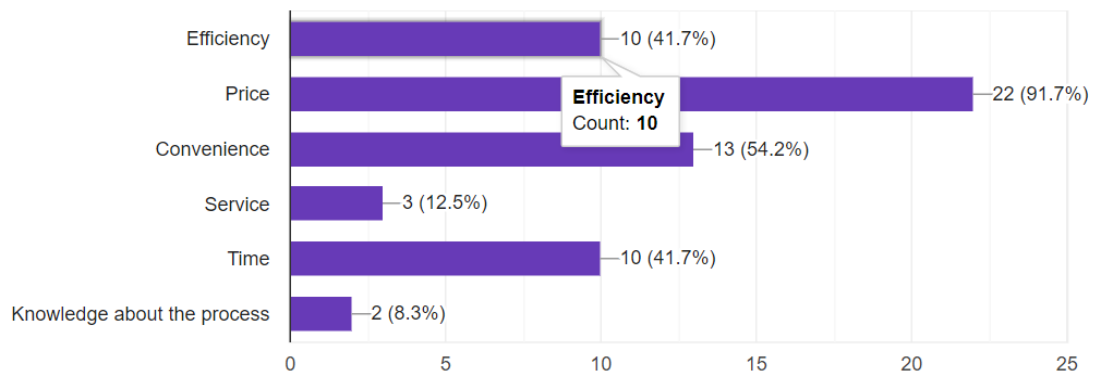
What service did you use if you used any?

24 responses



What is the most important factor in selling your car? (Pick up to 3 answers)

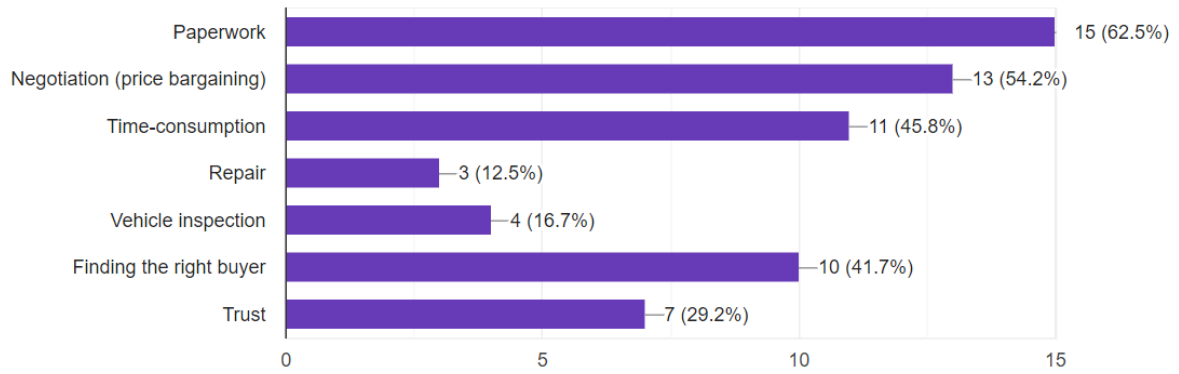
24 responses



What bothered you most about the car-selling process? (Pick up to 3 answers)

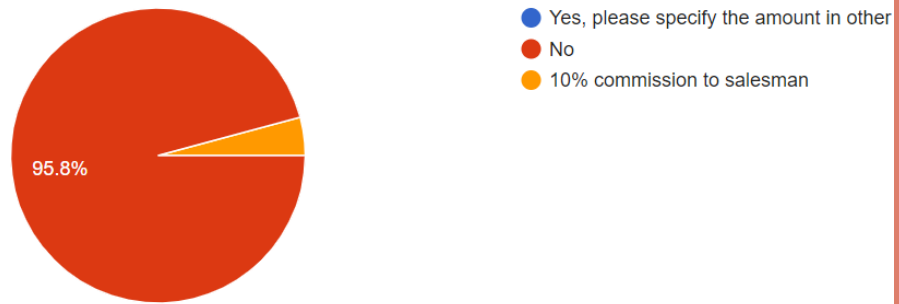


24 responses



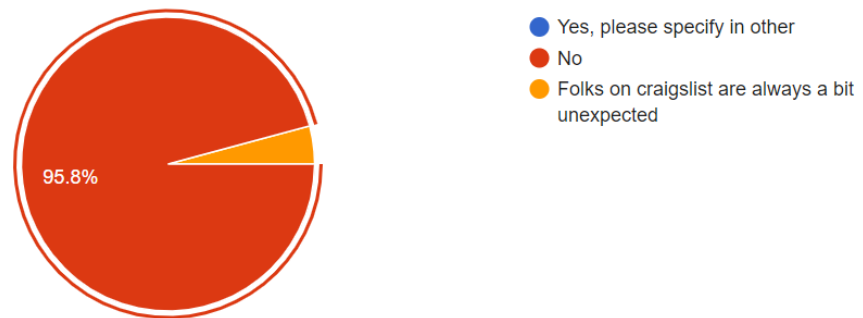
Did you pay for the service?

24 responses



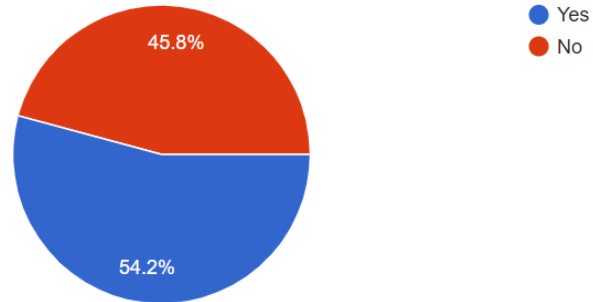
Was there anything unexpected while using the service?

24 responses



Would you use the same service again?

24 responses



Did you sell at the price that you expected?

24 responses

