Frequently Asked Questions

This document contains all questions and answers from past competitions. This document will continue to be updated over time as new questions come in and are answered.

Registration and Submission Logistics

- Q: Can I register and then add a teammate later?
  - A: You can! If it won't bring your team to more than 4 people, you can email analyticsshowcase@carmax.com to add your new teammate.
- Q: Can you give a better overview of the video segment? What are you looking for in terms of results and the report?
  - A: Video can include you speaking to results, showing graphs, or whatever you think will be helpful to synthesize the analysis you've done. You can find the full requirements for the video in our official rules at https://analyticsshowcase.carmax.com/rules.
- Q: Should the report only present the findings? Can I include graphs and bullet points in my report?
  - A: The report is meant to supplement your submission video and should outline your work, methodology, and results. It can include graphs, bullet points, or other elements to support communicating your process and findings. You can find the full requirements for the report in our official rules at: https://analyticsshowcase.carmax.com/rules.
- Q: Do I have to show myself in the video?
  - A: No, that is not required.
- Q: Can I present in whatever format I like in the video?
  - A: Provided it meets our submission criteria, present your findings however you feel is appropriate to get your message across most effectively. We are primarily judging submissions on the accurate and insightful findings that are clearly communicated.
- Q: How big is the competition?
  - A: The competition is open to any qualified university student (see https://analyticsshowcase.carmax.com for who can participate), so we are hopeful to see people from all different backgrounds and schools across the nation.
- Q: Who is the audience of the report, are they technical managers or business operations managers?
  - A: Managers and leadership across analytics will be reviewing submissions, so you can expect them to have technical expertise and business analytics backgrounds.

Analysis

- Q: Should I explain my methodology for how I analyzed the data and what insights I found?
    - A: The problem statement is primarily asking for your recommendation to our question, so you need to balance presenting your methodology in the report and video with the presentation of your findings. One category of judging is rigor – are your analyses sound and accurate? Demonstrating methodology is important for that.
- Q: How should I analyze this data? What are you looking for?
    - A: We don't want to be too prescriptive about what to do with your analysis. There is not a single right answer to the problem statement – we are looking for you to give us your answer and support that answer using insights from the analysis you conducted. Try not to get too hung up on trying to anticipate what you think we want – do your best within the guidelines of the contest and find accurate insights within the data. What analytical tools/techniques/software excite you? Start your approach there.
- Q: Is there a specific software/programming language I should use for the showcase analysis?
    - A: No! You can use whatever app, software, or programming language you are familiar with to perform your analysis.
- Q: Regarding the curiosity judging category, what does 'unique insights' mean?
    - A: When you look at the data you might find more 'obvious' insights that are very clear or apparent trends in the data. You will get a higher score in the curiosity category if you find some things that are deeper – make connections and find patterns in the data that go a bit beyond the surface.
- Q: What kind of recommendations to CarMax are you looking for? Should it be sales recommendations?
    - A: Not necessarily – we want you to look at the data and your insights to make any recommendations to answer the contest question about improving customer recommendations. These can come in a lot of different formats. There's no one right answer.
- Q: I am curious about the definition of personalized shopping experience in CarMax – what current metrics does CarMax have to measure it?
    - A: At CarMax personalization means tailoring a customer's shopping experience by using the information we know about them. We are looking for insights based on patterns in the data set that you think CarMax could act on to create a more personalized experience for CarMax shoppers.

- Q: The challenge goal says, "how can CarMax use this information to improve business operations?" What types of associate support does CarMax currently have in a customer journey?
    - A: We have customer experience centers where associates can help shoppers through chat or on the phone during their journey, as well as the associates who work in our stores where we sell cars. These existing touchpoints can be a recommendation point for change or improvement, but you can also go outside what currently exists with your recommendations.
- Q: What should the final result look like? Is there an outline to follow?
    - A: We don't want to be too prescriptive about our approach. We would like to give you all an opportunity to be creative. We do advice to make sure you answer both questions on the problem statement and refer to the project criteria below on how submissions will be judged.
        - Projects will be assessed across the following criteria:
        - Curiosity: Did you find unique insights in the data?
        - Rigor: Are your analyses sound and accurate?
        - Clarity: Are your thoughts clear and organized?
        - Communication: How well did you summarize findings and present recommendations? Are your results clearly communicated?
- Q: What accuracy metrics should you be using to validate your solution?
    - A: We are not looking for any specific numbers or thresholds. Since you have flexibility to define your approach to the problem, you should determine the relevant accuracy metric(s) you need to report and optimize on.

Data

- Q: Does the data solely include information about the vehicles or is there customer demographic information included/anything additional?
    - A: The data is mostly related to the vehicles, but also includes information about the state where the transaction took place. There is no specific customer data.
- Q: Are we able to do research or should we stick with the data when running the analysis?
    - A: Key findings and your core analysis should come from the data. We're open to using outside sources to support your findings if they are properly cited. If most of your findings are coming from external data, you may want to reevaluate, and consider how the external research will apply considering the main competition dataset is masked.
- Q: Why are there null values?
    - A: This is real data, and if something shows up as null it means the data wasn't available. How you handle nulls in the data is up to you, but the null just means that the data doesn't exist – it does not mean that the value is 0.
- Q: What does appraisal mean?

- o A: An appraisal is a condition assessment, coupled with a monetary offer, to purchase a vehicle from a CarMax customer.
- Q: Does the online appraisal flag mean the car was also purchased in-store, or does it just mean the appraisal happened in person?
  - o A: The online appraisal flag is only for the appraisal and doesn't correspond with the type of store purchase.
- Q: How should I treat outliers in the data (like people that trade in $75k cars for $5k cars)?
  - o A: You can use any data processing or statistical techniques in your analysis, so how you treat these outliers is up to you.
- Q: Why do columns like mpg, fuel capacity have so few unique values? Should i think of it as a numerical column with discrete values or categorical?
  - o A: This is because most of these are values assigned by car manufacturers, and cars are made with similar specifications and capabilities. You will find a lot of the variables are not just numeric, but can be treated as categorical as well. Use your best judgment for what you think will work for your analysis.
- Q: Is it encouraged to pre-process the dataset before carrying our analysis? For instance, should I remove all the rows containing "NA" values?
  - o A: We want to make this an open space for you to utilize your creativity to make decisions that you think will be helpful. If removing the data makes your analysis more meaningful, you can do so. But you are also able to run the analysis without removing the data - you should use your best judgment to find the best solution possible.

Final Round

- Q: What happens if my team is selected as a finalist?
  - o A: Finalists will be notified around January 22nd and present virtually in the afternoon of February 16th and will be released no later than 4:00PM ET. On the day of the 16th, finalists will be partnered with a coach to run through things and help finalize the presentation before the afternoon session. At that point, all the data and work will have been set. We will make sure finalists have the resources they need well ahead of the February 16th presentation day.