**Ideation Phase**

**Define the Problem Statements**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMIDxxxxxx |
| Project Name | Project – CAR RESALE VALUE PREDICTION  (Data Science) |
| Maximum Marks | 2 Marks |

The used car market is a large and strategically important market for car manufacturers. The overall size of the used car market in terms of total sales volume, number of establishments and employees was, respectively, $104,604 million, 227,765, and 1,706,001 in 2011 (Barnes, 2011). Furthermore, the second-hand market is closely connected to the new car business. Trading-in used cars in new car retail sales and handling lease returns, repossessions and fleet returns from car rental companies necessitate car manufacturers to engage in the used car market. Car makers face several challenges in the second-hand market. The depth crisis in the European Union, the general problem of overcapacity, increasing competition from Asian manufacturers, and the trend toward more eco-friendly cars are only a few factors that add to the difficulty of selling used vehicles in the second-hand market and decrease sales margins. Therefore, car makers require sophisticated decision support systems to sustain the profitability of the used car business. A core component of such systems is a prediction model that estimates resale prices on the basis of car attributes and other factors . Although a statistical modeling of resale prices has been considered in previous work (e.g., Purohit, 1992), only very few studies have explicitly attempted to predict resale prices with maximal accuracy to support decision making. As a consequence, answers to the following questions are unclear: i) to which degree are resale prices predictable, ii) what is the relative accuracy of different prediction methods and are some methods particularly effective, iii) given that market research agencies have specialized in residual value estimation

A customer, Richard wants to buy a car. He does not have enough money to buy a new car so he decides to buy an used car and approaches a car reseller. Richard had a few options of car models in his mind and wanted to best price or at least an estimated price for those cars. The reseller tells him high prices for the car he likes. So, Richard checks on this platform for finding accurate prices based on the datasets collected.

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| **Problem Statement (PS)** | **I am (Customer)** | **I’m trying to** | **But** | **Because** | **Which makes me feel** |
| PS-1 | Richard | Find seller’s car’s resale price | Sellers offer high prices | Going to buy used car | Happy |
| PS-2 | Michael | Find resale price of my car | Customers ask for cheap rates | Going to sell used car | Sad |