

## **Group Assignment**

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## I. Introduction

In the dynamic landscape of the automotive industry, understanding consumer sentiments and discussions is crucial for strategic decision-making. This report uses an analysis of social media conversations on cars from Edmunds.com's discussion forums to deliver actionable insights to three key stakeholders: Brand Managers, Product Managers, and Advertising Managers. These insights are derived from an in-depth analysis of online discussions, reflecting current consumer opinions, preferences, and trends in the car market. The forum chosen to derive the analyses is “Car commercials, the good, the bad, and the annoying!” which can be found at the following link: <https://forums.edmunds.com/discussion/8/general/x/car-commercials-the-good-the-bad-and-the-annoying>. This forum gave insights into the brand perception people receive from how cars position themselves in advertising.

## II. Identifying Top 10 Brands by Frequency

From the posts found using a web scraper, the analysis' goals was to calculate the lift ratios for associations between the top ten automotive brands found in the posts. Firstly, the top 10 brands found in the posts by frequency were the following brands:

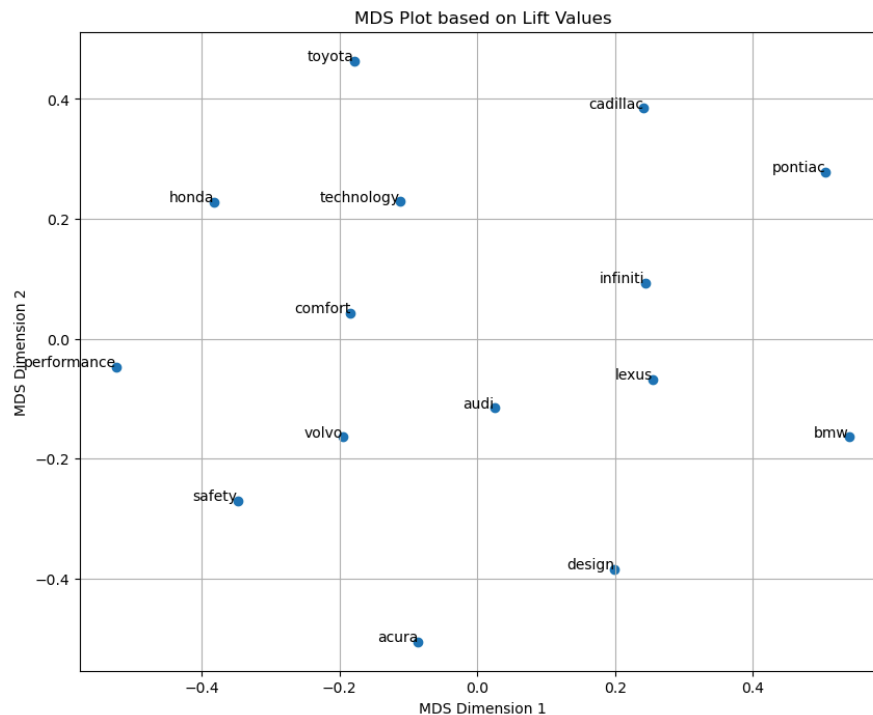
Brand	Frequency
Acura	5821
BMW	5526
Toyota	3351
Audi	2054
Cadillac	2038
Lexus	1412
Honda	1377

Pontiac	1262
Infiniti	1138
Volvo	676

After finding the top ten brands, the lift values for each of these brands was calculated using a python script.

	Acura	Bmw	Toyota	Audi	Cadillac	Lexus	Honda	Pontiac	Infiniti	Volvo
Acura	0	1.2454	1.3835	1.7043	1.3464	1.5393	1.6738	1.5487	1.6632	1.5310
Bmw	1.2454	0	1.3739	1.5306	1.5034	1.8022	1.3320	1.3974	1.5469	1.3579
Toyota	1.3835	1.3739	0	1.5520	1.4337	1.7286	1.7338	1.3085	1.4998	1.8342
Audi	1.7043	1.5306	1.5520	0	2.0442	2.0001	1.8653	1.4754	2.1347	3.2580
Cadillac	1.3464	1.5034	1.4337	2.0442	0	1.7737	1.3373	1.8818	1.6359	2.0995
Lexus	1.5393	1.8022	1.7286	2.0001	1.7737	0	1.7231	1.5634	2.7340	2.1461
Honda	1.6738	1.3320	1.7338	1.8653	1.3373	1.7231	0	1.3048	1.6090	1.8608
Pontiac	1.5487	1.3974	1.3085	1.4754	1.8818	1.5634	1.3048	0	2.6198	0.8137
Infiniti	1.6632	1.5469	1.4998	2.1347	1.6359	2.7340	1.6090	2.6198	0	1.8851
Volvo	1.5310	1.3579	1.8342	3.2580	2.0995	2.1461	1.8608	0.8137	1.8851	0

Lastly, to be able to visualize the list ratios for each of these brands, an MDS plot was constructed as evidenced below.



### **III. Insights from Lift Ratio Analysis**

The first brand that is distinguished in the MDS plot is Pontiac. Pontiac is positioned further away on the right from other brands on the plot, which could represent that when consumers watch their commercials, they strongly associate Pontiac with positive, key features that they don't find in other brands. This strong positioning in both dimensions shows that it has a good and unique reputation among consumers. Brand managers can use this knowledge to understand what the unique attributes are that drive Pontiac's differentiation in the consumer's mind. For example, it could be seen as a car that has a better engine than other, affordable cars in its price point. Those features can then be leveraged to strengthen Pontiac's brand positioning as an affordable automobile in the market. The relative isolation of Pontiac on the plot can also indicate that a specific consumer segment discusses Pontiac in a different way in comparison to other brands. Understanding what consumer segments are more likely to discuss Pontiac can help managers develop targeted marketing strategies to engage and expand their reach within this group.

In comparison, BMW is also a brand that is isolated on the MDS plot. BMW's placement on the plot suggests that it only excels in one dimension. This may indicate that discussions around BMW are less frequently associated with those of other brands, and that consumers positively associate BMW with certain elements, for example being a luxury car with a sleek design, and negatively associate BMW with other elements, for example being affordable. BMW's position suggests that it appeals to a distinct consumer segment. Brand managers should investigate the specific characteristics that make consumers gravitate to BMW over other luxury cars to better understand this segment and tailor their marketing strategies to resonate with this group's expectations. BMW can also employ new, innovative strategies to create even more

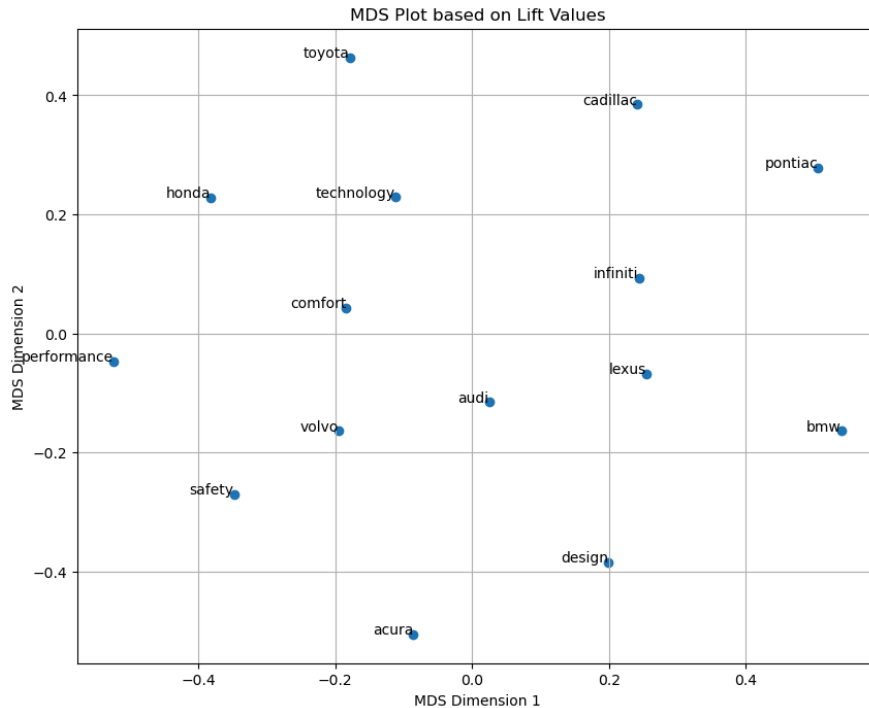
differentiation in the market. This could involve creating new designs, embracing emerging technologies that others haven't, or adopting unique sales strategies.

#### **IV. Advice to the Product and Marketing Manager of the 5 Brands**

In the exploration of automotive forum dialogues, five pivotal attributes have been pinpointed as shaping consumer perceptions in car commercials: performance, design, comfort, technology, and safety. After replacing certain attribute-related keywords with the attributes, the frequency table shown below was obtained,

<b>Attributes</b>	<b>Frequency</b>
Performance	5821
Design	5526
Comfort	3351
Technology	2054
Safety	2038

These facets, though variably expressed, are central to consumer evaluations. Among the discussions, Acura, BMW, Toyota, Audi, and Cadillac emerged as the most frequently mentioned brands. The aim is to align these attributes with the corresponding brands to guide the Product and Marketing Managers. This alignment will inform the creation and curation of commercials that spotlight each brand's strengths and improve areas where consumer perception may not be as strong.



**a. Acura: Comfort (Lift = 1.56886879)**

**For the Product Manager:** Their focus should be on enhancing the comfort features of their vehicles. The high lift value for comfort indicates that consumers associate this attribute strongly with the brand. Ensure that the vehicles deliver on this promise with high-quality interior materials, ergonomic design, superior suspension for smooth rides, and advanced climate control systems. This emphasis on comfort can be a unique selling proposition in their commercials, distinguishing Acura in a crowded market. Comfort is a holistic experience, so they should consider every touchpoint of the driver and passengers, from seat comfort to cabin ambiance. Emphasizing comfort aligns with consumer expectations and can increase customer satisfaction, leading to positive word-of-mouth and repeat purchases.

**For the Marketing Manager:** They can prioritize the concept of comfort in the communications to further strengthen the connection between Acura and comfort. The advertisements can focus on portraying Acura as a vehicle that elevates the comfort experience.

Scenes can feature a driver effortlessly adjusting seats and settings, highlighting the intuitive comfort features. The visuals in the commercial can underscore spacious interiors and thoughtful design, illustrating how Acura's design enhances the overall comfort experience.

**b. BMW: Technology (Lift = 1.434617435) and Design (Lift = 1.27032864)**

**For the Product Manager:** The data suggests technology is now a leading attribute associated with BMW, pointing to a shift in consumer expectations towards innovative and connected driving experiences. For BMW's product manager, their strategy should shift to underscore the brand's technological prowess. This includes focusing on the integration of cutting-edge features such as advanced driver assistance systems, connectivity and infotainment technologies, and electric powertrain capabilities. Ensuring that these technological features are user-friendly and enhance the driving experience can solidify BMW's reputation as a leader in automotive innovation. While design has a lower lift value in comparison, it cannot be neglected given BMW's heritage. It's important to maintain the brand's design ethos by developing vehicles that are visually striking and instantly recognizable as BMWs. Integrating technology and design should go hand-in-hand, with tech features enhancing the vehicle's aesthetic and functionality. By placing technology at the forefront while continuing to invest in signature design elements, BMW can appeal to modern consumers who value a smart, luxurious, and aesthetically pleasing driving experience.

**For the Marketing Manager:** Through the analysis conducted above, technology is the highest associated attribute among all five attributes. The marketing manager can strengthen the concept of technology in BMW's commercials. For example, showcasing BMW's intelligent personal assistant in action, demonstrating how the driver seamlessly controls navigation, climate, and entertainment with natural voice commands. Additionally, including clips of BMW

owners sharing their experiences can add a personal touch to the commercial, making the communication more persuasive. Notably, design exhibits a relatively lower association. As a Marketing Manager at BMW, they can enhance the connection between BMW and design by showcasing the intricate design philosophy — from the iconic kidney grille to the meticulous cabin craftsmanship in the commercials. This strategic approach will contribute to the further cultivation of BMW's brand image.

**c. Toyota: Safety (Lift = 1.71690107)**

**For the Product Manager:** Toyota's strong association with safety is a testament to the brand's historical commitment to reliable and secure vehicles. As a product manager, they should continue to invest in cutting-edge safety technologies like collision avoidance systems, lane-keeping assists, and adaptive cruise control. Make sure that these features are not just add-ons but are integrated into the vehicle's core design. This commitment to safety should be evident in commercials, reflecting the brand's dedication to protecting its customers. Safety is a key decision-making factor for consumers, especially in segments like family vehicles. Prioritizing safety can enhance brand loyalty and trust.

**For the Marketing Manager:** With a strong association with safety, they can leverage this attribute in commercials to create engaging communication. Reinforcing the image of safety can underscore the brand's commitment to providing safety for everyone. In the commercials, showcasing the evolution of Toyota's safety innovations or demonstrating Toyota's advanced safety technologies are some example approaches. These approaches could strengthen the connections even further.

**d. Audi: Comfort (Lift = 1.96026917)**



**For the Product Manager:** Audi's highest lift value being comfort suggests that for consumers, the brand is synonymous with a premium and comfortable driving experience. As a product manager, they should ensure that new models exceed expectations in comfort. This includes advanced seat engineering for maximum support, noise cancellation technology for a quiet cabin, and state-of-the-art entertainment systems. In commercials, the portrayal of comfort as an experiential benefit can appeal to consumers' desires for luxury and sophistication. Additionally, Technology attribute also has a high lift value of 1.958020461. Audi customers expect cutting-edge technology not just as an add-on, but as an integral part of the driving experience. This includes advanced infotainment systems with seamless smartphone integration, intuitive user interfaces, and real-time connectivity features. Comfort and Technology are key competitive advantages in the luxury car segment and can differentiate Audi from its competitors, enhancing the perceived value of the product.

**For the Marketing Manager:** Their commercials should then showcase these attributes in a way that resonates with Audi's target audience. By enhancing both comfort and technology, they cater to the high expectations of Audi's discerning customers, who seek a harmonious blend of luxury and functionality. For example, by introducing smart features that intuitively adapt to the driver's preferences, the commercials can convey the concept of comfort and technology, enabling the target audience to immerse themselves in that scenario.

**e. Cadillac: Design (Lift = 1.68114819) and Safety (Lift = 1.19182548)**

**For the Product Manager:** Cadillac should concentrate on the brand's renowned design, ensuring that the luxury and visual appeal Cadillac is known for are front and center. Alongside this, the comparative lower lift value for safety relative to design does not diminish the importance of this attribute. While design may draw customers towards Cadillac, safety is an

attribute that can retain them. In the luxury segment, safety is often an expected feature, and not excelling in this area can be a point of vulnerability for the brand. Safety features should be seamlessly woven into the design, offering sophisticated protection that does not compromise the vehicle's aesthetic, such as through subtle but effective driver aids and protective materials that do not compromise the vehicle's aesthetics. Emphasizing design in line with consumer expectations can reinforce brand identity and appeal to new and existing customers who value aesthetics and luxury. Simultaneously, highlighting safety features assures consumers that their well-being is a priority, potentially improving customer trust and satisfaction.

**For the Marketing Manager:** In commercials, showcasing safety as part of the luxury experience can resonate with consumers who seek both security and elegance. Cadillac can project an image of a brand that offers the best of both worlds — a luxurious, well-designed car that does not skimp on safety. This can be achieved through creative storytelling that showcases the seamless integration of advanced safety technologies like autonomous emergency braking, pedestrian detection, and lane-keeping assist, not as mere features, but as intrinsic components of the Cadillac luxury experience. Moreover, utilizing innovative formats like interactive ads or virtual reality experiences can bring consumers into the Cadillac world, letting them witness the brand's dedication to design and safety firsthand. This not only solidifies the message of a dual-focused brand but also leverages the immersive power of modern marketing to create a lasting impression. This comprehensive approach to product development and promotion can help Cadillac maintain its competitive edge in the luxury car market.

## **V. Business Implications of the Most Aspirational Brand**

In the analysis, BMW was identified as the top choice. The methodology involved a detailed process of pre-processing and sentiment analysis based on each brand. Focusing on

posts that indicated purchase intent, the text data was lemmatized for accuracy. The VADER Sentiment Analyzer was used to assess sentiment in these comments, revealing a significant positive inclination towards BMW. The brand achieved a compound sentiment score of 378.11, significantly higher than its competitors, indicating a strong aspirational quality.

Additionally, the analysis of individual words in BMW-related discussions provided deeper insights into why the brand is so highly regarded. This granular approach helped to identify specific attributes and qualities that resonate with consumers. BMW's aspirational image is often associated with positive sentiments linked to comfort, performance, and luxury. These insights are immensely valuable for brand, product, and advertising managers. Brand managers can leverage the identified strengths to further enhance BMW's unique position in the market. Product managers should consider consumer preferences when developing products, with a focus on attributes that elicit positive sentiments towards BMW, such as innovation and quality. Advertising managers should emphasize creating targeted marketing campaigns that highlight BMW's aspirational image and unique selling propositions, reinforcing its status as a premium, aspirational brand.