**TASK C**

NOTE: MAYBE TAKE OUT SENTIMENT? NOT REALLY AN ATTRIBUTE OF THE CAR

NOTE 2: BMW AND ACURA HAV ETHE SAME COUNTS IN BOTH UNIQUE ATTRIBUTES AND NOT UNIQUE, SO I AM ASSUMING THAT ACURA IS INCORRECT BELOW

The five most mentioned attributes are build, function, interior, price, and issues that the car has. The five most mentioned brands are BMW, Toyota, Audi, Honda, and Acura. Though BMW is mentioned most for most of the attributes, Toyota is most associated with the interior.

We can see the attributes most representative of each brand in the proportional graph below. BMW is most known for its build and function, according to the comments we found, more so than the other top five brands. Toyota’s interior is its most commented on attribute, with its reliability also being a primary attribute. Audi’s body is by far its most prominent attribute compared to the others. For Honda, reliability is its most prominent attribute, but its interior, price, and car issues are also proportionally more commented on than for other brands.

In regards to BMW being known as the “ultimate driving machine”, the data we found does support this. Its build and function are commented on at a higher rate than for the other brands, implying premium build and function. Build includes words like engine, loaded, and power, which are representative of an ultimate car. Function includes words like turbo, premium, and performance, which also implies an ultimate machine. All in all, our observations do support the claim.

**TASK D**

The attributes listed above that are associated with each brand are a clear place to start for both the product manger and advertising manager. For the product manager, probably what is most important is the features of the car. So the product manager should pay attention to what is included in “build” and “interior”, because customers are interested in specific features for each of those attributes.

For example, BMW’s customers seem to really appreciate the sportiness of the build of the car, so the product manager should make sure that BMW continues to be top of the line in regards to powerful features like engine and AWD. For Honda, the product manager should perhaps be a bit concerned about the proportion of the amount of times Honda was mentioned in relation to issues. The product manager should dig deeper and find out what is causing this perception among customers and get ahead of any PR problems associated with these brand “issues”. For Audi, the customers seem to have a very positive association with the body of the car, so the product manager should be very wary of wanting to make any big changes in the overall look and function of the brand.

The advertising manager should look to the attributes that were mentioned in a positive way with each brand. Luckily for these five most mentioned brands, the most mentioned attributes were usually positive, so the manager has clear guidance. Most of the features are intuitive, such as Audis appearing sleek and BMW’s being associated with power, but the advertising manager of Toyota may have some new information for future campaigns.

Toyota’s proportionally most mentioned attribute is its interior. The marketing team may be inclined to emphasize Toyota’s price or reliability, but the interior is what a lot of the brand’s customers are discussing. Assuming the association is positive, the marketing manager can emphasize the look and feel and gadgets inside the Toyota in future advertising campaigns.

**TASK E**

The top five brands mostly had sentiment attributes mentioned in proportion to how often the brand was mentioned. However, Toyota had sentiment associated with the brand at a higher proportion than the other brand, with it being about 21% of mentions, but 22% of sentiments (see graph below). I think this makes Toyota somewhat as an aspirational brand, because people are talking about how much they like the brand. It also has a lower proportion of “issues” mentions than other brands, so we know that most of the sentiment mentions are positive. The other attributes complement the high sentiment and low issues, with interior being very highly mentioned, as well as price.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **bmw** | **toyota** | **audi** | **honda** | **acura** | **TOTAL** |
| **sentiment** | 156 | 155 | 150 | 75 | 156 | 692 |
| **build** | 108 | 82 | 93 | 37 | 108 | 428 |
| **function** | 42 | 25 | 30 | 13 | 42 | 152 |
| **interior** | 28 | 37 | 24 | 17 | 28 | 134 |
| **price** | 24 | 23 | 21 | 14 | 24 | 106 |
| **issues** | 23 | 18 | 22 | 12 | 23 | 98 |
| **reliability** | 20 | 23 | 21 | 15 | 20 | 99 |
| **body** | 14 | 14 | 24 | 7 | 14 | 73 |
| TOTAL | 415 | 377 | 385 | 190 | 415 | 1782 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **bmw** | **toyota** | **audi** | **honda** | **acura** | **TOTAL** |
| **sentiment** | 0.22543353 | 0.22398844 | 0.21676 | 0.10838 | 0.22543 | 1 |
| **build** | 0.25233645 | 0.19158879 | 0.21729 | 0.08645 | 0.25234 | 1 |
| **function** | 0.27631579 | 0.16447368 | 0.19737 | 0.08553 | 0.27632 | 1 |
| **interior** | 0.20895522 | 0.2761194 | 0.1791 | 0.12687 | 0.20896 | 1 |
| **price** | 0.22641509 | 0.21698113 | 0.19811 | 0.13208 | 0.22642 | 1 |
| **issues** | 0.23469388 | 0.18367347 | 0.22449 | 0.12245 | 0.23469 | 1 |
| **reliability** | 0.2020202 | 0.23232323 | 0.21212 | 0.15152 | 0.20202 | 1 |
| **body** | 0.19178082 | 0.19178082 | 0.32877 | 0.09589 | 0.19178 | 1 |
| TOTAL | 0.2328844 | 0.21156004 | 0.21605 | 0.10662 | 0.23288 | 1 |