

How Effective is Text Analysis?

Comparing responses to a standard pre-populated list with insights gleaned from open-end comments

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Overview: Opening Up the World of Text

In the world of market research, qualitative methods are desirable because of the “richness” of information collected – text comments. But qualitative research, such as including open-end questions in surveys, is often avoided because of the difficulty and cost of processing and extracting information.

New text analysis applications provide the tools needed to effectively and efficiently work with text. This analysis provides evidence that collecting and analyzing comments will fulfill many research goals as well as traditional approaches, and provide added detail and insight. With the advent of text analysis applications, collection and analysis of text should be the method of choice.

Effective Text Analytic Tools Are Available

The richness of text data is well known. But, while many surveys capture customer comments, traditional approaches to use comments are expensive and take time (e.g., coding comments). These barriers have discouraged use of comments in market research studies.

But new text analytic tools have come of age. Collaborating with our automotive clients, we identified the need to be able to effectively analyze text as important to their future success. Maritz Research is responding to this need by implementing Maritz ClearVoice to use text information. Maritz ClearVoice allows us to effectively and efficiently analyze text information for the first time.

This discussion explores just how effective text analytic applications can be. We use Maritz ClearVoice text analysis to explore open-end responses, and compare the results to results obtained through the use of a traditional pre-populated list.

A Side-by-Side Comparison

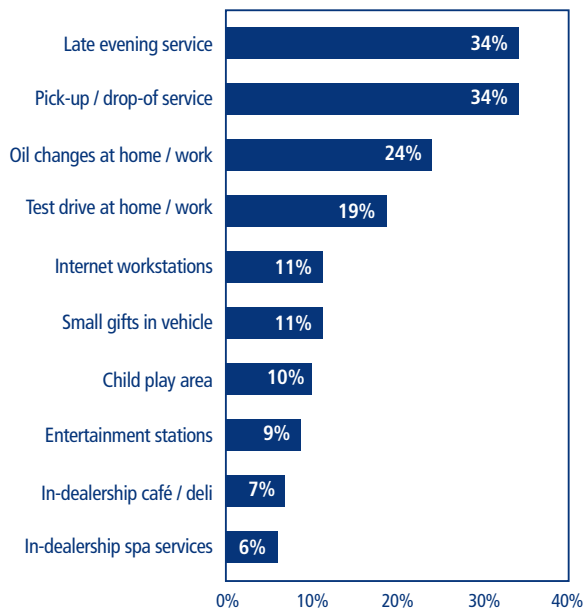
In late August we conducted a Maritz Poll, asking 978 randomly selected respondents to rate the appeal of a list of amenities an automotive dealer could offer to make a customer’s sales or service experience more productive or pleasurable. The items are presented in a traditional pre-populated list. We use a five point scale from ‘not-at-all’ to ‘extremely’ appealing. For a separate 1,032 randomly selected respondents, we simply ask what amenities they would like to see, or what would get them to visit one dealership over another.

How do we compare results? First we assume an unaided mention of an amenity in an open-end comment is most similar to a top box rating from the pre-populated list. Top box scores from the pre-populated list are easy enough to generate.

For open-end responses, we use Maritz ClearVoice to explore comments and identify groups of amenities. We compare the number of comments in which customers made mention of a specific amenity to the pre-populated list top-box percentage results. Do the comments include the entire pre-populated list of amenities? Do we gain additional detail and insight?

Results for the Pre-Populated List

The pre-populated list includes 10 amenities from our work with dealers. The items and top-box percentages (percentage extremely appealing) are shown in the following chart:



Note the first four items deal with convenience. Internet workstations follow. Additional “things to do” and “non-dealer services” are towards the bottom of the chart.

Analyzing the Text Comments

Cleaning the Text Comments

Maritz ClearVoice processes text comments, placing important terms into three categories: Compliments (positive terms), Complaints (negative terms), and Products & Services. Note, in our case, a term can include more than one word, such as “anti theft system” or “big screen TV.” The first step in exploring the comments is to examine the terms in each category. Our expectation is that amenities will most likely show up as Products & Services.

In examining Products & Services, we found a large portion of non-amenities mentioned. The following graphic shows a portion of the list with amenities indicated:

Entity	Attribute	Documents
✓ 100k engine tuneup	Product & Service	1
✓ 15k mile oil	Product & Service	1
✓ Maintenance	Product & Service	17
✓ Maintenance service	Product & Service	1
Management	Product & Service	1
Manager	Product & Service	8
Manufacturer	Product & Service	4
Market	Product & Service	3
Marketing	Product & Service	1
MBA's	Product & Service	1
✓ Meal	Product & Service	3
Mechanic	Product & Service	12
Member	Product & Service	2
✓ Milk	Product & Service	1
✓ Money	Product & Service	16
Motor	Product & Service	1
✓ Movie	Product & Service	3
Mud flap	Product & Service	1
Name	Product & Service	4
Navigation System	Product & Service	1
✓ Newspaper	Product & Service	3
Nice stereo system	Product & Service	1
✓ Occasional free oil	Product & Service	1
Offer	Product & Service	40
✓ Offering gas card	Product & Service	1
✓ Office	Product & Service	1
Oil	Product & Service	17
✓ Online	Product & Service	13

✓ = Amenity

A lot of non-amenities mentioned.

Why all of the confusion? Go back to the source – what question(s) did we ask? Recall we ask what amenities a customer would like to see, or what would get them to visit one dealership over another. Many of the items respondents mention are related to the vehicle, the offer, etc. – items related to gaining a competitive advantage. Looks like what we felt was a clarification question just confused the issue, and we ended up with a double barreled question. We remedied this during the analysis by creating another category of terms called amenity types, and moved amenity terms to that category.

This exercise points to an important advantage to using text analysis. We are able to quickly assess whether our question is really asking what we think it is. If so, we are in good shape. If not, text cleaning and analysis can point to improvements.

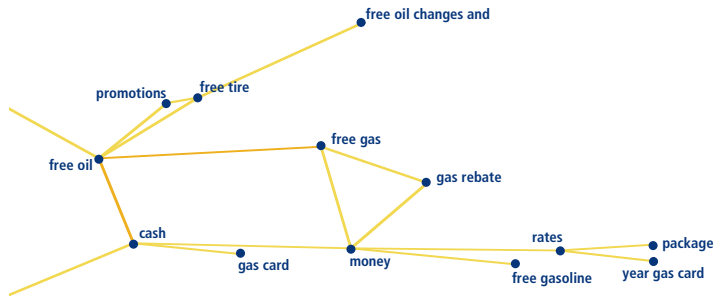
Looking for Groups of Amenities in Comments

Our first analytic objective is to identify amenities customers mention. As we saw during our cleaning of the amenity terms, customers mention a large number of items.

Grouping like amenities is the next logical step. To accomplish this goal, we use a "relationship map," a graphical procedure which automatically arranges terms with a strong association close together, and terms with a weaker association farther apart. The following chart, a small portion of the total map, illustrates the results for a group of "promotional items."

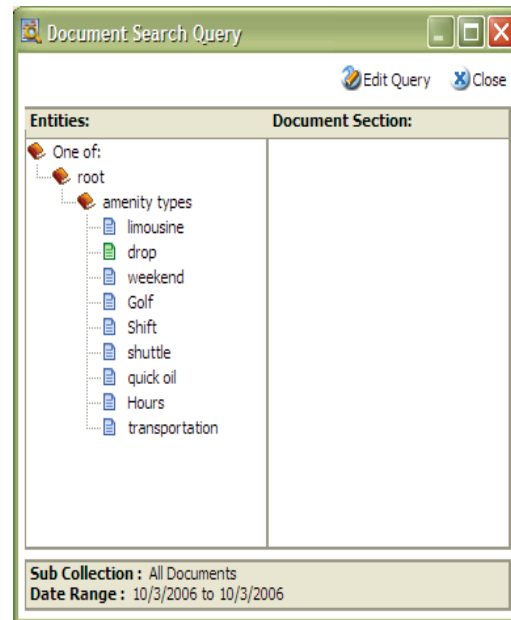
Obviously, this is a complex chart, and requires a good working knowledge of the subject matter to identify amenity groups. Promotional items shown above are in the upper right quadrant. A key result is like amenities come together in logical groups, AND terms associated with a group are easily identified.

Using the list of terms that associate with a group of amenities from the relationship map, we conduct a document search to identify comments mentioning the items. As an example, terms and number of mentions from the "convenience" group are shown below:

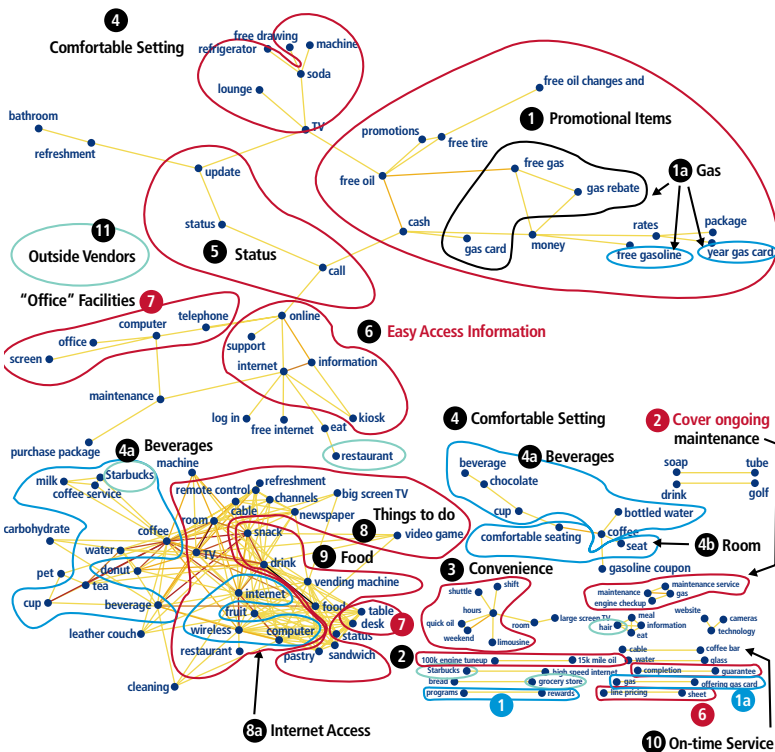


The good news, the results make sense. All items relate to providing an incentive of some sort to motivate the customer to return to the dealer.

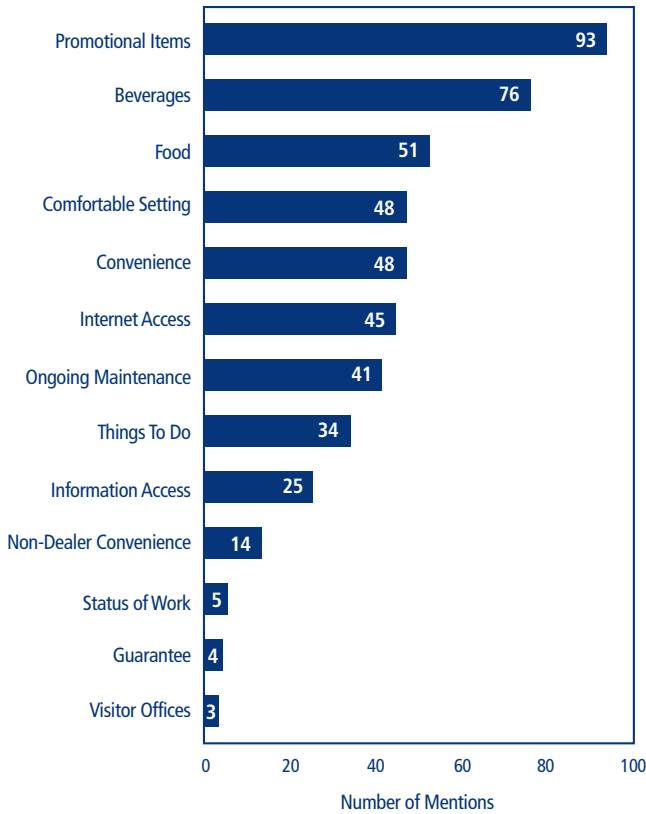
The full map is below, notating the additional amenity groups:



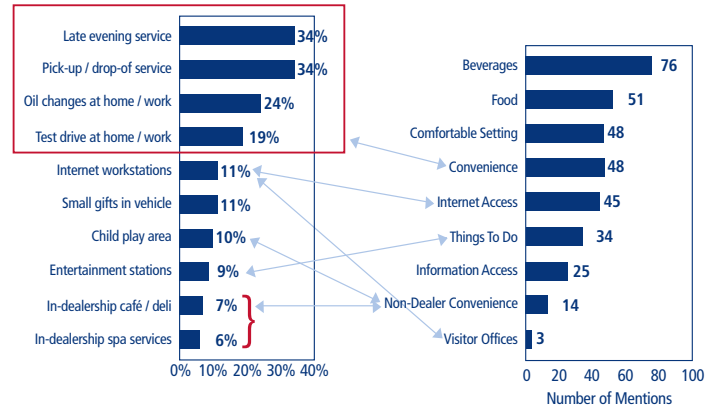
Spring Graph of Amenities Mentioned



Our initial exploration of the comments yields thirteen amenity groups. A summary of the results are shown in the following chart:



we exclude Promotional Items, Ongoing Maintenance, Status of Work, and Guarantee from further consideration. A comparison of the final results is below:



Arrows indicate amenity/amenity groups that are similar. 'Small gifts in vehicle' is the only item from the pre-populated list missed. Open-end comments include several amenities not on the list. Overall, coverage of pre-populated items in comments is excellent.

Most groups are self explanatory. "Ongoing maintenance" refers to having oil changes, lube, etc. at no charge. "Information access" refers to being able to easily access vehicle inventories, dealership services, etc. with no pressure. "Status of work" and "guarantee" have to do with the actual service visit.

Comparing the Results

Initial examination of the summary results for the two approaches indicates we have a discrepancy in our definition of an amenity. In our analysis of customer comments, we find several groups of items that may not be "new services" based on the scope we use in developing the pre-populated list. To make the comparison more "apples to apples,"

Drill Down on Non-Dealer Services

Let's delve into non-dealer services to better understand the effectiveness of open-end results. From our pre-populated list, we specifically ask about:

- In-dealership cafes/delicatessens
- Spa services (e.g., manicures, massages, etc.) offered within the dealership
- Upscale children's play areas within the dealership

Following is a sample of comments from the non-dealer convenience group of amenities:

If I go to a restaurant I buy what I want and I don't haggle over it.

I think they should also have a larger kids area so moms can bring their kids in while they wait for service.

Be able to get your hair cut, or eat a meal or a travel / information center.

I am not an idiot but boy, you can sure be treated like one if a salesman who has no idea what hair loss is about, glooms onto a silver-haired vixen in an auto showroom!

If they would come and pick me up at work and drop me off while my vehicle is being serviced (they don't because I usually have a guide dog puppy in training with me, and say that he can't ride in the courtesy car because of allergy concerns), or if they would give me a loaner

It doesn't matter what amenities they have – if they serve Starbucks, or have high speed internet connection, or loaner cars.

Access to internet while waiting for your car to be serviced or even restaurants so can eat while waiting

This might be accomplished with a carryout agreement with a local restaurant of good reputation.

Clean restrooms and decent coffee (like Starbucks) with real milk (not creamer).

...Like buying a loaf of bread in a grocery store.

I have children so a childrens area would be of great benefit while we were talking to the salespeople.

That is a pet peeve that as soon as you get out of the car a salesperson is in your face.

Biodegradable cups herbal tea – have you tasted their coffee? pet friendly, kid friendly

Several suggestions from customer are outlined. Bottom line, open-end responses seem to have the topic area well covered. Several additional items are mentioned: haircuts, pet friendly areas, and travel/information center.

Similar comparisons of other amenity groups yield similar results – good topic coverage combined with additional detail.

Finally, note the consistency of the order of overlapping items. Convenience items are at the top in both charts. Work stations with internet access follow, with things to do toward the bottom.

Summarizing key results:

- Almost all of the pre-populated list items are mentioned in the open-end comments. 'Small gifts' is the exception.
- Open-end comments provide additional groups of and detail about amenities desired by customers. Mentions of food and beverages are plentiful. The idea of providing a "business center/office" setting (beyond a workstation) similar to those in the hospitality industry is interesting.
- There is a high level of consistency of the order for overlapping items – supporting our approach to compare top box percentage with number of mentions.

What Does It All Mean?

In the world of market research, qualitative methods are desirable because of the "richness" of the information collected – text comments. But qualitative research is often avoided because of the difficulty and cost of processing and extracting information. Plus, we are just plain comfortable using numbers.

New text analysis applications provide the tools needed to efficiently and effectively work with text from many sources, including survey comments, documents, web pages, blogs, etc. Comparability of results in this analysis provides evidence that collecting and analyzing comments will fulfill many research goals, and provide more detail and insight – a real advantage. We can explore a topic, capture what is "top of mind," dig into details, trend "mentions" over time, improve question wording, etc. Text analysis, an important part of Maritz ClearVoice, is a valuable addition to our analytical suite of tools!

Obviously, if our objective is to explore an explicit list of items, we will still recommend a traditional pre-populated list approach. But for the many other goals, with the advent of efficient and effective text analysis, collection and analysis of text should be the method of choice.

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