

Assessing Merger Guideline Feedback With Machine Learning

By **Andrew Sfekas** (February 6, 2024, 6:03 PM EST)

In December 2023, the [U.S. Department of Justice](#) and the [Federal Trade Commission](#) released new merger guidelines, substantially updating their stated approach to mergers.

The release of these guidelines concluded a process that began in the summer of 2022 with the release of a request for information, or RFI, that asked for input on a wide range of questions and priorities related to merger enforcement, and continued through the release of draft merger guidelines in July 2023.



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The 2022 RFI generated a substantial number of comments, ranging from practitioners examining the technical aspects of the guidelines to members of the general public discussing, in some cases, areas where they hoped to see greater — or sometimes lesser — enforcement in the future.

A total of 1,600 comments were submitted, of which 1,388 could be classified as from the general public since they did not include a document attachment. This is in contrast to the 74 total comments submitted in 2020 on the draft vertical merger guidelines.

The 2023 comments on the draft merger guidelines followed a similar pattern. A total of 1,906 comments were submitted, of which 1,689 could be classified as coming from members of the general public.

These comments did not offer technical suggestions for the guidelines but instead pointed to general areas of concern, such as higher prices, or specific industries, such as telecommunications.

Modern machine learning techniques, including large language models, or LLMs, allow us to examine these comments en masse to determine whether commenters favor greater enforcement and what industries or topics they believe need greater scrutiny.

For example, while traditional sentiment analysis has difficulty distinguishing between comments calling for greater or lesser enforcement — as a desire for greater enforcement could be phrased in positive or negative terms — large language models allow us to determine a more precise answer to that specific question.

Among other models, we addressed these questions using a technique called few-shot learning, in which we provided new instructions to a generative text model previously trained on large datasets of unrelated text content and instruction.

These new instructions included task context and examples of each category to be identified. This model was quantized to run efficiently from entirely within our secure data center.

A review using this LLM technique showed that more than 90% of comments supported greater enforcement, while only 2% could be classified as supporting less enforcement.

We also applied this LLM technique to reveal several important patterns in how and where commenters wanted greater merger enforcement.

In some cases, these patterns coincide with items in the merger guidelines and the draft merger guidelines but were not found strongly in prior merger guidelines. In others, the patterns merely suggest areas where both the prior and the new merger guidelines would apply similarly.

Among the small number of comments opposing greater enforcement, only one pattern emerges clearly: Approximately 75% of these comments expressed that the guidelines were too broad or the agencies would be too aggressive in enforcement and that this would hurt businesses.

Several patterns emerged among the much larger set of comments that either supported greater enforcement or were unclear in their position.

One such pattern was the use of mass campaigns to drive engagement. To examine which comments likely came from mass campaigns, we applied the MinHash algorithm to estimate the pairwise similarity between all comments.

We then applied hierarchical clustering to these similarities to group comments from the same campaign.

This showed that in both the RFI comments and the comments on draft merger guidelines, a high percentage were driven by mass campaigns — although the sources of the mass campaigns differed.

For the RFI, 27% of comments were from a mass campaign supported by the [American Economic Liberties Project](#), while 10% were from a mass campaign of emergency physicians. Engagement with the draft merger guidelines appears to have been substantially less dominated by one or two large campaigns.

For the draft merger guidelines, the largest mass campaign, constituting 5% of general comments, could be traced to a web form,^[1] while the second-largest campaign, approximately 3.5% of the comments, expressed support for the [SAG-AFTRA](#) strike that ended in November 2023.

One concern expressed frequently by commenters is that consolidation has been making it more difficult for small businesses to compete — 56% of commenters on the draft merger guidelines and 58% of RFI commenters raised this issue.

The LLM analysis determined that 92% of the RFI comments that expressed concerns about small business, and 93% of the draft merger guidelines comments that expressed concerns about small business unambiguously expressed support for greater enforcement.

For the draft merger guidelines, this issue was part of the largest mass campaign, although the campaign was not a substantial driver. Further examination of these comments shows that 38% expressed concerns about dominance or monopolization.

These comments coincide somewhat with final Guideline 6, which discusses mergers that may entrench a dominant position.

However, we did not identify the specific circumstances addressed in Guideline 6 within

these comments. For example, only 1% of commenters mentioned scale effects, and 5% mentioned lock-in of customers or switching costs.

Another significant concern raised in the comments was the effect of market concentration on labor. This was mentioned in approximately 19% of the draft merger guidelines general public comments, compared to 10% of the RFI comments.

The LLM analysis determined that 86% of the RFI labor-related comments and 94% of the draft merger guidelines labor-related comments unambiguously expressed support for greater enforcement. The SAG-AFTRA and Writers Guild of America mass campaigns had a substantial effect on the number of comments expressing this concern

Of the labor comments, 17% were directly due to the WGA and SAG-AFTRA campaign, and 59% mentioned the entertainment industry more generally.

Retail and technology were the next most frequently mentioned industries among labor comments, each referenced in 20% of this content.

Similarly there was strong interest in the draft merger guidelines comments from practitioners and organizations, where 55 of 169 comments mentioned labor. Among these, a manual review suggests that more than half supported stronger guidance on labor issues in merger review, while five clearly opposed stronger guidance on labor.

Both the draft merger guidelines and the new merger guidelines emphasize buyer-side market power more than the 2010 guidelines — e.g., by noting that labor markets are likely to be narrow and by referring to the lowered Herfindahl-Hirschman Index, or HHI, thresholds the agencies intend to use to address harm to consumers.

FTC Chair Lina Khan also placed labor high on the list of priorities in a statement announcing the release of the draft merger guidelines.[2]

Thus, the overall sentiment of general public commenters appears to match the intent of the new guidelines.

Commenters additionally flagged prices and quality as key areas of concern, particularly in the context of retail, an industry of concern for about 30% of commenters.

Overall, 68% of commenters mentioned price and 67% mentioned quality; for retail, 84% mentioned price and 70% mentioned quality.

This was consistent with the RFI comments, where 77% mentioned price and quality. These factors were mentioned most often in the context of healthcare — mentioned by about 15% of these comments. In retail, price and quality were mentioned by about 30% of these comments.[3]

The LLM analysis determined that 87% of the RFI comments and 92% of the draft merger guidelines comments mentioning price or quality unambiguously expressed support for greater enforcement.

Prices and quality are already core areas of merger enforcement, so a number of items in the merger guidelines could apply to this concern — e.g., the lower HHI thresholds in Guideline 1.

Several specific entities arose frequently in the comments, with prices, quality and labor issues appearing to be significant drivers of mentions of firms.

We first identified entities by applying a transformer-based neural network model to extract all entities mentioned. We then constructed regular expressions to capture variations on the names of the most frequently extracted entity names.

Although no entities aside from the FTC and DOJ were mentioned in a large percentage of comments, several entities stand out. Amazon.com Inc. was mentioned most frequently — 9% of draft merger guidelines comments.

Within draft merger guidelines comments referencing Amazon, the most frequent topics raised were price and quality — at 66% and 75%.

However, these comments also frequently mentioned labor issues, with about half raising this issue.

By contrast, in the RFI comments, Amazon was mentioned primarily in the context of other tech companies, with a focus on their market dominance and influence on society.

The Walt Disney Co. was the next most frequent mention — in 8.5% of comments. The mentions were generally in the context of prices and quality — 62% — but also with a strong focus on labor — 57%.

Other major studios, as well as the so-called Hollywood studios, also featured prominently, with similar concerns — and often in the same comments.

Overall, public comments to the agencies have appeared to follow the focus of current events and mass campaigns in the topics, industries and entities they mention.

However, their interest in stronger enforcement was consistent across both the RFI and the draft merger guidelines — and consistent with the apparent goals of both agencies to expand the types of mergers they may challenge. In particular, the draft merger guidelines comments' focus on labor fits the guidelines and agency statements.

Other public concerns, such as concerns over the competitiveness of small businesses, could also potentially factor into future cases, should the agencies focus on market dominance through entry barriers or denial of access to resources.

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[1] secure.everyaction.com/Wr0w6ML5ckqGxjyewW86Lw2.

[2] Statement of Chair Lina M. Khan re: Merger Guidelines 2023 (ftc.gov).

[3] The LLM analysis determined that 87% of the RFI comments and 92% of the DMG comments mentioning price or quality unambiguously expressed support for greater enforcement.