Dear Patent Quality Measurement Team: I am thrilled that the PTO is working on patent quality. For context, I worked for Michelle Lee for years when I was a legal director on the patent team at Google. I hope the following comments are helpful. These comments are my personal views and do not represent the views of any current or former employers:

- 1. For the PTO to improve patent quality, I suggest taking steps to understand better where the majority of the problem is in finding and applying prior art that later invalidates a patent, i.e., finding out where the low-hanging fruit is.
 - a. When a claim is invalidated during post-grant procedure, e.g., IPR or CBM, or during litigation, the PTO should determine if the invalidation is based on prior art that
 - i. the PTO was already aware of but didn't apply?
 - 1. E.g., cited art or a US patent
 - 2. If so, why didn't the Examiner apply the art?
 - a. e.g., was the Examiner too short on time, if so, could a search/relevancy tool have helped, or was the cited art flagged for the US examiner as relevant by another examiner or by a search tool - some research suggests that Examiners tend to ignore art that they didn't find themselves,
 - b. Did another patent office apply the same/similar art? or
 - ii. the Examiner could have found, but didn't find? E.g., the invalidating art was
 - in the database(s) available to the Examiner but the Examiner didn't find it and it wasn't cited to the Examiner?
- a. And if so, why didn't he/she find it?; or
- iii. the Examiner couldn't have found using the then available search tools?
 - 1. Why was the invalidating art not in one of the available search tools?
 - 2. Is the art now easily discoverable in an available search tool?
 - b. To determine the information outlined in (a), the PTO needs to collect certain information upfront, e.g.,
 - i. Which cited references an examiner reviewed in any detail, the relevant sections that were reviewed, and how long the Examiner spent on each section/reviewed reference.
- ii. A periodic snapshot of which databases/search tools are available to Examiners and which are used most often.
- iii. Which search tools were used and the search strings/methods that were employed.
- iv. And then the PTO needs to review each case, if possible with the issuing Examiner, when a claim is invalidated.
 - 1. Related Questions/notes:

- a. How was the cited art discovered, e.g., which tool/database (this info should be broken down by technology at issue)
- i. Related question: How often does an examiner use 3rd party search tools and which ones?
- b. Tracking the evolution of which search tools are most effective in finding applied and/or invalidating prior art, broken down as granularly as possible
- c. How often does the PTO grant a patent that is later invalidated on the basis of another US patent?
- d. The info noted above should also be transparent to the public to allow the public to suggest/develop solutions.

I hope this is helpful.

Best,

C. Eric Schulman