



## CONSUMER FEEDBACK ANALYSIS: THE NEW SAFETY STANDARDS IMPERATIVE

*Alan S. Abrahams, Don Mays*

**C**ertification is an important credential to professionalism in any field. Practitioners must be trained in the profession's core knowledge, and their ability to apply the fundamental skills of the field must be assessed and meet a satisfactory level of proficiency. We argue that both practitioners and practices must be certified, and indeed practitioners must be able to evaluate the practices and tools they employ and

verify the conformance of their practices and tools with minimum quality standards.

One practice critical to the product safety field is the review and annotation of consumer feedback to, for instance, note the type and severity of

### KEY TAKEAWAYS

- Product safety concerns are buried in an avalanche of consumer feedback such as online product reviews and inbound emails and calls. However, no mechanisms exist for certifying that the people and processes manufacturers and retailers are employing for unearthing these safety concerns are systematic, efficient, and effective.
- Standards bodies and regulators need to develop certification standards and challenge datasets for verifying that software tools employed by manufacturers and retailers are proficient at rapidly and accurately identifying, annotating, and prioritizing product safety concerns buried in large volumes of consumer feedback data.

acceptable manner. The modern consumer is vocal and engaged. Their feedback on the products they use is posted in online reviews, emailed to corporate customer care, or called in to customer service, where it's auto-transcribed from call center recordings, in monumental volumes. And yet compliance professionals and regulators rarely have the tools for verifying that product safety issues buried in these mountains of consumer-generated text are identified with the sensitivity and specificity needed to recognize emerging issues.

It's no wonder that recall announcements sometimes cite dozens or even hundreds of safety incidents before corrective action is taken. That is often an indication that the com-

pany didn't have the right analytical tools to identify emerging safety issues early in the life of the product.

For both companies and regulators, current safety standards are concerned with physical, mechanical, and chemical attributes relating to ensuring safety in the product design and product production process. If a voltage is out of range, or a gap in a crib rail is too wide, standards—like those developed by UL or ASTM—tell us what is required for conformance. And independent testing laboratories can verify that representative samples conform to the applicable standards.

Yet, as advanced as we are in standards development for pre-market operations—product design, manufacturing, and marketing—we currently lack uniform standards to promote safety in the post-sale consumer feedback surveillance process. If a customer reports a metal shard in a blender, or a frame failure on their baby stroller, no standard assurance process verifies that a company's (or indeed regulator's) text

“We need standards for post-sale consumer feedback monitoring to ensure at least minimal levels of efficiency and effectiveness in detecting and prioritizing mentions of safety concerns.”

product safety concerns. Product safety practitioners should be proven capable, competent, and efficient in the manual practice of this safety concern annotation. Furthermore, these qualified product safety practitioners should also be able to verify that the supportive software tools they use for automatic annotation of consumer feedback for safety concerns are likewise both fit-for-purpose and deployed in an ac-

ceptable manner. The modern consumer is vocal and engaged. Their feedback on the products they use is posted in online reviews, emailed to corporate customer care, or called in to customer service, where it's auto-transcribed from call center recordings, in monumental volumes. And yet compliance professionals and regulators rarely have the tools for verifying that product safety issues buried in these mountains of consumer-generated text are identified with the sensitivity and specificity needed to recognize emerging issues.

ceptable manner. The modern consumer is vocal and engaged. Their feedback on the products they use is posted in online reviews, emailed to corporate customer care, or called in to customer service, where it's auto-transcribed from call center recordings, in monumental volumes. And yet compliance professionals and regulators rarely have the tools for verifying that product safety issues buried in these mountains of consumer-generated text are identified with the sensitivity and specificity needed to recognize emerging issues.

We propose the following steps:

- Standards Development Organizations (SDOs) such as ASTM should invest in developing standards for adequate product safety concern detection in large volumes of consumer feedback data.
- Regulators should participate in the standards development process and apply such standards themselves for detecting product safety concerns in their own datasets. In an effort to avoid being taken by surprise when regulators uncover emerging safety issues, manufacturers will follow suit by applying the standard for their own post-sale surveillance data.

- SDOs should develop processes for assessing compliance, including:
  - Construction of “challenge datasets” containing vast volumes of public consumer feedback, embedded with actual—or artificial— safety concerns.
  - Random representative, or, where possible, exhaustive, sampling of consumer reviews from organizations seeking compliance with the standard.
  - Continue enhancement and benchmarking of developing standards against challenge datasets and establish a baseline for acceptable performance.
  - Automated testing of consumer-feedback surveillance software against the “challenge datasets” to verify acceptable levels of detection of embedded safety concerns.

We’re operating in an information age. Consumer feedback has the ability to inform our testing protocols and ensure our risk-assessment software and systems are adequately functional. With effective testing of our consumer-feedback monitoring systems, and remediation where necessary, consumer-expressed safety concerns will be detected and addressed more rapidly.

The result: Injuries will be prevented, recalls minimized and property and reputational damage avoided.

**Alan Abrahams** [abra@vt.edu.](mailto:abra@vt.edu), [linkedin.com/in/alan-abrahams-0a194](https://www.linkedin.com/in/alan-abrahams-0a194)

**Don Mays**, [Don@ProductSafetyInsights.com](mailto:Don@ProductSafetyInsights.com), [linkedin.com/in/donald-mays-1373b928](https://www.linkedin.com/in/donald-mays-1373b928)

