



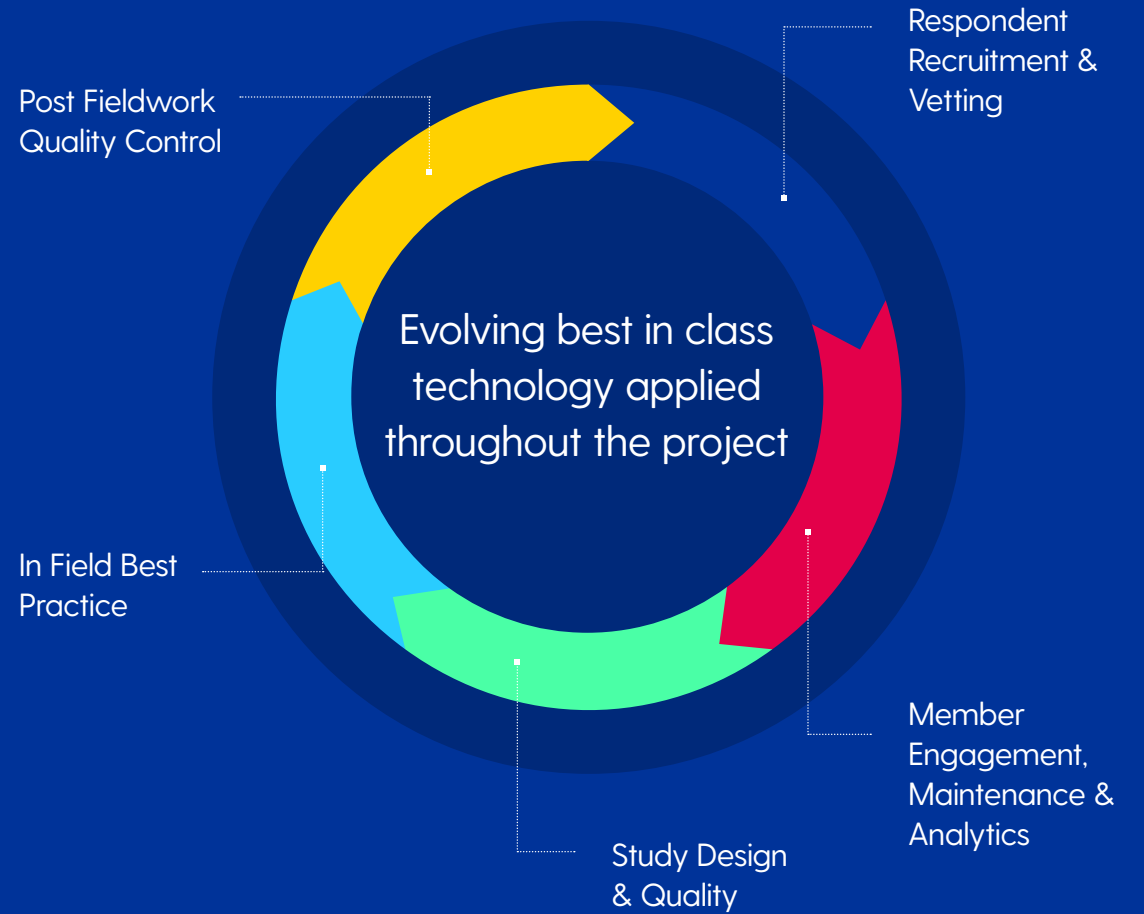
Toluna's holistic, best in class approach to insight quality

Necessary to ensuring the quality of
your insights, and powering successful
decision making

toluna 



Holistic approach to insight quality





Quality starts with respondent recruitment & vetting

Members must be approved before registration is completed

▶ **Members:**

- Double opt in.
- Are real CAPTCHA (BETA), IP validation.
- Are validated 3rd party validation.

▶ **Member duplication is prevented** - Account grouping technology and algorithmic checks detect member duplication for removal.

▶ **Address verification** (North America).



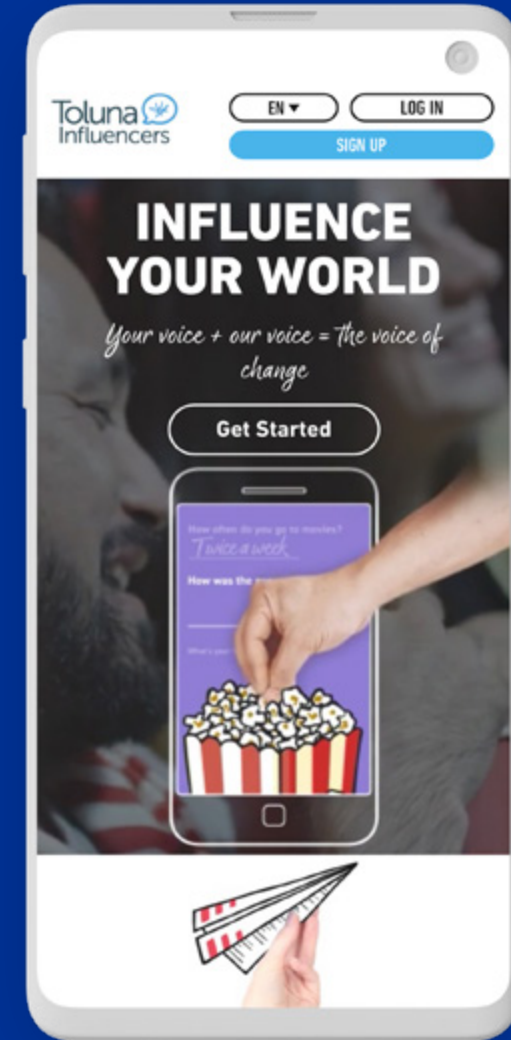
A unique community experience and ongoing best practice

Our Member Experience is Unique and Engaging

- ▶ Members participate in real time and enjoy the experience.

Ongoing Member Quality Checks

- ▶ Participation limits
Prevent respondents from taking multiple surveys within 24 hours.
- ▶ Device fingerprint
Fingerprinting is used to prevent duplicate respondents.
- ▶ Proprietary scoring system
We've developed our own algorithms to detect poor quality member participation and flag for removal.





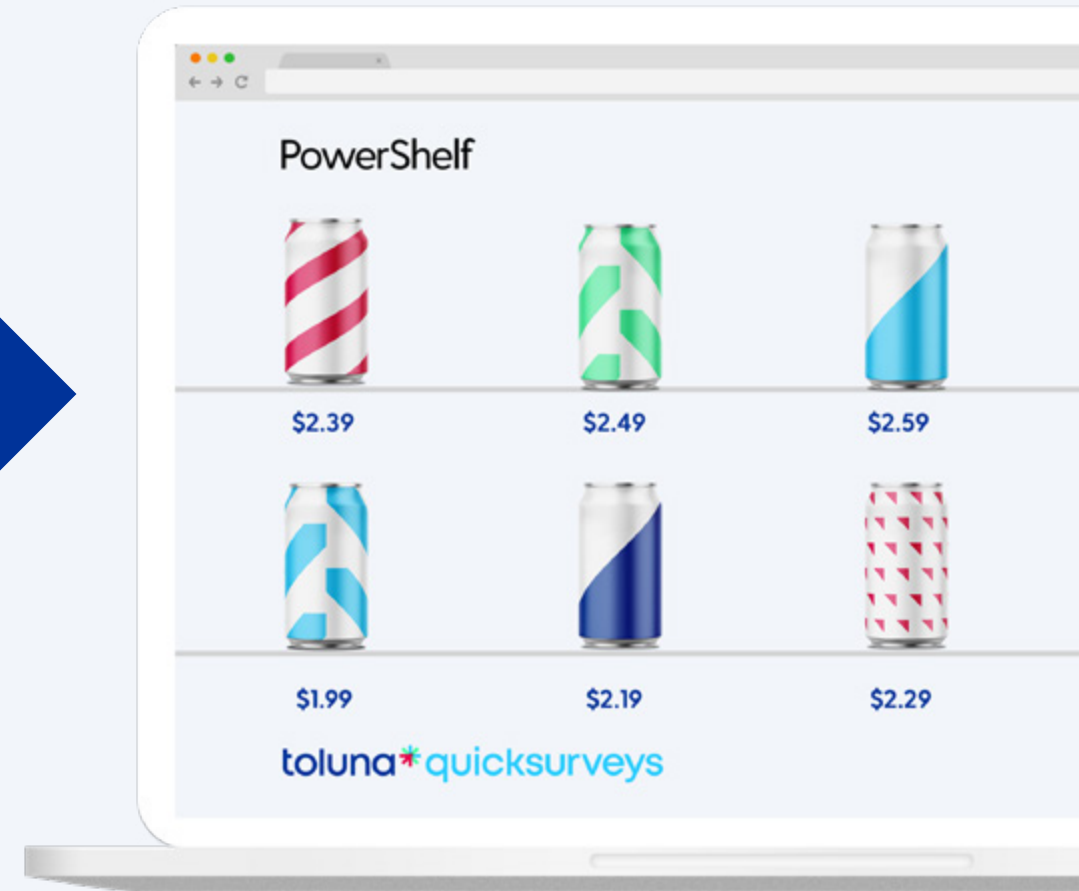
Studies are designed to deliver high quality, actionable insights

Optimized survey design leads to quality insights

- ▶ 20+ years of consumer insights expertise.
 - Market Research Society (MRS) certified staff.
- ▶ Sampling design and consistency.
- ▶ Online, cross platform and mobile study design expertise.
- ▶ Elimination of possible questionnaire bias.

Respondents mirror your precise group of study

Support and training is always provided





Security to prevent bot attacks and fraud at the survey level

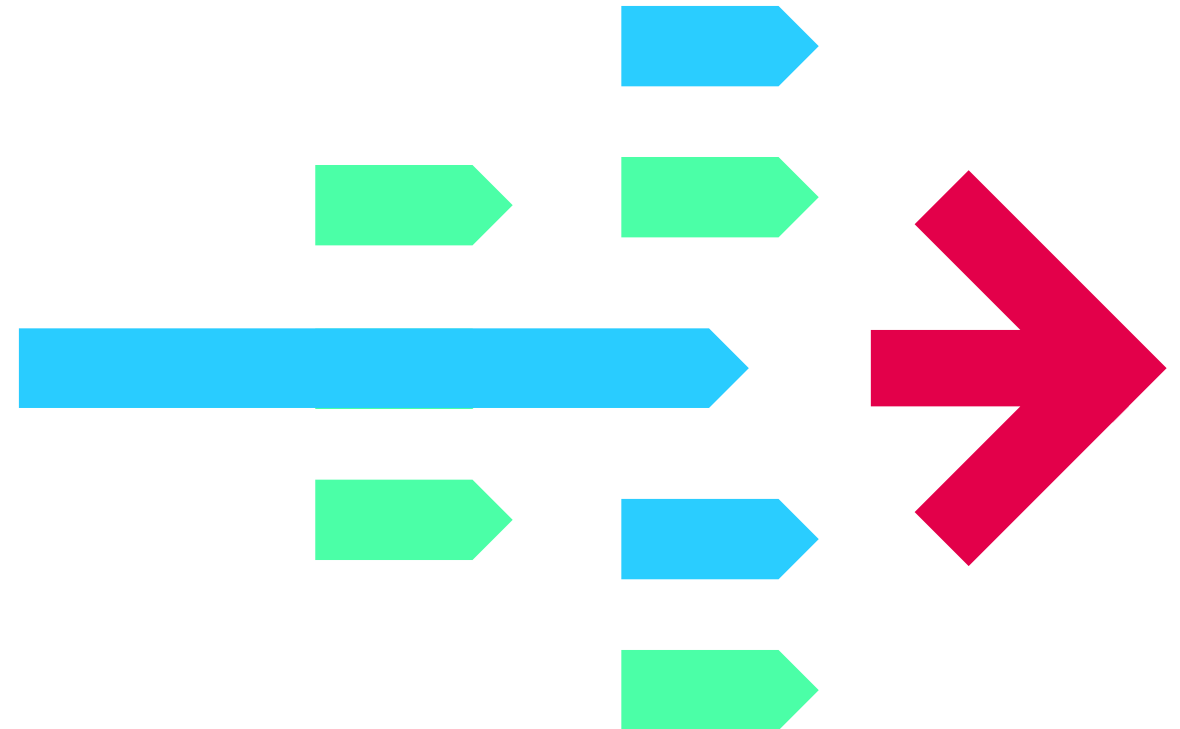
- ▶ **Bot detection systems** CDNetworks (BETA) and our own proprietary algorithms prevent bots from taking our surveys.
- ▶ **Device fingerprinting** tracks user behavior over time, and prevents duplicate survey completion.
- ▶ **reCAPTCHA (BETA)** re tests respondents if suspicious behavior is detected.
- ▶ **Survey links are encrypted** to prevent fraudulent users from 'copy pasting' or 'hacking' the link (aka link jumping).
- ▶ **Toluna fraud intelligence** is used to restrict poor quality IP addresses, 'spoofed locations' and detect duplication.



Proactive measures ensure only engaged respondents complete your surveys

Project Managers discuss your options for monitoring respondent engagement

- ▶ **Speeders** - Those that complete surveys excessively quickly are flagged for removal this can be client specific or 1/5 of median LOI.
- ▶ **Straight liners** - People who speed through questions are algorithmically identified and removed.
- ▶ **Red Herrings** - "Trap questions" identify cheaters that are removed we have 16 questions fully translated in all markets and ready for use.
- ▶ **Open ends** - Poor quality respondents identified and removed.
- ▶ **Plausibility** - Survey question validation flags are used and reviewed post field.





Best in class technology: evolving to meet today's challenges



Fraud prevention

Panel Respondent and Vetting

- ▶ Account grouping technology and algorithmic checks detect member duplication for removal.
- ▶ CAPTCHA (BETA), and double opt in processes to ensure respondents are 'real.'
- ▶ Proprietary domain black lists technology.
- ▶ 3rd party provider ensures address and post code match in the US.

Survey / Project Level Fraud Prevention

- ▶ Bot detection using CDNetworks (BETA) and our own algorithms.
- ▶ Device fingerprints used to detect duplicates.
- ▶ reCAPTCHA (BETA) applied to re test respondents.
- ▶ Survey links encrypted.
- ▶ Toluna Fraud Intelligence is used to restrict poor quality IP addresses, 'spoofed locations' and detect duplication.



Quality assurance

Respondent Behavior Monitoring

- ▶ Proprietary technology participation limits prevent respondents from taking more than 5 surveys 24 hours.
- ▶ 3rd party digital fingerprint technology is used to monitor poor quality behaviors (20+ data points).
- ▶ Proprietary IP detection technology validates the country of origin.

Engagement ensured using proprietary Toluna technology

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Detailed FAQ
available upon request
tolunacorporate.com

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