Statistics in Class Action Litigation: Admissibility, Expert Witnesses and Impact of Comcast v. Behrend
Leveraging Statistical Evidence and Expert Testimony to Obtain or Defeat Class Certification

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- Part I – Introduction (~15 min.)
- Part II – A legal framework for evaluating statistical evidence in class certification after Comcast (~40 min.)
- Part III – Practical tips on presenting and challenging statistics (~20 min.)
- Question and Answer (~15 min.)
Part I – Introduction
“Statistics is the science and art of describing data and drawing inferences from them”*

*(Finkelstein and Levin, p. 1)
Terminology of “Statistics”?

- **Descriptive statistics**
  - Used to explain an event or course of events.
- **Inferential Statistics**
  - From the data showing Y, you can infer that X is true.
- **Probability**
  - How likely is something to be true?
- **Regression analysis**
  - Discussed in *Wal-Mart Stores, Inc. v. Dukes* and *Comcast*
  - Examines the relationship between variables.
- **Surveys**
  - Of X population, Y are likely to respond this way.
- **Econometrics**
  - E.g., “but for the misrepresentation, the price would have been X dollars lower”
- **Compilations of Data**
  - Not “statistics” per se, but may raise some of the same issues.
Over the past decade, as storage and computing power have increased exponentially, it has become increasingly tempting to use statistical sampling as a proxy for the actual adjudication of facts in class or mass actions.

Sources of Data Growth
- Email, collaboration tools, and mobile devices
- Machine and sensor-generated messages
- Digitization of business records and personal content
- Instrument devices
- Governance, privacy, and regulatory compliance requirements
How Are Statistics Used to Support Class Certification?

- The existence of a common practice
- A relationship between the defendant’s conduct and some injury to class members
- The total damages or other impact caused by a practice
- The percentage of people impacted by a practice.
- Given a set of characteristics, the probability that a person was impacted by a practice.
- Common reliance
  - Truly common reliance, e.g. “fraud on the market”
  - Reliance by “most” of the class
Why Do Statistics Matter In Class Actions?

- *Wal-Mart Stores, Inc. v. Dukes* created a more demanding standard for class certification
- *Hannaford* showed courts won’t speculate on the ability to provide necessary data post-certification
- *Comcast* sets higher level of scrutiny (logical fallacies, causal link between injury & damage)
- The lower courts are starting to fill in the gaps left by the *Dukes* Court’s analysis—see, for example, *Duran v. U.S. Bank National Association*
- Both sides are likely to attempt to create a more well-developed factual record of the people, process, and technology
- Statistics often provide an appealing way to illustrate how aggregate or common method of injury is possible, and can create diverse individual outcomes
- Data is more available and accessible than ever before
Part II – Case Law on the Use of Statistics in Class Certification
Dukes in Review

- Did not change the landscape regarding statistics and class certification but confirmed the necessity of rigorous scrutiny.
- The Court examined the statistical analyses and found inferential gaps between the policy that statistics were claimed to show and what they actually showed.
- Illustrated and confirmed inherent limitations of statistical and aggregate proof.
- Confirmed that, validity of statistics aside, conceptual gaps are critical.
- Even if statistics showed the claimed pattern, that pattern would not establish commonality.
- Whether any individual decision was discriminatory would still require individual proof.
- Condemned use of “trial by formula.”
- Gave a strong hint in favor of Daubert being required at class certification, but did not answer the question directly.

- *Daubert* question left unanswered again.
- Issue decided was not the issue initially certified for review.
  - Question presented was whether court could grant class certification without deciding whether expert testimony was *admissible*.
  - Question decided was whether “certification was improper because plaintiffs failed to establish that damages could be measured on a classwide basis” through expert testimony they presented.
- Basic Facts
  - Plaintiffs alleged that Comcast was engaged in “Clustering,” or the concentration of operations in a geographic region to increase market share.
  - Four theories of harm – clustering:
    - Made it profitable to withhold local sports programing from competitors
    - Reduced competition from “overbuilders” ← The only common impact accepted by the district court.
    - Reduced the level of “benchmark” competition
    - Increased Comcast’s bargaining power
  - Expert performed a regression analysis that purported to show the overall price impact of clustering.
Framework for Evaluating Statistical Evidence Offered for Class Certification

1. What is the theory of liability (wrongdoing/conduct)?
2. What is the theory of common impact?
3. What elements/questions are claimed to be matters of common statistical proof?
   a. Liability
   b. Reliance, causation, injury (impact questions)
   c. Damages
4. By what methodology?
5. Is the methodology, when rigorously scrutinized, capable of providing such common proof? *E.g.*, 
   a. Faulty assumptions
   b. Analytical errors
   c. Ignored evidence
   d. Does it properly tie the theories of liability, impact, and damages together?
      1) Alleged Conduct → Common Impact (reliance/causation/injury)
      2) Common Impact → Damages
Unresolved Questions?

- Comcast makes clear that there must be a common impact and the evidence (expert or otherwise) must provide a logical connection between the alleged wrongdoing, a common impact, and damages.

- Must expert opinions offered in support of class certification satisfy *Daubert* standards?

- How will the requirement that damages be provable with common evidence on a classwide basis be interpreted by courts and applied in the antitrust and other contexts?
Framework Applied to Comcast

- What is the theory of liability (wrongdoing/conduct)?
  - Clustering

- What is the theory of common impact?
  - Four mechanisms proposed, but only deterrence of “overbuilding” accepted as subject to common proof.

- What elements/questions are claimed to be matters of common statistical proof?
  - Damages

- By what methodology?
  - Econometric regression analysis

- Is the methodology, when rigorously scrutinized, capable of providing such common proof?
  - No, it assumed the validity of all four proposed theories of common antitrust impact rather than being limited to deterrence of overbuilders.
Framework Applied to *Dukes*

- **What is the theory of liability (wrongdoing/conduct)?**
  - Managers exercise policy of discretion to discriminate against women.

- **What is the theory of common impact?**
  - Pattern or practice of discrimination (general policy of discrimination)

- **What elements/questions are claimed to be matters of common statistical proof?**
  - Pattern or practice of discrimination (conduct, injury) and damages

- **By what methodology?**
  - Pattern or practice of discrimination
    - Sociologist’s “social framework” opinion
    - Statistician’s comparison by region of numbers of women promoted versus in hourly pool
    - Labor economist’s comparison of rates of promotion with those of competitors
  
  - **Damages**
    - Trial by formula (sampling) scheme based on depositions of selected class members and extrapolation and allocation to all class members
Framework Applied to Dukes

- Is the methodology, when rigorously scrutinized, capable of providing such common proof?
  - Pattern or practice of discrimination: No, methodologies flawed with conceptual gaps and failures of inference
    - “Social framework” opinion lacked any quantitative substance.
    - Regional disparities and comparisons to competitors could not establish a uniform practice affecting each store.
    - Even if they could, they could not show that each female employee was subject to discrimination, or which of them were.
  - Damages: No, trial by formula rejected as matter of law
    - Violates Rules Enabling Act and deprives the defendant of due process.
    - Winners and losers cannot be averaged across the class.
    - Fundamentally is not even an attempt to prove damages with common evidence but a shortcut around individual issues.
Issue Continuity and Primacy of Injury in *Dukes*

- **Commonality requires same injury.**
  - To prove commonality, plaintiffs must show that they can prove by common evidence that each class member suffered the same injury (i.e., based on common facts).

- **Why no common question of pattern or practice of discrimination?**
  - Alleged discrimination that does not affect 100% is not “common mode” of exercising discretion, thus not a policy of discrimination (employment law interpretation)?
  - For women not subject to discrimination, there is no question of a pattern or practice affecting them (Rule 23 interpretation)?
    - Certification would erroneously assume all were injured?
    - No question of a policy of discrimination that necessarily must be answered for every class member?
McLaughlin

- Plaintiffs alleged implicit representation that light cigarettes are healthier; sought $800 billion.
- Plaintiffs relied upon sixteen experts, including economists who proposed statistical and econometric analyses.
- Judge Weinstein certified nationwide class of light cigarette consumers under RICO, applying “price impact” theory of reliance similar to the theory of fraud on the securities market.
  - Individual proof was required: reliance, loss causation, injury, damages (and limitations).
  - Market for light cigarettes is not efficient.
  - Individual facts presented to show non-reliance by customers.
  - Expert’s survey evidence “pure speculation.”
  - Statistical analysis did not prove the relevant facts.
  - Rejected “fluid recovery” approach of awarding aggregate “class” damages followed by “simplified proof of claim procedure” and *cy pres.*
Framework Applied to McLaughlin

- What is the theory of liability (wrongdoing/conduct)?
  - Advertising falsely promoting health benefits of light cigarettes
- What is the theory of common impact?
  - Advertising “distorted the body of public information,” raising demand.
- What elements/questions are claimed to be matters of common statistical proof?
  - Reliance, causation, injury, and possibly damages
- By what methodology?
  - Reliance: consumer surveys about preferences
  - Causation and injury: econometric regressions and surveys purporting to show “price impact” and "loss of value" in the aggregate (fraud on the market)
- Is the methodology, when rigorously scrutinized, capable of providing such common proof? No:
  - Reliance: fraud on the market inapplicable; ignored contrary evidence regarding pricing, sales, consumer, and plaintiff behavior
  - Loss causation: fraud on the market does not apply; circular; contrary to evidence regarding market behavior
  - Injury: loss of value and price inflation theories legally invalid, speculative, unsupported by, and contrary to, evidence
In re Hannaford

- Payment card system compromised by hackers.
- Court initially denied motion to dismiss for lack of standing on the ground that expenditures made to protect against future identity theft constituted injury in fact. (But see the Supreme Court’s more recent decision in Clapper).
- At class certification, plaintiffs argued that they would be able to prove common impact through statistical evidence about the likelihood that the breach would have caused individual damages.
- Court denied certification based in part on the fact that no expert report supporting the common impact theory had been presented.
- Side note – on motion for reconsideration, plaintiffs have argued that common impact can be inferred from “reason and common sense” and that no expert testimony is necessary.
Framework as Applied to *In re Hannaford*

- What is the theory of liability (wrongdoing/conduct)?
  - Negligence resulted in system vulnerability and loss of card information.
- What is the theory of common impact?
  - Allegation is that negligence led to *compromise* of card information for entire class. Specific financial impacts of compromise, if any, would vary.
- What elements/questions are claimed to be matters of common statistical proof?
  - Damages.
  - By what methodology?
    - Plaintiffs argued that they could compute overall damages on a statistical basis (fluid recovery). Problem is in determining *which* customers.
  - Is the methodology, when rigorously scrutinized, capable of providing such common proof?
    - Methodology was only hypothesized, so court did not consider this question.
Duran

- Same expert (Dr. Drogin) as in *Dukes*.
- Trial court used Drogin’s analysis as a model but came up with its own simplified analysis.
- Trial court applied “statistical” analysis to estimate the number of employees within the class that had been misclassified for overtime pay purposes.
- Court of Appeal held:
  - Methodology violated due process because it denied defendant opportunity to provide relevant evidence and individualized defenses relating to classification of each employee.
  - Methodology was flawed because sample was arbitrary.
  - Sampling would have been improper even if used to calculate damages due to the high margin of error.
Framework as Applied to *Duran*

- What is the theory of liability (wrongdoing/conduct)?
  - Misclassification of employees.

- What is the theory of common impact?
  - Employees have a statistical likelihood of having been misclassified. Impact is better characterized as “aggregate” rather than common.

- What elements/questions are claimed to be matters of common statistical proof?
  - Fact of misclassification (impact).

- By what methodology?
  - Regression analysis proposed, but court applied its own formula.

- Is the methodology, when rigorously scrutinized, capable of providing such common proof?
  - No. Problems with qualification, methodology and reliability of underlying data. Judge not qualified, sample arbitrary, and error rate too high.
  - Furthermore, allowing a general, statistical approach for determining a likelihood that a given employee might have been misclassified violated due process.
Facebook

- Allegation that Facebook breached “cost-per-click” agreements with advertisers by charging for “invalid” clicks.
- Plaintiffs proposed that their experts could create a methodology that would distinguish between valid and invalid clicks.
- Court rejected this argument, finding that “there is no way to conduct this type of highly specialized and individualized analysis for each of the thousands of advertisers in the proposed class.”
Framework as Applied to Facebook

- What is the theory of liability (wrongdoing/conduct)?
  - Illegally charging for invalid clicks.

- What is the theory of common impact?
  - Invalid clicks cause charges that are not legally justifiable. This may be better characterized as a theory that would permit formulaic resolution of individual impacts.

- What elements/questions are claimed to be matters of common statistical proof?
  - Individual impacts and damages.

- By what methodology?
  - Algorithm claimed to be able to distinguish valid from invalid clicks.

- Is the methodology, when rigorously scrutinized, capable of providing such common proof?
  - No. Too many variables involved in distinguishing valid from invalid clicks.
Causation problem: which off-label prescriptions were caused by allegedly fraudulent promotion?

Plaintiffs relied upon econometric analysis to try to show causation of “all” off-label prescriptions.

In first opinion, 244 F.R.D. 89 (D. Mass. 2007), Judge Saris gave plaintiffs opportunity to show through “statistical proof” that essentially all prescriptions in each category were caused by fraud.


- Not an efficient market.
- Defendant’s right to present evidence defeats predominance.
- Closer scrutiny of expert opinions for class certification was mandated than presumed in earlier opinion.
- Where expert’s opinion was that less than substantially all (>99%) of prescriptions were caused by fraud, individual inquiry required.
- Where expert’s opinion was that substantially all prescriptions were caused by fraud, the expert analysis was flawed.
Framework Applied to *In re Neurontin*

- What is the theory of liability (wrongdoing/conduct)?
  - Off-label marketing

- What is the theory of common impact?
  - Off-label marketing inflated sales by misleading prescribers, payors, consumers about benefits (claimed not to be a theory of fraud on the market)

- What elements/questions are claimed to be matters of common statistical proof?
  - Reliance, causation, injury

- By what methodology?
  - Statistical analysis purporting to show percentages of prescriptions for each off-label indication allegedly caused by off-label marketing
Framework Applied to *In re Neurontin*

- Is the methodology, when rigorously scrutinized, capable of providing such common proof? No.

- **Consumers**
  - Indications < 99% caused by off-label promotion → which ones?
  - Indications > 99% caused by off-label promotion → methodology flawed by false assumption that all detailing was off-label and fraudulent, and failure to account for other factors affecting off-label use.

- **Third-Party Payors**
  - Methodology could only provide aggregate percentages across all TPPS.
  - Could not account for differences in knowledge, preferences, etc.
  - Individual TPP inquiries still required.
Whirlpool/Kenmore Cases

- Alleged design defect causing numerous models of front-loading washers to develop mold odor.
- Injury/damage issues: most users had experienced no odor.
- Plaintiffs argued that 35% complained of odor.
- Defendants argued that much smaller percentages experienced odor.
- Both decisions vacated and remanded by the Supreme Court in light of Comcast.
Framework Applied to Whirlpool/Kenmore Cases

- What is the theory of liability (wrongdoing/conduct)?
  - Design defect causing mold odor
- What is the theory of common impact?
  - All machines share design defect making them prone to mold odor.
- What elements/questions are claimed to be matters of common statistical proof?
  - Proximate causation, injury
- By what methodology?
  - Percentage of consumers who allegedly complain of mold odor
- Is the methodology, when rigorously scrutinized, capable of providing such common proof?
  - Both Sixth and Seventh Circuits held that certification was proper even if some class members had *not* suffered injury.
  - Recognition it is not a common question?
  - Both vacated by Supreme Court.
In re Zyprexa

- Judge Weinstein’s certification of off-label TPP economic loss class under RICO reversed by the Second Circuit.
  - *UFCW Local 1776 & Participating Health & Welfare Fund v. Eli Lilly & Co.*, 620 F.3d 121 (2d Cir. 2010).
- “Excess price” analysis could not provide common proof of
  - but-for (transactional) causation, because drug pricing is inelastic.
  - proximate (direct) causation, because alleged chain of causation was incomplete.
- “Excess sales” theory could not provide common proof of causation because, *e.g.*, 
  - it assumed away all other factors affecting prescriptions.
  - there was individualized evidence of non-reliance.
  - it ignored alternative prescriptions and costs, some of which could even have cost more.
Framework Applied to Zyprexa

- What is the theory of liability (wrongdoing/conduct)?
  - Off-label marketing
- What is the theory of common impact?
  - Off-label marketing inflated price and sales of Zyprexa (fraud on the market).
- What elements/questions are claimed to be matters of common statistical proof?
  - But-for and proximate causation, injury
- By what methodology?
  - Econometric analyses purporting to show aggregate “excess price” and “excess sales”
Framework Applied to Zyprexa

• Is the methodology, when rigorously scrutinized, capable of providing such common proof? No:
  • “Excess price” analysis could not provide common proof of
    • but-for (transactional) causation, because drug pricing is inelastic (physicians do not consider price).
    • proximate (direct) causation, because
      • alleged reliance by physicians is independent of price negotiation and payment by TPPs (advised by PBMs)
      • variations in price negotiation by TPPs showed that the alleged chain of causation was incomplete.
  • “Excess sales” theory could not provide common proof of causation because, e.g., it assumed away all other information and factors affecting prescriptions.
    • TPPs continued to pay for Zyprexa.
    • TPPs probably paid for different percentages of off-label prescriptions.
    • some prescribing doctors not misled.
    • it ignored alternative prescriptions and costs, some of which could even have cost more.
Rhodes

- Medical monitoring claim based on contamination of drinking water with C-8.
- Problems with toxicologist’s and epidemiologist’s quantitative opinions offered to establish common proof:
  - Did not address the question of the relationship between exposure and a significantly increased risk of health problems; and
  - Did not provide any common proof that *any given individual* suffered a significantly increased risk of the exposure.
  - Preliminary and insufficient data was used.
  - Failed to rule out other variables.
  - Proposed remedy was a precautionary public health measure, not something that can be awarded as a tort remedy.
Framework Applied to *Rhodes*

- What is the theory of liability (wrongdoing/conduct)?
  - Contamination of drinking water
- What is the theory of common impact?
  - All area residents were exposed to C-8.
- What elements/questions are claimed to be matters of common statistical proof?
  - Significant exposure, significantly increased risk of disease, need for medical monitoring
- By what methodology?
  - Toxicologist's risk assessment and physician/epidemiologist's epidemiological survey
- Is the methodology, when rigorously scrutinized, capable of providing such common proof? No
  - Background risks unknown and overlooked
  - Improper focus on "safe level" and not significantly increased risk
  - Preliminary and insufficient data
  - Aggregate estimates of exposure and risk could not be applied to individuals
Part III – Practical tips on presenting and challenging statistics
Tips for Dealing With Experts

Collect Data

Analyze

Draw Inferences (optional)

Considerations

- How collected? Trusted source?
- Is the method / measurement process reliable (consistent performance with repetition)?
- Valid?
- Recorded properly?
- Categories appropriate?
- What is the non-response rate (survey)? Why?

- Has the methodology been peer reviewed? Discredited?
- Can the results be generalized?
- How are charts/graphs presented?
- What method is used to select the units (or scale)?
- Do analyses reach different opinions?

- What variables were omitted?
- Did the expert answer the right question?
- How do I estimate whatever is missing?
- Is the sample size big enough to be predictive?
- How accurate are the predictions?
- Does the analysis prove a fact to be true, or does it assume the fact is true?

Ask, “What is missing? Who would know?”
Common Statistical Flaws

• Illusory commonality
  • When (even reliable) statistics only purport to answer a question for X or X% of a class, or show that X or X% of a proposed class is affected, commonality does not exist (indeed, is disproved).
    - Discrimination (Dukes)
    - Consumer fraud (Zyprexa, Neurontin)
    - Breach of contract (e.g., timeliness of payment)

• Overlooked factors and intervening causes.
  • Alternative drugs might be more expensive for some.
  • Some people smoke lights for flavor or because they are “cool.”

• Circularity/Assumed Reliance
  • When an econometric analysis purportedly shows that causation can be proved on a class-wide basis through a “price effect,” the analysis may assume reliance or causation rather than prove them.

• Erroneous assumptions
  • All off-label marketing is fraudulent (legal/factual error).
  • Third-party payors have similar rates of reimbursement for off-label prescriptions (factual error).
  • All class members were unaware the drug was unapproved (factual error).
Common Impact & Wrongdoing

- Defendant Goal: Identify a disconnect between the evidence required and the statistician’s expert opinion
  - May not require a strong statistical background to evaluate

- Related Cases
  - Dukes: Conclusions don’t go further than showing that disparities exist
  - Rhodes: Did not address the question of the relationship between exposure and a significantly increased risk of health problems

- Fact Patterns & Tools for Challenging Experts
  - Relevance – The analysis addressed the wrong issue
  - Underlying data – The source(s) aren’t known, authoritative, complete, or aren’t being interpreted correctly.
  - Assumption vs. conclusion – The analysis assumes the fact it’s proving
  - Other logical fallacies – Circular logic, key variables ignored
Challenging Common Impact

- Defendant Goal: Identify any potential for individualized outcomes

- Related Cases
  - *Dukes*: fewer promotions doesn’t mean that all women suffered discrimination
  - *Comcast*: analysis took into account the combined value of four different potential impacts, only one of which the trial court had found could be a common impact.
  - *McLaughlin*: individual facts (descriptive statistics) presented to show non-reliance by customers
  - *Rhodes*: did not provide any common proof that any given individual suffered a significantly increased risk of the exposure

- Recurring Theme – Inability to specify root causes and predictors that are common to all class members
Challenging Common Impact - Visualizing Root Causes

- Is there a common “answer” for all class members—i.e. did the same set of circumstances apply to each class member; “Yes” in Halliburton; “No” in Dukes?
- Is there perhaps some other explanation (other than gender)?
- Root Cause (Ishikawa) Diagram

Class Definition
“[A]ll women [w]ho have been or may be subjected to Wal-Mart’s challenged pay and management track promotions policies and practices.”

Paraphrasing: While disparity may exist, the underlying root causes are likely to be different among class members.
Challenging Common Impact – Human Nature & Variable Complexity

Outset of Analysis

Few Variables

Consideration of just a few variables can lead to:
- Agreement on priorities, focus
- Expedited timeframes

“Return to Sanity”

Many Variables

Consideration of many variables can lead to:
- Class re-definition
- Sub-classing
- Removal of damages categories
- Class de-certification

“Point of Litigation/Judicial Discomfort”

Objections:
- “Yes, but we’re not considering . . .”
- “We seem to be in denial of how many moving pieces there are . . .”
- “This is too simplistic”
- “Let’s keep it simple”
- “It’s too complicated”
- “It’s not manageable”
Challenging Common Impact – Fact Patterns

- **Fact Patterns and Tools for Challenging Experts**
  - Statistics used to estimate percentage of class members to whom the defendant may be liable (Trial by formula)
    - This violates due process according to *Duran*.
  - Statistics used to aggregate and apportion damages (Trial by formula)
    - No, according to dictum in *Dukes*, but some courts may be more welcoming of this argument.

- **Winners and losers**
  - Some class members are actually better off as a result of the alleged practice
  - Subclasses may cure this problem, but problem might be in identifying who goes in which category
Challenging Common Impact – Fact Patterns (cont.)

- Single policy or practice (Dukes)
  - Does a single policy exist? (McReynolds)
    - Is there a way to prove a causal link between the policy and some alleged harm?
    - Can the causal link be resolved by reference to common, classwide evidence.

- Mass reliance/common impact—ask whether
  - Legal theory is such that individual reliance is not required (if so, still have to consider the separate question of causation)
  - Reliance question can be both proved and resolved by reference to common evidence.

- If a theory of damages is provided, it should align with the theory of common impact
Challenging Common Impact – Evaluating Methodologies

- Defendant Goal: Evaluate the applicability of the statistician’s methodology
- Key message: Take a hard look at the statisticians methodology. It can have a big impact on the case outcome
- Example Cases
  - *Dukes*: Trial by formula not allowed.
  - *McLaughlin*: The expert’s survey methodology deemed “pure speculation”
  - Neurontin: Inability to ID root cause 1) Where expert’s opinion was that less than substantially all (>99%) of prescriptions were caused by fraud, individual inquiry required; 2) Where expert’s opinion was that substantially all prescriptions were caused by fraud, the expert analysis was flawed
  - *Zyprexa*: Root cause not pinpointed by expert
  - *Rhodes*: 1) Preliminary and insufficient data was used. 2) Failed to rule out other variables.
  - *Duran*: 1) Methodology was flawed because sample was arbitrary. 2) Sampling would have been improper even if used to calculate damages due to the high margin of error
  - *Facebook*: there was no way to conduct this type of highly specialized and individualized analysis for each of the thousands of advertisers in the proposed class
- Fact Patterns & Tools for Challenging Experts
  - A cohesive story often requires collaboration between the attorney to identify the legal risks, the business owner to identify the process, system, & resource risks, and finally the statistician to help quantify the extent to which the data supports the theory
Confidence in Confidence

Question for the Courts: At what point do we get to an acceptable level of common proof?
Challenging Common Impact – Validity of Data

- Defendant Goal: Evaluate the usefulness and validity of data

- Fact Patterns & Tools for Challenging Experts
  - Is there an actively-engaged, senior executive-sponsored data governance body in place?
  - What evidence is available to demonstrate that a robust data quality management program is used?
  - Are data stewardship roles & responsibilities well-defined?
  - Is a standards-based data management process and procedure framework in place?
  - Does the company have day-to-day reliance on purpose-built data governance tools and performance metrics?
  - Does a robust and active master data management program exist?
  - Is a financial information management program in place?
  - How well and how often are errors identified, analyzed for root cause, and corrected?
  - How well-managed is the quality of data coming into the system, both manually and in an automated fashion?
  - What data in the system can’t be considered the source of truth?
Challenging Common Impact – Expert Credentials

- Defendant Goal: Evaluate the appropriateness of expert credentials

- Fact Patterns & Tools for Challenging Experts
  - Does the statistics expert have extensive knowledge of the subject area s/he is analyzing?
    - Or is the expert simply a statistician with no particular understanding of the subject at issue? If so, is there a relevant supporting expert?
  - In what ways should the statistician’s testimony be supplemented by other experts with subject area or data quality knowledge?
  - What are the strengths and weaknesses of the foundational philosophies and historical tendencies of this expert’s approach?
    - Consider an expert’s subfield emphasis—e.g. econometrics, biostats, product testing
    - Consider the expert’s attention to the entire lifecycle of a statistic—e.g. initial data profiling, study design, collection method
  - What evidence of error exists in the expert’s published materials? Commentary by other statisticians?
  - What evidence of error consideration is given in the expert’s own published materials? Are none, some, or all potential deficiencies noted by the expert?
  - How extensive and meaningful were peer reviews for published materials, assuming they exist at all?
For Further Study

Thank You

- Topics covered
  - Increasing importance of statistics & growth of data
  - Basic statistical concepts and use in litigation
  - Case studies
  - Practical tips

- Questions?
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