Commercial Aviation Risk Management: Useful for Financial Industry?

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Question

Could an unbiased and impartial mishap investigation process, such as an NTSB-type investigation, help the financial world manage risk more effectively?

Answer: It depends.
Two Categories of Mishaps

- Low Frequency High Consequence Events
  - Insiders surprised, rarely if ever seen it before
  - Exhaustive investigation, may take years
  - For transportation mishaps, NTSB investigates

- High Frequency Low Consequence Events
  - If longstanding, probably indicates process problems, rather than people problems (thus, punishment is not usually helpful)
  - More efficient to address the trends than individual events
  - Suggest voluntary collaborative effort
  - In aviation, Commercial Aviation Safety Team (CAST)
High Consequence Events: NTSB

- NTSB is an independent federal agency, investigates transportation accidents and incidents in all modes

- Determines probable cause(s) (*not liability or blame*) and makes recommendations to prevent recurrences

- Not a regulator, can only recommend
  - Favorable response to recommendations: > 80%

- Single focus of recommendations: **SAFETY**
Independent

- Political “independence”
  - Members appointed/confirmed, but with a fixed term (i.e., not discretionary appointees)
  - Member terms staggered
  - Political party balance
  - Technical expertise
  - Objective: Conclusions from the facts, not the politics

- Functional independence
  - Role is solely as investigator; not an operator or regulator
  - No “dog in the fight”
  - Objective: Unbiased and impartial investigations and analyses
The “Party” System: Developing the Facts

- NTSB relies heavily on parties who were involved in the mishap to develop the facts
  - Carrier/Operator
  - Manufacturers
  - Unions
  - Air traffic controllers
  - Regulator

- Parties are selected for their technical expertise
  - Excludes plaintiffs, attorneys, insurers
The Party System: Undertaking the Analysis

- Once the facts are developed, NTSB undertakes analysis, makes findings, determines probable cause, and develops recommendations *without* the parties.

- NTSB’s neutrality is important for unbiased and impartial analyses, findings, and recommendations.

- Anyone, including the parties, is free to submit their own analysis into the public docket.
Keeping the Public Informed

– Objective: **TRANSPARENCY** of the facts and the process
  - Factual information is placed in the public docket (except proprietary information, as appropriate)
  - Sunshine Act requires Board deliberations to occur in public
  - Final NTSB accident report is also in the public docket

**BUT . . .**

– Final NTSB accident report is *not admissible in court*
High Frequency Events: CAST

– Suggest voluntary collaborative effort

– Suggest focus on trends, rather than individual events
  • If trend is longstanding, problem is probably systems and processes rather than people
  • Employees are more willing to participate in the investigation because it is focused on improvement rather than punishment

– Example: Commercial Aviation Safety Team (CAST)
The Challenge: Increasing Complexity

- More system interdependencies
  - Large, complex, interactive system
  - Often tightly coupled
  - Hi-tech components
  - Continuous innovation
  - Ongoing evolution

- Safety issues are more likely to involve interactions between parts of the system
The Solution: System Think

Understanding how a change in one subsystem of a complex system may affect other subsystems within that system
“System Think” via Collaboration

Bringing all parts of a complex system together to collaboratively

- Identify potential issues
- **PRIORITIZE** the issues
- Develop solutions for the prioritized issues
- Evaluate whether the solutions are
  - Accomplishing the desired result, and
  - Not creating unintended consequences
Collaboration Success Story

83% Decrease in Fatal Accident Rate, 1998 - 2007

largely because of
System Think

fueled by
Proactive Safety
Information Programs

P.S. Aviation was already considered VERY SAFE in 1997!!
Major Paradigm Shift

– Old: The regulator identifies a problem, proposes solutions
  • Industry skeptical of regulator’s understanding of the problem
  • Industry fights regulator’s solutions and/or implements them begrudgingly

– New: Collaborative “System Think”
  • Industry is involved in identifying the problem
  • Industry “buy-in” re solutions because everyone had input, everyone’s interests considered
  • Process is *completely voluntary*
  • Prompt and willing implementation . . . *and tweaking*
  • Solutions probably more effective and efficient
  • Unintended consequences much less likely

– Note: *The CAST process generated no new regulations!*

National Transportation Safety Board
Challenges of Collaboration

– Human nature: “I’m doing great . . . the problem is everyone else”

– Participants may have competing interests, e.g.,
  • Labor-management issues
  • May be potential co-defendants

– Regulator probably not welcome

– Not a democracy
  • Regulator must regulate

– Process is voluntary, but all must be willing, in their enlightened self-interest, to leave their “comfort zone” and think of the System
Aircraft manufacturers are increasingly seeking input, from the earliest phases of the design process, from

- Pilots (User Friendly)
- Mechanics (Maintenance Friendly)
- Air Traffic Services (System Friendly)
Collaboration at Other Levels?

• Entire Industry
• Company (Some or All)
• Type of Activity
• Facility
• Team
Moral of the Story

Anyone who is involved in the problem should be involved in the solution
Suggestion: Beta Test

- Select troublesome area
  - Nagging problem for many years
  - Many interventions have been tried, not successful
  - Likelihood that problems are systemic, not just people
  - Collaboration as effort to address the system problems
  - Less employee defensiveness because not focused on single event

- Select collaborative corrective action group
  - All who have a hand in the process
  - Manufacturers?
  - Operators?
  - Regulators?
  - Others?
• Method of determining appropriate intervention depends upon the type of mishap

• Collaboration can be very powerful when everyone who is involved in the problem is involved in the solution

• Risk management programs that hurt the bottom line are probably not sustainable

• Collaboration can help ensure that risk management programs improve productivity while reducing risk
Thank You

Questions?