

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*



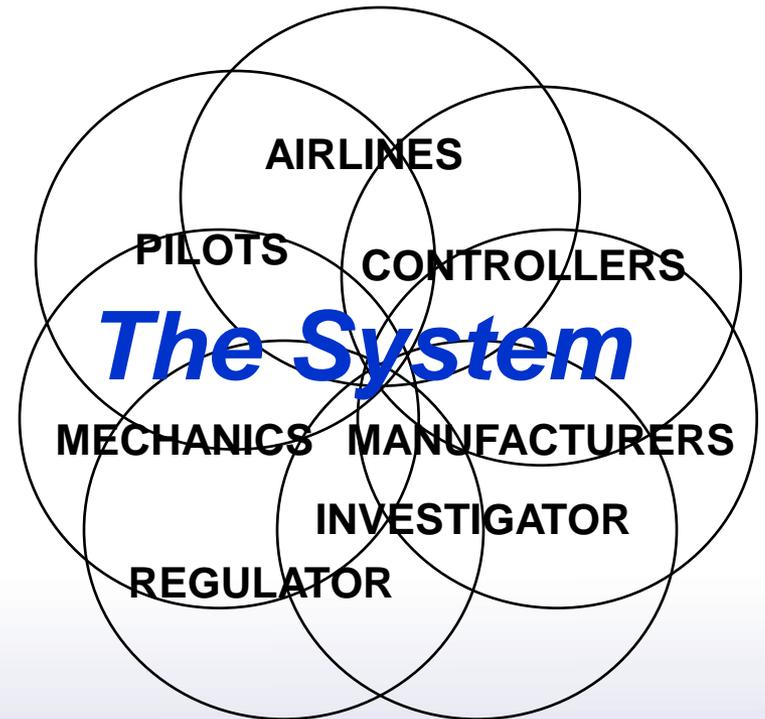
High Frequency Events: CAST

- 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!*



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



Manufacturer Level Collaboration

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?



Conclusions

- 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?



National Transportation Safety Board