

Safety à la Mode

‘Multimodal’ safety management can help different industries learn from one another’s studies.



BOOKS

Multimodal Safety Management and Human Factors: Crossing the Borders of Medical, Aviation, Road and Rail Industries

Anca, José M. Jr. (editor). Aldershot, England, and Burlington, Vermont, U.S.: Ashgate, 2007. 356 pp. Figures, tables, references, index.

Considered only in terms of specific “fixes,” risk reduction measures among the industries, or “modes,” listed in the book’s subtitle would seem more different than alike. But looking at guiding principles, the underlying similarities become more apparent, as do the opportunities for interdisciplinary learning.

“The multimodal format provides understanding and contrasts far beyond what focus on a single domain could offer,” says Robert L. Helmreich, Ph.D., a human factors researcher, in his foreword. “Those with experience in one will gain insights into the breadth of human factors and safety concepts through exposure to the dominant issues in the others.”

The book is divided into four sections: “Multimodal Characteristics of Safety Management Systems,” “Safety Management Metrics, Analysis and Reporting Tools,” “Normal Operations Monitoring and Surveillance Tools,” and “The Modality of Human Factors: Exploring the Management of Human Error.” Most chapters are based on experimental studies.

Sample provocative comments include the following:

- “Moving Up the SMS Down Escalator”: “I define a safety management system [SMS] as the process of removing what is out of date (obsolete) and installing what is up to date (new). It is change in terms of safety philosophies, policies, procedures and practices. ... You can be aggressive and make changes rapidly (on the leading/ bleeding edge), or you can be conservative and make changes slowly (and risk becoming antiquated). As soon as changes stabilize (one day, one week, one month, one year), the process of evaluating how the changes worked can begin.”
- “Governance and Safety Management”: “Whilst management may espouse that the company employs a ‘can-do’ approach to its business, it is often not stated that this means safely and in a compliant manner. Consequently, those at the workplace level may interpret ‘can-do’ as ‘must-do,’ even if this means employing workarounds by taking shortcuts in procedures and processes. ... Whilst these workarounds are employed with good intent, they pose significant risks to the organization that may not be apparent to those engaged in the tasks at the time.”

- “Effects of Flight Duty and Sleep”: “Flight and duty [time] limitations are designed to ensure that pilots are not exposed to unacceptable levels of fatigue through maximum shift lengths and minimum rest breaks. As previous research suggests, however, a pilot’s experience of fatigue appears not only to be based on their work/rest history but on the amount of sleep they have been able to obtain between and during duty periods.”
- “Drought in Safety Management”: “We must become even smarter with flight safety and not let the ‘new age’ complexities of life beat us at our own game. When I fail someone during a flight test it is because they did not meet the standard. I am not trained to know if they had a deprived upbringing. Trainee pilots we see today are understandably part of the new generation. Their schooling probably contained much information on their rights, and what the world owed them, none of which gets to the basics of aviation discipline.”

REPORTS

Voluntary Aviation Safety Information-Sharing Process: Preliminary Audit of Distributed FOQA and ASAP Archives Against Industry Statement of Requirements

Chidester, Thomas R. U.S. Federal Aviation Administration (FAA) Office of Aerospace Medicine. DOT/FAA/AM-07/7. Final report. April 2007. 14 pp. Figures, table. Available via the Internet at <www.faa.gov/library/reports/medical/oamtechreports/index.cfm> or from the National Technical Information Service.*

The Voluntary Aviation Safety Information-Sharing Process (VASIP) is based on developing a technical process to extract de-identified safety data from any participating airline flight operational quality assurance (FOQA) program or aviation safety action program (ASAP), aggregate the data and make them accessible to industry stakeholders.

In 2004, the FOQA and ASAP Aviation Rulemaking Committees (ARCs) identified the U.S. National Aeronautics and Space

Administration (NASA) as having the needed background, resources and personnel to provide technical aggregation and the analytical tools to support the process. NASA was asked to create a network of servers located on airline premises to be accessed by NASA for aggregation, statistical analysis and summarization. Summaries in electronic format are returned to each airline’s local server for archiving.

Under NASA’s leadership, a partnership of participating airlines, employee organizations and FAA representatives defined the components of FOQA and ASAP data archives, as well as a set of functional requirements for archive development. They were approved by the FOQA and ASAP ARCs, and when the basic infrastructure was deployed in January 2006, data archiving began at the participating airlines.

The report “audits the hardware, software and networking infrastructure against the original functional specifications provided by the ARCs to NASA,” the report says. “Auditing was accomplished by monitoring NASA’s functional testing and demonstration of archive hardware from November 2005 through April 2006, and during a site visit in May 2006 to review functions that had not been demonstrated at previous meetings.”

The report concludes, “Hardware, software and networking have been implemented in a manner that supports the functions requested by the FOQA and ASAP ARCs in the fall of 2004.” The infrastructure can be expanded to additional airlines, but “it will be necessary to drive down some costs and assess how costs of added operators will be allocated,” the report said.

WEB SITES

Helicopter Association International (HAI), www.rotor.com

HAI says on its Web site that it is “dedicated to the advancement of the international helicopter community.” Even though HAI primarily serves its members, it provides considerable information to nonmembers.





The publications section of the Web site describes videos, CDs, DVDs, books and other publications, and safety posters focusing on helicopters and safety. Some are free online; members and nonmembers can purchase others. HAI's separate video library contains numerous videos free online, with titles such as *The Vertical Dimension*, *Flying in the Wire Environment* and *2007 Heli-Expo*.

Comparative accident and safety statistics for U.S. civil helicopters are available free to be opened as PDFs or, in some cases, Microsoft® Excel files. Safety trends are charted for different segments of the industry (e.g., commercial air tour operations, air medical services and air taxi services).

News stories about safety, security and “helicopters saving lives,” industry and government news and alerts, and regulatory information issued by civil aviation authorities appear in full-text format. Software is available to translate English-language Web pages into 14 other languages.

A long list of helicopters, by types, is given with links to specifications and photos. Similarly, a lengthy list of safety-related organizations has links to their respective Web pages.

Civil Air Navigation Services Organisation (CANSO), www.canso.org

CANSO identifies itself as “the global voice of the companies that provide air traffic control.” As one of its objectives, “CANSO acts as the global ANSP [air navigation service

provider] voice on both regulatory and industry issues and coordinates closely with representatives of both sides.”

The publications section of the Web site offers significant amounts of information to nonmembers. The public has access to the following:

- “Human Factors in Safety Management: The New View,” a movie produced by DFS (Deutsche Flugsicherung), the air traffic control provider in Germany, which discusses human factors and just culture, and is available online in a seven-minute short version at no charge. Instructions for obtaining the full version are provided.
- Current and archived issues of its journal, *CANSO News*, which are free and may be read online, printed or downloaded, as are issues of *ATM News*, a twice-monthly newsletter, covering global air traffic and navigation news. *ATM News* is now available in Russian. CANSO's *Update Europe*, a bi-monthly newsletter, focuses on European activities. The latest issue contains highlights of the recent European just culture conference.
- Numerous CANSO and industry presentations, speeches, publications and reports that are listed and linked to the full-text documents. ●



Source

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— Rick Darby and Patricia Setze