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Under Pressure: Decision Making in Aircraft Maintenance and the Role of Gender

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Under Pressure: Decision Making in Aircraft Maintenance and the Role of Gender

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Background

- Collaborative research project between two colleges; aeronautics and business.
- Can conclusions be drawn from analyzing the business operational side of aviation maintenance that could positively impact how airworthiness is maintained?



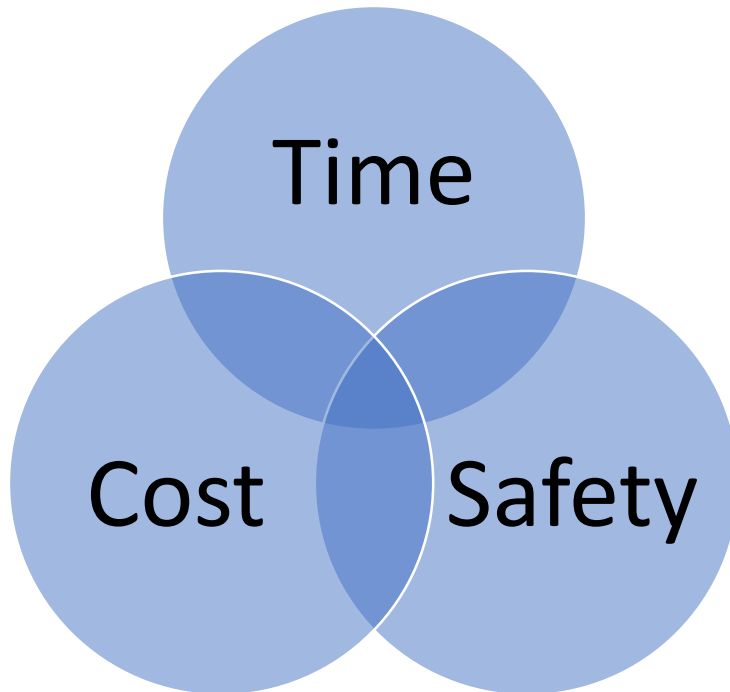
Background cont.

- In aircraft maintenance, leaders are under near-constant pressure to maintain airworthiness.
- Every minute an aircraft cannot fly due to maintenance represents financial waste.
- Decisions are therefore made in a relatively quick fashion. A leader evaluates the situation, identifies a course of action and then communicates this message to a team of technicians.
- However, gender influences regarding leaders' decisions can influence team members' perceptions of those decisions.





The Decision-Making Process



- For maintenance personnel, fixing a grounded aircraft means making decisions based on cost, time, and safety.
- Given the importance of each of these elements, there is a need to understand the decision-making process of these leaders, as well as the perceptions of the technicians that must carry out the procedures.
- Does gender influence these decisions?
- Are there follower perceptions that could impact how these actions are carried out?



Need for Research

- Improved decision-making
- Contribute to the pipeline of women entering and remaining in aircraft maintenance
- Maintenance technician shortage
- Positively impact workforce diversity
- It is evident that the role of decision-making is vital to maintaining airworthiness



Research Goals

- Maintenance costs average 12-15 percent of an airlines' overall budget
- Currently, there is no clear behavioral interview process focused on aviation maintenance technicians to ensure they can successfully operate in a high-reliability organization (HRO).
- Armed with this knowledge, hiring personnel as well as leaders within the aviation maintenance environment will be better positioned to handle high-pressure scenarios.





Areas of Focus

- Role of human factors in aviation maintenance decision making with regard to time, cost, and safety
- Influence of occupational stressors and pressure
- The concept of person-environment fit (P-E fit)
- Quality decision making – Cognitive Dissonance Theory (Festinger, 1957), the Theory of Elimination by Aspect (Tversky, 1972)
- Scenario planning – actual workplace challenges



Research Approach – currently underway

- Meet with industry experts to create scenarios
- The vetted and validated scenarios will be built into a behavioral interview and scoring mechanism created.
- Instrument testing and data gathering/analysis
- The behavioral interview instrument will be monetized and studied longitudinally across time and multiple organizations as a point of research and will be updated as necessary



QUESTIONS?