

Comparison of Experience-Based and Evidence-Based Safety Risk Management Features for Heavy Vehicle Transport Operations

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Abstract

The main findings of recent research into important safety management characteristics were compared against risk management factors included in the risk assessment process adopted by a major truck insurer. Independent research¹ into safety management features that distinguish between lower insurance claimers and higher insurance claimers identified 14 characteristics that show clear evidence of efficacy in safety management in trucking operations. When these were compared with the Zurich Risk Engineering grading criteria substantial consistency was found.

Background

Insurance companies have an interest in the progressive reduction in financial losses by those that hold policies with them. Zurich Financial Services Australia employs risk engineers to provide expert advice to insurance policyholders about their specific risks and risk control practices. As there has been scant research evidence to base this advice on, risk engineers have used their experience and observations to define risk and risk control criteria. A study of evidence-based safety management practices (Mooren, 2016) can now inform the approach taken to risk assessment and safety management

Method

The 14 characteristics found by a study involving a strategic literature review, a survey of companies that operate heavy vehicles and an in-depth investigation (to validate survey findings) were compared with characteristics of the Zurich Risk Grading system for Motor – Fleet - Truck.

Results

While the 14 characteristics found in a recent study do not represent a comprehensive set of safety management characteristics, the Zurich Risk Engineering (ZRE) program includes all 14 characteristics.

With respect to vehicle risk management ZRE includes safety features for heavy vehicles, vehicle age and specifications, and vehicle maintenance and inspections. The specific evidence-based characteristics that mirror these are:

- All appropriate safety equipment, including safety features on trucks, is provided, and
- Maintenance and pre-trip vehicle checks ensure that trucks are in a safe condition for all trips.

Regarding journey and site risk assessments, ZRE includes route planning for safe operations. The specific evidence-based characteristics found in the study that relate to this include:

- Route risk assessments are done for all delivery journeys, and
- Site and job risk assessments are regularly carried out.

¹ This research was funded by an Australian Council Research Linkage Grant, supported by Partner Organisations including Motor Accidents Authority of NSW, Transport for NSW, National Transport Commission, Zurich Australia and Transport Certification Australia.

Under the topics work monitoring and response to safety concerns, ZRE include fatigue risk management, vehicle maintenance and inspections, and safety management and quality assurance. The important safety management characteristics found in the research are:

- Monitor fatigue management practices, and
- All managers respond quickly to safety concerns raised by drivers.

With regard to recruitment, employment of, and payment to drivers, ZRE include driver selection and qualifications, driver maturity and health management, and driver work conditions and turnover. The related evidence-based characteristics are:

- Recruitment criteria focus on safe driving records,
- Driver fitness is assessed to ensure drivers' abilities to safely carry out all job duties, and
- Drivers are paid for all hours worked regardless of task or activity.

Regarding training, discipline and incentives, ZRE include driver assessment and training, incident reporting and investigation and fleet performance management. The study found evidence to include:

- Training for drivers is based on individual tuition by experienced drivers,
- Identified unsafe behaviours are formally investigated, and
- Drivers are given incentives, including monetary incentives, clearly linked to work safety efforts.

Finally, with respect to communications, ZRE include communication factors in incident reporting and investigation, and safety management and quality assurance. The study specifically found that two important characteristics are:

- Managers encourage driver input to WHS decision-making, and
- Managers take responsibility and show leadership in making safety a clear priority.

Conclusions

The similarities between the important risk management elements determined by the experience of an insurance company's risk engineering experts and those found by independent scientific research provides a cross-validation of important safety management characteristics.

References

Mooren, L., 2016. An evidence-based safety management system for heavy truck transport operations, School of Aviation. University of New South Wales, Kensington.