In the Driver’s Seat: The Role of Leadership in Safe and Productive Cargo Transport

Road accidents are common. Around the globe, more than 1.2 million lives are lost annually in road traffic crashes (WHO, 2015). Since trucks are involved in a large share of all accidents, truck drivers are exposed to high levels of physical risk (BLS, 2012). Truck accidents inevitably lead to substantial unexpected costs, supply chain disruptions, and loss of productivity (Tatikonda & Frohlich, 2013). Infrastructural and technological advances may have reduced the number of accidents along the years, but the numbers remain high as the vast majority of truck accidents are caused by driver-related factors (FMCSA, 2006). Professional drivers face pressure to be safe and productive, while their manager is responsible for translating the company culture and objectives to clear targets and instructions for the driver. As such, by influencing the driver’s decisions and behaviour on the road, the manager has an indirect impact on driving safety and productivity. The need to establish the role of leadership on improving driving safety and productivity in professional cargo transport is therefore obvious.

In truck driving, drivers do not maintain continuous contact with their manager and are trusted to execute their tasks effectively and efficiently without constant supervision. Still, dispatcher leadership has been linked to safety performance in truck driving, mediated by safety climate perceptions (Zohar et al., 2014). Safety-Specific Transformational Leadership (SSTL), a form of transformational leadership focused on achieving safety outcomes, has been shown to be a well-established predictor of occupational accidents (Barling et al., 2002; De Koster et al., 2011; De Vries et al., 2016). SSTL relates to fewer occupational accidents even in settings where the leader can be geographically distant from the follower (Howell & Hall-Merenda, 1999), making it an appropriate leadership style in the context of professional
driving. In explaining the mechanism through which SSTL relates to safety outcomes, Barling et al., (2002) established that safety consciousness, the individual’s own awareness of safety issues, plays a mediating role. This relationship describes the ability of the transformational leader to raise the safety identity/awareness of the follower, leading to superior safety behavior. Based on this, we hypothesize that SSTL relates positively to driver safety behavior, a relationship partially explained by the mediating effects of the driver’s safety consciousness.

Safety consciousness has also been established as a positive predictor of driving productivity in long haul cargo transport, with high levels of productivity achieved only by drivers with sufficiently high levels of safety consciousness (De Vries et al., 2017). SSTL, however, is expected to have a negative effect on driving productivity, as the drivers are encouraged to shift their focus from productivity results to ensure occupational safety (Barling et al., 2002). Based on this, we hypothesize that SSTL relates negatively to driving productivity, but the overall negative effect is mitigated by the positive mediating effects of the driver’s safety consciousness.

To investigate these relationships, we collect data from major truck transport companies based in India, including route data from the ERP systems and detailed GPS trip data, as well as psychometric data from surveys conducted among the truck drivers. We operationalize driving safety as the inverse of risky driving behavior by using objective indicators such as the number of speed violations, aggressive acceleration/deceleration, and driving for extended periods of time without stoppage. We operationalize driving productivity as the advance gain on a standard estimated transit time for each trip, by comparing the time driven to the estimated trip duration based on Google maps. We develop generalized linear cross-classified
regression models and test our hypotheses to establish SSTL’s impact on driving safety and driver productivity across trips and drivers.

Initial results indicate that higher levels of SSTL appear to be beneficial for productivity in long-haul trips, and detrimental for productivity in short-haul trips. SSTL also positively affects the driver’s safety consciousness levels, which in turn relate positively to driving productivity regardless of trip length. We expect final results for the constructs relating to both driving safety and productivity by the end of March. This study aims to deepen our understanding in the effects that leadership has on truck driving performance outcomes. These insights can be used by transport companies in the selection, training, and incentivizing of supervisors in order to promote operational safety in a productivity-driven sector.

References


