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Air passenger's perception toward pre-flight safety briefing videos: Does it matter?

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ABSTRACT

This study extends the Theory of Planned Behavior (TPB) model with an additional construct (i.e., air passenger's perception toward pre-flight safety communication) in the context of the commercial airline industry. Specifically, this study investigates the relationship among air passengers' perceptions of pre-flight safety communication, attitude, subjective norm, perceived behavioral control and behavioral intentions. A preliminary study was conducted by soliciting responses from 333 college students in Taiwan. Additional efforts were made to solicit survey participation from tourists who have travelled by air and are more likely to use air travel than a pure student sample. Specifically, surveys were administered to a popular online consumer panel in Taiwan, and a total number of 630 valid survey responses were returned. Empirical results based on the Structural Equation Modeling (SEM) technique indicated that air passengers' perceptions of pre-flight safety communication consist of three sub-dimensions (i.e., regulation and safety equipment, instructions for equipment, general information). Meanwhile, air passengers' perceptions of pre-flight safety communication had a positive and significant influence on both air passengers' attitudes and perceived behavioral control which, in turn, influenced their intentions to pay attention to the safety briefing video. Interestingly, air passengers' perceptions of pre-flight safety communication effectiveness do not have a significant effect on air passenger's intention to pay attention to the briefing videos. In addition, the subjective norm has a positive and significant impact on air passengers' intention of receiving the pre-flight safety video briefing. Theoretical and managerial implications are discussed in this study.

1. Introduction

The rapid development in the aviation industry shortens travel time between destinations in the world, which greatly spurs global economic growth. More and more people travel by air which increases the chance for people from all parts of the world to interact with each other and be personally exposed to various cultures. However, one notable drawback is that the busy air travel as well as travel on the road has raised safety concerns (Boeing, 2009). Despite the fact that travel and tourism choices are broad and influenced by a range of factors from novel experiences, and social media and word-of-mouth communications to the previous choices or experiences that an individual has had (Beck et al., 2018), it can also be influenced by a wide range of crises or tragic events which may lead tourists to avoid international travel, especially to the relatively more risky destinations.

Numerous aircraft accidents have been documented during aircraft taxi, take-off, cruise or landing in the past few decades. A large number of passengers lost their lives from those accidents. Accident investigations and special studies suggest that the number of survivors from those accidents could have been higher if safety information communications were made in a more clear and accurate manner (Edwards, 1990; Chang and Liao, 2008, 2010). Additionally, the Civil Aviation Safety Authority of Australia (CASA) suggests that well-delivered cabin safety information affected survivability in emergency evacuations, and well-prepared passengers had a better chance of survival in a life-threatening situation (Galea et al., 1996; Muir et al., 1996; Owen et al., 1999; Wilson et al., 2004). Furthermore, the Asia-Pacific Cabin Safety Working Group (CSWG) reported that most accidents could have observed a 70% survival rate if all passengers read the cabin safety card or listened/watched the crew safety demonstration (FSF, 2000).

National Transportation Safety Board (NTSB, 1985) has pointed out that passengers usually did not pay needed attention to pre-flight

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briefing videos and flight attendants' oral briefings, nor read safety cards available to them on the aircraft. Likewise, the Australian Transportation Safety Board (ATSB, 2004) also indicated that often passengers recognized the importance of cabin safety but easily ignored the safety information (Fennell and Muir, 1992). Passengers might hinder aircraft evacuation in an emergency as a result of their unconscienced decisions from ignorance and stubbornness (Muir et al., 1996; CASA, 2004). Notably, the International Civil Aviation Organization (ICAO, 2003) identified three issues regarding pre-flight safety communication. The first is how to communicate the critical information to passengers during an emergency. The second is how to attract passengers' attention to watch, listen and understand not only the verbal briefing from cabin crew members but also the demonstration of pre-flight safety briefings. The third is how to ensure that all passengers read the cabin safety card. The bottom line is such demonstration has to be lively, dynamic, interesting and innovative to be effective.

Regarding pre-flight safety briefings, NTSB studies found that the readership of safety cards was poor, while approximately 68% of passengers indicated they had not looked at the card. As for those who had read the safety card, only 59% considered it useful in an evacuation (Chang and Liao, 2009). Several research studies (Krivonos, 2005, 2007; ATSB, 2006; Molesworth, 2014) conducted in the United States reported that an effective safety information communication shall be developed by the application of scientific principles of human behavior and communication. Moreover, the Federal Aviation Administration (FAA) also acknowledged that some operators may elect to use video with pre-departure safety briefings to ensure consistent safety information delivery on every flight. However, the effectiveness of these informational videos still needs to be empirically examined and validated by research studies.

2. Aims and gaps

Perceived aviation safety/security is something that is determined by many aspects of the door-to-door travel experience, including what happens at airports (Beck et al., 2018) and in the plane. For example, Beck et al. (2018) revealed that “the visible presence of uniformed police” at airports can enhance the feeling of overall safety. Unfortunately, Parker (2006) described air passengers' perception toward the pre-flight safety briefing videos as repetitious, boring and old-fashion. For males, and in particular young educated males, it's a challenge to hold their attention to these safety briefing videos (Johnson, 1979). This has resulted in some airlines employing creative marketing techniques such as using celebrities to attract passengers' attention to the cabin safety contents (Seneviratne and Molesworth, 2015).

Attention to cabin safety has been recognized as a crucial survival factor in a flight accident and an important element in reducing accidents by global aviation authorities and airliners (Muir et al., 1996; Trimble, 1996; Muir and Thomas, 2004; Chang and Liao, 2009; Chang and Yang, 2010). Accordingly, the ICAO (International Civil Aviation Organization) and other governmental regulatory agencies required the operators of aircraft to ensure that all passengers were adequately briefed on safety information applicable to their operations (CAAP, 2004). However, attracting passengers' attention to pre-flight safety communication is by no means easy (Seneviratne and Molesworth, 2015). The present study was built upon the Theory of Planned Behavior (TBP) (Ajzen and Fishbein, 1980) with the intention to better understanding the relationship among air passengers' perception of pre-flight safety communication, attitude, subjective norm, perceived behavioral control and behavioral intentions. In addition to the original three main factors of the TPB model (i.e., attitude, subjective norm, and perceived behavioral control), this study added an exogenous construct named air passengers' perception of pre-flight safety communications as an antecedent of TBP. Such an addition makes sense as accident investigations and studies suggest that the number of survivors from those accidents could have been higher if safety information communications were made in a more clear and accurate manner (Edwards, 1990; Chang and Liao, 2008, 2010). That is, air passengers' perception of pre-flight safety communications is believed to have a strong impact on air passengers' attitude as well as intentions toward the safety message displayed in front of them. Further, logics lead us to propose that the better the passengers are informed, the fewer casualties would possibly incur in an unexpected emergency. Therefore, with a better understanding of air passengers' attitude and behavioral intentions, airlines and policy-makers could design an effective means to deliver pre-flight cabin safety information to the passengers.

3. Conceptual framework and hypotheses

3.1. Cabin safety and survival

The ICAO (2005) Accident Prevention Program stated, “Safety is everybody's business”. Cabin safety is part of flight safety and is important to be understood by everybody (Cosper and McLean, 2004; Chang and Yang, 2010). Transport Canada defined “the goal of cabin safety is to reduce injuries in a flight accident regardless whether at boarding, de-boarding or in the air”. ICAO (2006) indicated that cabin safety objectives are to reduce passengers' and flight crews' risk of harm to the minimum through pre-flight safety education. Cabin safety comprises crash worthiness, operations, human factors, psychology, bio-dynamics, physiology, ergonomics, and pedagogy (FSF, 2000; ATSB, 2004, 2006). Chang and Liao (2009) pointed out that the main purpose of pre-flight safety communication is to provide accurate information for cabin safety, raise passengers mentality toward cabin safety importance and act correctly in an emergency.

The National Transportation Safety Board (NTSB, 2001) suggested that, during the last two decades in the 20th century, 96% of the passengers survived domestic flight accidents, and the survival rate among the 46% of the bad accidents was 80%. It also stated that the survival rate could be much higher if passengers were fully aware of the flight safety equipment and rules. Therefore, it is generally agreed by all aviation organizations that well-informed passengers have a better chance to escape a flight accident safely. Consequently, all aviation regulatory agencies such as the Federal Aviation Administration (FAA), Transport Canada TC (2001, 2006, 2007, 2008), Civil Aviation Safety Authority (CASA) and the Civil Aeronautical Administration (CAA) emphasize the importance of flight safety communication among passengers and mandate airlines to use different means such as paging systems or media (e.g., a safety card or video) on the flight to deliver current safety information to passengers. Furthermore, Transport Canada thinks passengers shall be considered as part of the flight crew when it comes to flight safety (Crew Resource Management, CRM) and should be well informed. Wood (2001) proposed the same idea by stating that passengers and flight crew should go through a safety check list during aircraft take-off and landing to assure the passengers are fully aware of the safety instructions. A China Airline Boeing 737–800 aircraft was destined for Okinawa from Taipei on August 20, 2007. After landing at the Naha Airport, the aircraft's left wing caught fire and soon exploded. Miraculously, all 168 passengers and eight cabin crew escaped safely. Investigation of this accident clearly showed that the miracle would not have happened if the passengers and crew had not followed emergency safety procedures. This event reveals the criticality of passenger pre-flight safety readiness during an accident.

A well-informed group of flight passengers will have a much higher survival rate in an accident. A personal interview report by Molloy NTSB (2000) provided updated guidance to airliners on the content of passenger safety briefings, the design of safety briefing cards and video briefing, the appropriate tone of voice, and animated speaking during passenger briefings to assure that the safety information is clearly understood by passengers. Barthelmess (1988) pointed out that many passengers were injured in an accident due to the lack of accurate cabin