

Anti-Theft Travel Bag Design: Perception and Design Factors
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Introduction/Significance. The tourism industry represents almost 10% of global GDP and is one of only a handful of sectors that continue to grow (World Travel Trends Reports, 2013). However, tourists have always been easy targets for thieves (Holcomb & Pizam, 2006). The importance of the tourism industry suggests that prevention of bag theft is worth considerations and exploration. The problem of bag theft is usually under-reported and this is rarely mentioned by major media (Smith, Bowers, & Johnson, 2006). Research on tourists' evaluation of existing anti-theft designs is scarce. There is a lack of studies about the gap between current market supplies and consumers' truly demands. Thus, the objectives of this study are (1) to examine the existing designs for anti-theft bags on the market, (2) to understand consumers' perceptions on the anti-theft designs, and (3) to collect consumers' suggestions for future anti-theft design. This study will facilitate designers with design modification and guide marketers with business decisions. Ultimately, it could increase people's interest in travelling by removing an obstacle to consumers' desire to travel, thereby boosting the tourism industry.

Theoretical Framework /Literature. Routine activities theory (Cohen & Felson, 1979) that opportunity for crime involves motivated offenders, suitable targets, and lack of capable guardians. Noticeably, eliminating any one of three factors could effectively reduce the crime occurrence rate (Cohen & Felson, 1979). Situational crime prevention theory (Clarke, 1997) suggests investigating the environmental setting of a crime rather than detecting the commitment of criminal acts. In this study, researchers focused on incorporating the design of situational factors into products to reduce opportunities for theft by reducing suitable targets. The design criteria were based on the characteristics of stolen products (concealable, removable, available, valuable, enjoyable, and disposable) (Clarke & Newman, 2004) and common theft techniques (dip, dip, grab, lift, and slash/cut) (Allison, Schuck, & Lersch, 2005).

Methods. First, several bag theft cases were identified and corresponding anti-theft designs were selected. Next, an online questionnaire was prepared to show customers images of seven different types of anti-theft travel bags and ask about their perceptions of advantages, satisfaction (Rijsdijk, Hultink, & Diamantopoulos, 2007), personal interest (Zaichkowsky, 1985), overall design preferences, and suggestion for future anti-theft designs. The survey was conducted among 200 male (5.5%) and female (94.5%) college students ranging in age from 18 to 43, a typical age range for active travelers (ABTA Travel Association, 2013) and increasing involvement of female travelers has been noticed (Rosenbloom, 2004). Survey questions were tested for scale reliability and correlation. Repeated ANOVA was used to analyze quantitative data and important themes were extracted from the analysis of open-ended questions and color coding systems.

Results/Conclusions. The results for ANOVA test indicated that participants' perceptions of advantage [$F(6, 1194) = 66.382, p < .05, \eta_p^2 = .25$], satisfaction [$F(6, 1194) = 34.90, p < .05, \eta_p^2 = .25$]

= .15], and personal interest [$F(6, 1194) = 28.37, p < .05, \eta_p^2 = .13$] in certain designs were significantly different from other designs. For relative advantage and satisfaction, participants assigned the highest scores for zipper lock ($M_{advantage}=3.67; M_{satisfaction}=3.23$) and the lowest scores for RFID security ($M_{advantage}=2.24; M_{satisfaction}=2.35$). Participants indicated the greatest interest in RFID security, although key were less satisfied with actual RFID products. This finding suggests a large potential market demand as well as need for design improvements. For future anti-theft design, the three most frequently mentioned suggestions were “locks” made with “more sturdy material” or “with combinations,” “attached body” bags which can be “constantly watched by users” and “help one become aware of everything,” and “inner compartments” that can “conceal valuable items.” Other design suggestions were “closure”, “alarm”, “GPS device”, “camouflage features”, “additional tools”, and “hook and loops”. The identified results provide designers with practical suggestions and inspirations. Modified designs will possibly make anti-theft bags more effective by creating barriers for thieves, thus reducing the number of bag theft incidents. Future studies should focus on including more designs which will be effective against other theft techniques and on examining other aspects, such as aesthetics, to more comprehensively understand customers’ evaluation of anti-theft designs.

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