EMBRY-RIDDLE AERONAUTICAL UNIVERSITY

Ph.D. IN AVIATION

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DAYTONA BEACH, FLORIDA

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Ph.D. in Aviation Candidate dissertation defense announcements

Samson Fatokun, Ph.D. in Aviation candidate, will present his dissertation, "PREDICTING THE MARKET SHARE OF A NEW AIRPORT IN MULTI-AIRPORT CITIES: THE CASE OF LAGOS," on **Wednesday, March 30, at 1:00 p.m.** in the College of Business, room 127, on the Daytona Beach campus. The committee is chaired by Dr. Steven Hampton, Professor of Doctoral Studies. The presentation is open to the public and will be broadcast via EagleVision at http://tinyurl.com/SamsonFatokunDefense.

Abstract:

The primary objective of the study was to develop an empirical model that combines the contingent valuation method (CVM) with the isochrone analysis to predict the market shares of new airports in multi-airport cities; and to apply the model to the case of Lekki International Airport (LIA), the proposed second airport in Lagos, Nigeria. In addition to predicting the market share that LIA could attain, the study also identified and analyzed the catchment areas as well as the willingness to pay (WTP) of would-be LIA passengers. Furthermore, the research identified the determinants of airport choice in the Nigerian market.

The contingent valuation method (CVM) was used for the collection of the data, 1176 valid in-person interviews were conducted at Murtala Mohammed International Airport (MMIA), Lagos. Descriptive statistics and logistic regression analysis were used to predict LIA's market share and identify the factors that influenced passengers' choice between the existing and the proposed second airport. Further, isochrones and passenger stated preference data were analyzed for the determination of the LIA's catchment areas for the business and non-business segments of the Nigerian market as well as the areas of spatial competition between MMIA and LIA. With regard to the passengers' willingness to pay, the median of the WTP values was determined through descriptive statistics. The determinants of the WTP were also identified using a multiple regression analysis.

Using the combination of CVM and isochrone analysis, the present research predicted that LIA will attain 28.9% of the market share based on the contingent scenario presented to the passengers. Further, the study found that the exclusive catchment areas of LIA for business and non-business passengers were limited to two Local Governments Areas of Lagos State. Passengers who chose LIA as their first choice were willing to pay NGN3000 (about $15 or 15% of an average domestic one way ticket price) as additional fare to fly from the airport. However, the realization of the predicted market share will be contingent on LIA's ability to attract airlines, remedy the isolation of the proposed airport site, and apply the appropriate pricing policy.

Jonathan Velázquez, Ph.D. in Aviation candidate, will present his dissertation, "BEHAVIORAL TRAPS IN FLIGHT CREW-RELATED 14 CFR PART 121 AIRLINE ACCIDENTS," on **Thursday, March 31, at 1:00 p.m.** in SIM, room 204, on the Daytona Beach campus. The committee is chaired by Dr. Tim Brady, Professor of Doctoral Studies and Interim Chancellor. The presentation is open to the public and will be broadcast via EagleVision at http://tinyurl.com/JonathanVelazquezDefense.

Abstract:

This dissertation examined pilot behavioral traps in the multi-crew Part 121 air carrier environment. Behavioral traps are accident-inducing operational pitfalls aviators may encounter as a result of poor decision making. The traps studied were: Loss of Situational Awareness; Neglect of Flight Planning, Preflight Inspections, and Checklists; Peer Pressure; Get-there-itis; and Unauthorized Descent Below an Instrument Flight Rule (IFR) Altitude. The purpose of this dissertation was to study the nature of their occurrence in the airline domain. Another key component was to explore the relationships between the behavioral traps and factors such as pilot age, pilot flight experience, weather, flight conditions, time of day, and the first officer certification level.

The dissertation was conducted using an archival combined-methods methodology. Four subject-matter experts analyzed 34 National Transportation Safety Board (NTSB) accident reports. Behavioral traps were found in all accidents with Loss of Situational Awareness and Neglect of Flight Planning, Preflight Inspections, and Checklists dominant. The SMEs were able to identify many pilot actions that were representative of the behavioral traps.

During the qualitative analysis, various themes began to emerge which played important roles in many accidents. These emerging themes were Crew Resource Management issues, fatigue, airline management, and Flying Outside the Envelope. The quantitative analysis discovered a moderate correlation, $r = -.34$, $p = .05$, between the Captain's Flight Experience and the behavioral trap Unauthorized Descent Below an IFR Altitude. No other correlations were found to be significant between the variables and the behavioral traps. The findings of this study indicated that behavioral traps were prevalent in airline accidents including habitual noncompliance by pilots. Further research should focus on other flight domains and other informational sources such as air taxi operators, incident accounts, and flight recorded data. Attitude management training is recommended.

Ph.D. IN AVIATION

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