# Analysis of Airline Ticket Pricing

# NAME: <Shraddha Shaligram>

# EMAIL: <[shraddhatps@gmail.com](mailto:shraddhatps@gmail.com) >

# COLLEGE / COMPANY: <D J Sanghvi>

setwd("C:/Users/Shraddha/Downloads")

#Set the working directory to the location of the desired file.

airlines<-read.csv(paste("SixAirlines.csv",sep="."))

#Read the data set into a data frame.

View(airlines)

#View the data frame -"airlines"

summary(airlines)

library(psych)

describe(airlines)

table(airlines$AIRLINE)

plot(x=airlines$AIRLINE,y=airlines$PRICE\_ECONOMY)

#Boxplot graph

plot(x=airlines$AIRLINE,y=airlines$PRICE\_PREMIUM)

barchart(airlines$AIRLINE,airlines$PRICE\_RELATIVE,data=airlines,

xlab="Relative Price",ylab="Airline",

main="Variation of airline with relative price ",col=c("grey"))

mytable1<-xtabs(~airlines$AIRLINE+airlines$PRICE\_ECONOMY)

chisq.test(mytable1)

mytable2<-xtabs(~airlines$AIRLINE+airlines$PRICE\_PREMIUM)

chisq.test(mytable2)

mytable3<-xtabs(~airlines$AIRLINE+airlines$PRICE\_RELATIVE)

chisq.test(mytable3)

mytable4<-xtabs(~airlines$AIRCRAFT+airlines$PRICE\_ECONOMY)

mytable5<-xtabs(~airlines$AIRCRAFT+airlines$PRICE\_PREMIUM)

fit1<-lm(airlines$PRICE\_RELATIVE~airlines$AIRCRAFT)

summary(fit1)

fit2<-lm(airlines$PRICE\_RELATIVE~airlines$FLIGHT\_DURATION)

summary(fit2)

fit3<-lm(airlines$PRICE\_ECONOMY~airlines$SEATS\_ECONOMY)

summary(fit3)

fit4<-lm(airlines$PRICE\_PREMIUM~airlines$SEATS\_PREMIUM)

summary(fit4)

cor(airlines[,c(6,12)])

cor(airlines[,c(7,13)])

fit5<-lm(I(airlines$PITCH\_PREMIUM-airlines$PITCH\_ECONOMY)

~airlines$PRICE\_RELATIVE)

summary(fit5)

fit6<-lm(I(airlines$WIDTH\_PREMIUM-airlines$WIDTH\_ECONOMY)

~airlines$PRICE\_RELATIVE)

summary(fit6)

fit7<-lm(I(airlines$SEATS\_ECONOMY)~airlines$PRICE\_RELATIVE)

summary(fit7)

fit8<-lm(I(airlines$SEATS\_PREMIUM)~airlines$PRICE\_RELATIVE)

summary(fit8)

fit9<-lm(I(airlines$SEATS\_PREMIUM-airlines$SEATS\_ECONOMY)

~airlines$PRICE\_RELATIVE)

summary(fit9)

fit10<-lm(I(airlines$SEATS\_ECONOMY-airlines$SEATS\_PREMIUM)~

I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

summary(fit10)

fit11<-lm(I(airlines$PITCH\_PREMIUM-airlines$PITCH\_ECONOMY)

~I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

summary(fit11)

fit12<-lm(I(airlines$WIDTH\_PREMIUM-airlines$WIDTH\_ECONOMY)

~I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

summary(fit12)

fit13<-lm(airlines$FLIGHT\_DURATION

~I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

summary(fit13)

cor(x=I(airlines$FLIGHT\_DURATION),

y=I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

cor(x=I(airlines$MONTH),y=I

(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

cor.test(airlines$MONTH,I(airlines$PRICE\_PREMIUM-

airlines$PRICE\_ECONOMY))

cor.test(airlines$QUALITY,I(

airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

cor.test(airlines$AIRCRAFT,

I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

fit15<-lm(airlines$AIRCRAFT,

I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY))

coefficients(fit15)

t.test(I(airlines$PRICE\_PREMIUM-airlines$PRICE\_ECONOMY)

~airlines$AIRCRAFT)

t.test(I(airlines$PRICE\_PREMIUM)~airlines$AIRCRAFT)

t.test(I(airlines$PRICE\_ECONOMY)~airlines$AIRCRAFT)

library(ggplot2)

ggplot(airlines, aes(x = AIRLINE, fill = AIRLINE)) + geom\_bar()

plot(airlines$FLIGHT\_DURATION,airlines$PRICE\_ECONOMY,

+ col="green",

+ main="Price economy vs flight hours",

+ xlab="Hours", ylab="Price")

abline(h=mean(airlines$PRICE\_ECONOMY), col="black", lty="dotted")

abline(v=mean(airlines$FLIGHT\_DURATION), col="black", lty="dotted")

abline(lm(airlines$PRICE\_ECONOMY ~ airlines$FLIGHT\_DURATION))