Anova:
Age Group vs Stock Ownership

BAN100: ASSIGNMENT 3 (PROBLEM 1)

Problem

❖ Determining whether the ownership of stocks varied by age. Do these data allow the analyst to determine that there are differences in stock ownership between the four age group?

Summery of dataset

Alphabetic List of Variables and Attributes						
#	Variable	Type	Len	Format	Informat	Label
1	AgeGroup	Char	16	$16.	$16.	AgeGroup
3	C	Char	1	$1.	$1.	C
2	StocksOwn	Num	8	COMMA15.1		StocksOwn

Sort Information	
Sortedby	AgeGroup
Validated	YES
Character Set	ASCII

Anova Test: Statical Tables

- Class = Age Group, Model = Stocks Own

- H0 = Ownership of Stock Does not varied by the Age group

- H1 = Ownership Of stock Varies by the Age group
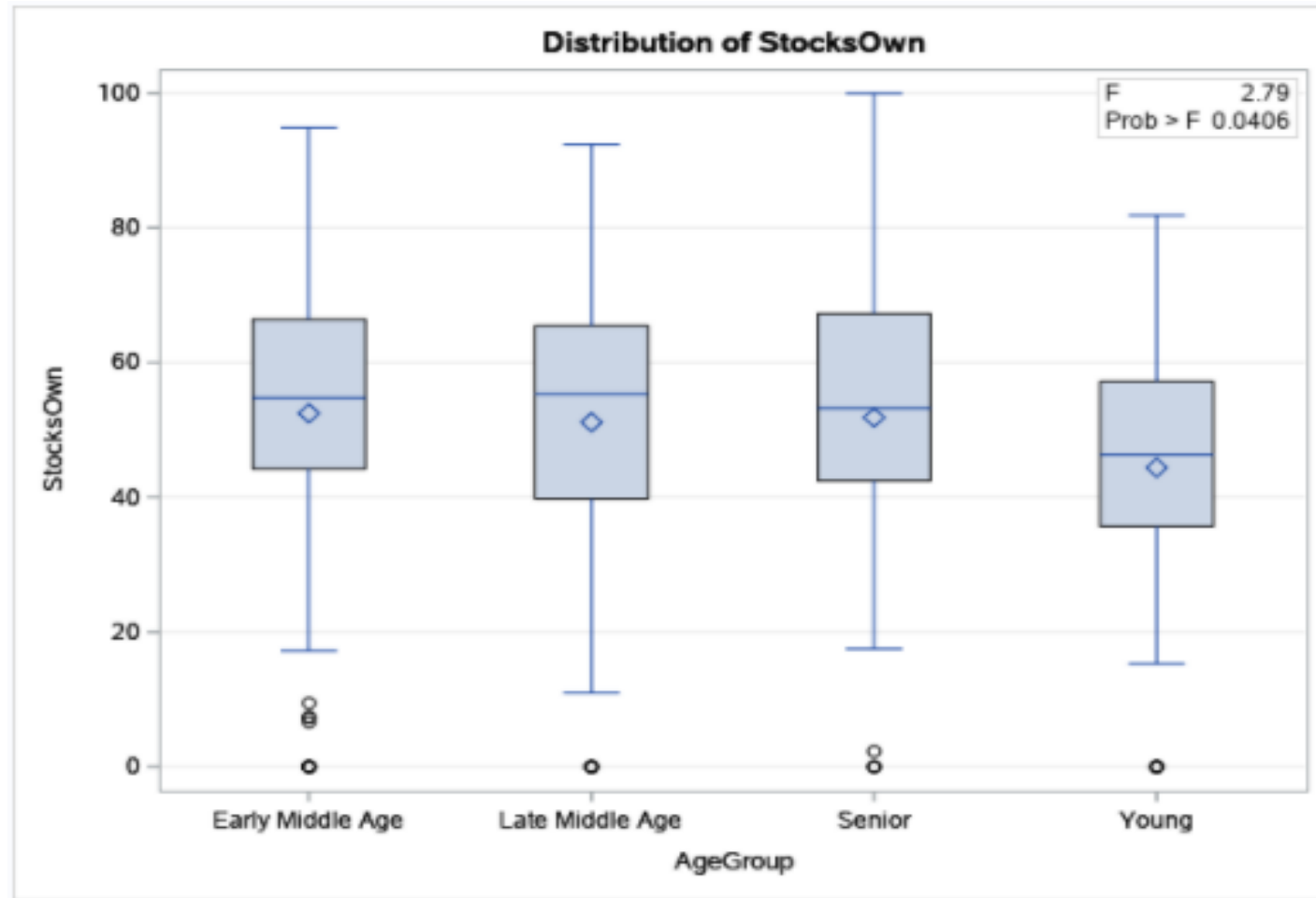
- Significance level P > 0.05

The ANOVA Procedure

Dependent Variable: StocksOwn StocksOwn

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3739.7449	1246.5816	2.79	0.0406
Error	362	161893.3871	447.2193		
Corrected Total	365	165633.1320			

R-Square	Coeff Var	Root MSE	StocksOwn Mean
0.022578	42.14306	21.14756	50.18041

Source	DF	Anova SS	Mean Square	F Value	Pr > F
AgeGroup	3	3739.744916	1246.581639	2.79	0.0406

Anova Test: Box Plot

Mean tables by Age Groups

AgeGroup=Early Middle Age

	Analysis Variable : StocksOwn StocksOwn			
N	Mean	Std Dev	Minimum	Maximum
131	52.4724427	21.6664980	0	94.8700000

AgeGroup=Late Middle Age

	Analysis Variable : StocksOwn StocksOwn			
N	Mean	Std Dev	Minimum	Maximum
93	51.1390323	21.7215074	0	92.3700000

AgeGroup=Senior

	Analysis Variable : StocksOwn StocksOwn			
N	Mean	Std Dev	Minimum	Maximum
58	51.8381034	21.0900334	0	99.9700000

AgeGroup=Young

	Analysis Variable : StocksOwn StocksOwn			
N	Mean	Std Dev	Minimum	Maximum
84	44.4000000	19.6676482	0	81.9000000

Conclusion

❖ From the Statistical tables of anova test we can see that $P < 0.05$, That means we are rejecting H0 and considering H1. We can say that ownership of the stocks varies by age group.

❖ From the mean tables we can see that People of senior age group owns highest amount of stocks per head while Young people have comparatively less investment per head.

❖It can be seen that People of Early middle age and Late middle age has very less difference in per head ownership of stock.

❖This analysis concludes that as age increases person has higher tendency of investment in stocks.