Retail Giant sales forecasting assignment presentation.

1)What are the 21 market segments?
- ➢ APAC consumer
- ➢ APAC corporate
- ➢ APAC home office
- ➢ Africa consumer
- ➢ Africa corporate
- ➢ Africa home office
- ➢ Canada home office
- ➢ Canada corporate
- ➢ Canada consumer
- ➢ EMEA consumer
- ➢ Eu consumer
- ➢ Eu corporate
- ➢ Eu home office
- ➢ LATAM Consumer
- ➢ LATAM corporate
- ➢ LATAM home office
- ➢ US consumer
- ➢ US home office
- ➢ US Corporate

2) Comparison showing the table of values for the coefficient of variation calculated on the profit for the 21 market segments.

Market_Segment	Most Consistent	
0	APAC Consumer	0.596404
12	EU Consumer	0.647485
15	LATAM Consumer	0.680684
13	EU Corporate	0.689346
1	APAC Corporate	0.731926
16	LATAM Corporate	0.880260
19	US Corporate	1.027209
2	APAC Home Office	1.048817
18	US Consumer	1.095295
14	EU Home Office	1.114681
7	Canada Corporate	1.197220
20	US Home Office	1.217133
17	LATAM Home Office	1.343696
3	Africa Consumer	1.429335
6	Canada Consumer	1.476093
4	Africa Corporate	1.664827
5	Africa Home Office	1.989866
8	Canada Home Office	2.188300
9	EMEA Consumer	2.716992
11	EMEA Home Office	6.066684
10	EMEA Corporate	6.779639

3) The reason why a market segment "ABC" is the most profitable market segment
➤ Because it has low coefficient value among all other segments.

4) Concluding the optimum technique from the flow chart that might work best for the sales forecast.
➤ Auto regression moving regression method.

5) Comparing the sales forecast plots for all the smoothing techniques and their MAPE values.

	Method	RMSE	MAPE	
0	Naive method	18774.05	26.86
0	Simple average method	30846.00	38.18
0	Simple moving average forecast	22019.48	27.55
0	Simple exponential smoothing forecast	23112.16	27.82

6) Comparing the sales forecast plots for all the ARIMA techniques and their MAPE values.

Method		RMSE	MAPE
0	Naive method	18774.05	26.86
0	Simple average method	30846.00	38.18
0	Simple moving average forecast	22019.48	27.55
0	Simple exponential smoothing forecast	23112.16	27.82
0	Holt's exponential smoothing method	19026.33	25.60
0	Holt Winters' additive method	12565.60	17.32
0	Holt Winters' multiplicative method	10876.35	18.27
0	Autoregressive (AR) method	15505.02	27.27
0	Moving Average (MA) method	52903.35	81.64
0	Autoregressive moving average (ARMA) method	50757.92	77.66
0	Autoregressive integrated moving average (ARIM...	50757.92	77.66

7) Conclusions on which technique works the best for the sales forecast and why? Then reason this using the forecast plot and the MAPE values both.

➢ The best technique for the forecast is Holt's Winter's method.
➢ MAPE value is 17.61