Multivariable Linear Regression Model

Method used:

Tool: SAS

Method: proc means method, proc freq method, proc corr method and proc glm method

Codes:

```
PROC MEANS data=fb;
run;

proc corr data = fb nosimple;
run;

proc freq data = fb;
  table Page;
run;

proc glm data = fb;
  by Type;
  class Page;
  model TotalInteractions Category= Month Weekday Hour Paid Lifetime Impressions Users Consumers Consumptions PostIm PostReach engaged comment like share / solution ss3;
  manova h=_ALL_;

run;
quit;
```

Output:

Parameter	Estimate	Standard Error	t Value	Pr > |t|
Intercept	2.556223311	0.14838686	17.23	<.0001
Month	-0.057442400	0.01162168	-4.94	<.0001
Weekday	-0.023836232	0.01719668	-1.39	0.1664
Hour	-0.018508815	0.00817844	-2.26	0.0241
Paid	-0.016309213	0.07833073	-0.21	0.8352
Lifetime	-0.000014369	0.00000668	-2.15	0.0320
Impressions	0.000003892	0.00000239	1.63	0.1036
Users	-0.000274873	0.00110720	-0.25	0.8040
Consumers	0.000334852	0.00110681	0.30	0.7624
Consumptions	-0.000097162	0.00002533	-3.84	0.0001
PostIm	-0.000002738	0.00000264	-1.04	0.3010
PostReach	-0.000032645	0.00001425	-2.29	0.0224
engaged	0.000294524	0.00014497	2.03	0.0427
comment	-0.016564606	0.00354046	-4.68	<.0001
like	0.001766033	0.00106792	1.65	0.0988
share	0.002931203	0.00247185	1.19	0.2363

Problems and difficulties I met:

- When writing the SAS code, I was not sure about the BY variables and the class that I chose in the proc glm method. I was not clear about how the different choices of BY variables would influence the final result.
- I have no idea how to adjust my results to make it a better one.