Live Session 10

1. Welcome/Intro (including polls)
2. Review for Final Part 2 – practice problems
3. Final Assignments – review project rubric
4. Wrap up and Feedback

Final prep – practice problems

<u>Define</u> – practice problem (5 min)

- Please provide 5 ways to describe this data series of values (calculate the answer for each description):

520, 645, 600, 550, 450, 550, 515, 495, 650, 385

Final prep – practice problems

Measure – practice problem (5 min)

The distribution of weekly incomes of supervisors at the ABC Company follows the normal distribution, with a mean of $1000 and a standard deviation of $100. What percent of the supervisors have a weekly income between $840 and $1200?

Final prep – practice problems

Analyze – practice problem 1 (5 min)

A bullet manufacturer claims to have produced a projectile having a mean muzzle velocity of more than 3000 feet per second. Ho: $\mu <= 3000$; Ha: $\mu > 3000$. Based on a sample taken for the data, and an alpha of 0.01, the null hypothesis was rejected. What could the 99% confidence interval for μ look like? Why?

a. (2500, 2700)
b. (2700, 3200)
c. (3500, 4000)

Final prep – practice problems

Analyze – practice problem 2 (10 min)

This was the output of a regression analysis you conducted comparing hand length as a predictor of foot length:

1. What is the equation for y=f(x)?
2. What % change in y is related to change in x?
3. If my hand length is 15.24 cm, what would you estimate my foot length to be?

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.89672317
R Square	0.804112444
Adjusted R Sq	0.797582859
Standard Erro	0.850018382
Observations	32

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	1	89	89	123.1490853	3.84E-12
Residual	30	22	0.7		
Total	31	111			

	Coefficients	*dard E*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	-0.528662862	2.4	-0	0.825767893	-5.39063	4.333302	-5.39063	4.333302
Hand	1.390895502	0.1	11	3.83668E-12	1.134923	1.646868	1.134923	1.646868

Final prep – practice problems

Improve – practice problem (10 min)

This was the output of a regression analysis conducted comparing operating costs to some variables:

1. What are the variables?
2. Which variables are significant?
3. How many samples were used to create this model?
4. What is the correlation for this model?

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.803398744							
R Square	0.645449542							
Adjusted R Square	0.57453945							
Standard Error	1252.763898							
Observations	19							
ANOVA								
	df	*SS*	*MS*	*F*	*Significance F*			
Regression	3	42856229.89	14285410	9.102365	0.001126532			
Residual	15	23541260.74	1569417					
Total	18	66397490.63						
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	35102.90045	1837.226911	19.10646	6.11E-12	31186.94398	39018.85691	31186.94398	39018.85691
A Made	2.065953296	1.664981779	1.240826	0.233727	-1.482871361	5.614777953	-1.482871361	5.614777953
B Made	4.176355531	1.681252566	2.484074	0.025288	0.592850514	7.759860548	0.592850514	7.759860548
C Made	4.790641037	1.789316107	2.677359	0.017223	0.976804034	8.604478041	0.976804034	8.604478041

Final prep – practice problems

Additional questions/clarifications?

Process Improvement Project
-Rubric-

Content Requirements	Possible Points
A) An executive summary is provided in the storyboard format including: Is the storyboard presented in 1 PowerPoint slide? Follows DMAIC? Are tools/graphs/charts used and clearly visible? Do they support findings and conclusions Are arrows, call-out boxes, etc. used to summarize, highlight questions and key learnings? Are expected results clear? And next steps noted?	5.0
B)Is it a cohesive presentation opening with the business process and problem statement? The submission is 5-15 slides.	2.0
C) Was the success measure clearly identified, operationally defined and baseline identified? (Was the data identified as continuous or discrete, includes SQL?)	3.0
D) Was the data measurement plan or data stratification tree included?	1.0
E) Was the data collection method identified?	1.0
F) Was there rationale for the sample size taken? Use of the formula? Is there any reference to measurement error and how to minimize?	2.0
G) Are at least 5 different tools and techniques clearly identified? Are the tools linked/ pertinent to the data analysis?	4.0
H) Does the data analysis clearly tie to the problem conclusion? Is the “discovery” clear to the reader?	2.0
Total	**20**

Next two weeks

1. Project Next Steps – Improve/Control Phases

Write up final project

2. Coursework BLT's:

There are no BLT's in week 10 materials

3. Assignments:

Process Improvement Project
4 days after Live Session 10

Final Exam
Conducted during Live Session 11

Thank you!

Please take this time to provide course feedback using the link you received via email.