



Means and Std Deviations

Level	Number	Mean	Std Dev
A48_CAM706-GSC70012-1	122	2.5790507	5.8441774
A48_CAM712-GSC70024-1	111	0.2122967	0.9575558
A48_CAM714-GSC70026-1	118	0.1036623	0.2671805
A48_CAM714-GSC70025-1	118	0.0994328	0.3294916
A48_CAM714-GSC70025-2	118	0.0901391	0.3955128
A48_CAM711-GSC70021-2	147	0.0866821	0.2560207
A48_CAM714-GSC70026-2	118	0.0806704	0.27003
A48_CAM709-GSC70018-2	148	0.0757295	0.2169462
A48_CAM711-GSC70022-2	148	0.0704905	0.2188584
A48_CAM710-GSC005CA-1	132	0.062036	0.2176558
A48_CAM706-GSC70012-2	123	0.0529262	0.1701963
A48_CAM706-GSC70011-1	123	0.0529262	0.1701963
A48_CAM710-GSC006CA-2	100	0.0475949	0.1821935
A48_CAM710-GSC006CA-1	132	0.0467285	0.1878244
A48_CAM705-GSC709CA-2	67	0.0455743	0.196508
A48_CAM711-GSC70022-1	149	0.0435253	0.1547841

Test

Test	F Ratio	DFNum	DFDen	Prob > F
O'Brien[.5]	9.5166	27	3166	<.0001*
Brown-Forsythe	20.1760	27	3166	<.0001*
Levene	55.8751	27	3166	<.0001*
Bartlett	390.2734	27		<.0001*

Welch's Test

Welch Anova testing Means Equal, allowing Std Devs Not Equal

F Ratio	DFNum	DFDen	Prob > F
2.5594	27	1068.2	<.0001*

Excluded Rows 73

Commonality Analysis (CA)

Course Objective

The objective of this course is to provide participants the methodology, techniques and tools to perform Commonality Analysis for factory excursions in accelerating root cause investigation process by selecting appropriate commonality analysis methods, correctly interpreting and communicating the analysis results, identifying and responding to difficult analysis and interpretation issues, responding to the information from the analysis and plan out the next steps of the investigation.

Targeted Group

Engineers, Quality/Reliability Engineers, Statisticians and whoever will be performing commonality analysis for factory excursions to identify potential sources of root causes or continual yield improvement.

Pre-requisites

Vital and Applied Stats 101, DOE 1 (Comparative Experiments). Good understanding in basic Statistics (role of Statistics, data type, basic terms and concepts for statistical analysis, common graphical and numerical analyses, meaning and role of X and Y variables), hypotheses testing (α -risk, β -risk, t-test, ANOVA) and some exposure in area of application. The understanding/exposure allows the learners to follow the class well and be able to apply the knowledge learned on the job immediately after the class. Participants are required to install JMP Software (SAS JMP Pro 16.2 or later) prior the class.

Delivery Mode

PowerPoint presentation, hands-on activities, and Q&A.

Training Aid

Laptop and Zoom (or equivalent) presentation mode for online session. Projector for face-to-face session.

Course Duration

2-day, 8 hours/day.

Course Schedule

1. CA Introduction (Space Shuttle Challenger, Definition, Applications, Goals, CA Elements, Root Cause Validation, CA Flow) – 2 hrs
2. Problem Signal Detection, Data Collection and Preparation – 1 hr
3. CA Methods and Examples – 5 hrs
4. CA Interpretation Issues and the Importance of Data Visualization – 4 hrs
5. Baseline Shift Detection Algorithms – 1 hr
6. Automated CA Dashboard Format – 1 hr
7. Backup: Statistical Algorithms for CA – 2 hrs

About Elite Indigo

Elite Indigo Consulting provides corporate training to the semiconductor and manufacturing industries. With a humble beginning of one founding member with passion and desire to share his 20 years of experiences in Smart Manufacturing for global manufacturing facilities, now, we have a strong and competent team of 20 members, all aligned with company mission, vision and core values.

Our Mission

"Transform Data into Insights - Leap Forward"

Our Vision

*Be a Global Trusted Advisor in the Areas of Skills Development,
Consultancy & Software Solutions specialising in
Semiconductor & Manufacturing industries.*

Our Core Values

