



SAS® GLOBAL FORUM 2018

USERS PROGRAM

Role and Value of Visual Analytical Insights for Decision Making Throughout the Global Supply Chain

at

LEVI STRAUSS & CO.



April 8 - 11 | Denver, CO

#SASGF

Role and Value of Visual Analytical Insights for Decision Making Throughout the Global Supply Chain

Shantanu Samanta & Paul Reynolds
Levi Strauss & Co.

ABSTRACT

As the retail world has shifted to an omnichannel environment with ever-growing competition, have you ever found yourself overwhelmed by how best to maximize revenue while at the same time improve the operational efficiencies? In this session you will learn how Levi Strauss & Co. is modernizing and complementing the Supply and Sourcing Management reporting process by incorporating predictive analytics and decision making insights to inform and take accurate actions throughout their Global Supply Chain, with a vision of expanding into other areas in the future including the Levi Strauss & Co. Global End to End Planning Process and with supplier partners.

KPI'S & METRICS

HOD Ontime
Make Leadtime
Due-In Reporting
Audit Quality Reporting
Audit Measurement Analysis
Commercial Samples Tracking
PO Completeness

REPORTING & ANALYTICS

Supply-Chain Reporting and Analytics at LS&Co.

- Supply-Chain has been using SAS tools since 1999
- Reporting KPI metrics – Ontime & Leadtime
- Product Quality
- Vendor Performance
- ~ 800 users across the globe (600 internal & 200 external)
 - Average Hits per Day increased to 400
- Diverse section of departments (SSM, Quality Assurance, Logistics, PD Ops, Merchandisers...)

How SAS is being used by Supply-Chain LS&Co.

- Ad-hoc reporting: Leveraging Base SAS, writing code
- Auto generated PDF reports distributed via email
- SAS Intranet portal - PIWEB
- SAS Visual Analytics and Visual Statistics (*in use since 2016, ~ 350 users*)
- SAS Visual Analytics viewed on iPads and phones

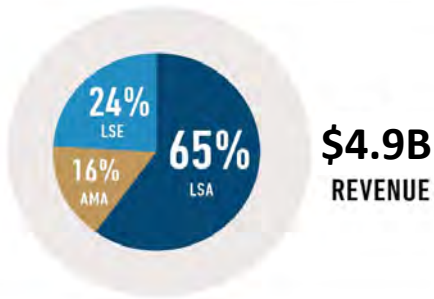
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COUNTRIES: 110

RETAIL LOCATIONS: 50,000

STORES: 2,700



15,000 EMPLOYEES

5,000
TRADEMARKS

75%
WHOLESALE

25%
DIRECT-TO-CONSUMER



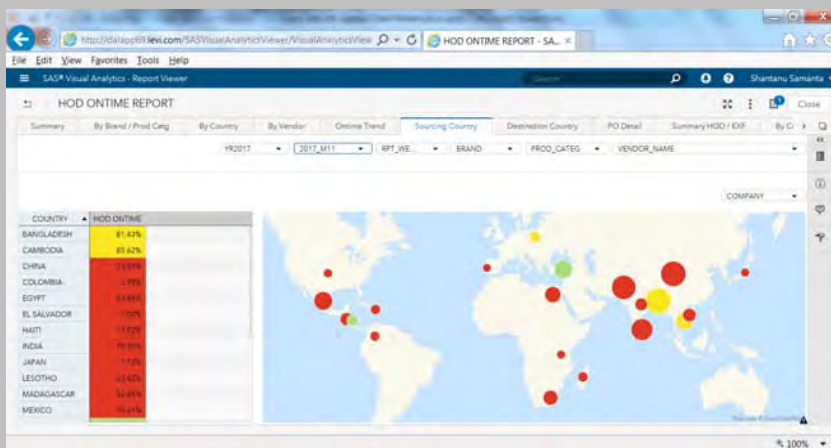
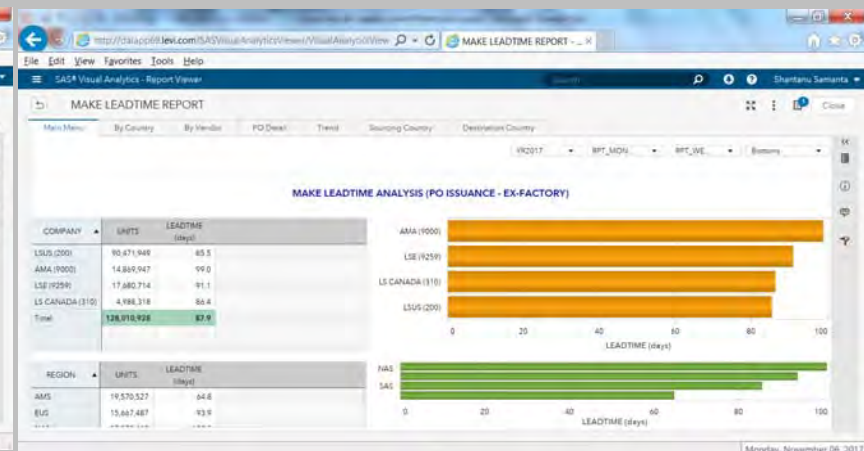
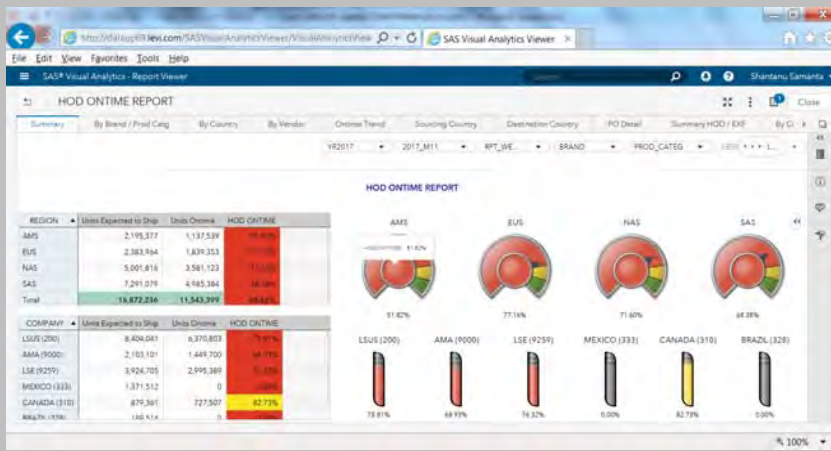
Levi's® **85%**

DOCKERS **11%**

DENIZEN **SIGNATURE** **4%**

ONTIME AND LEADTIME REPORTING

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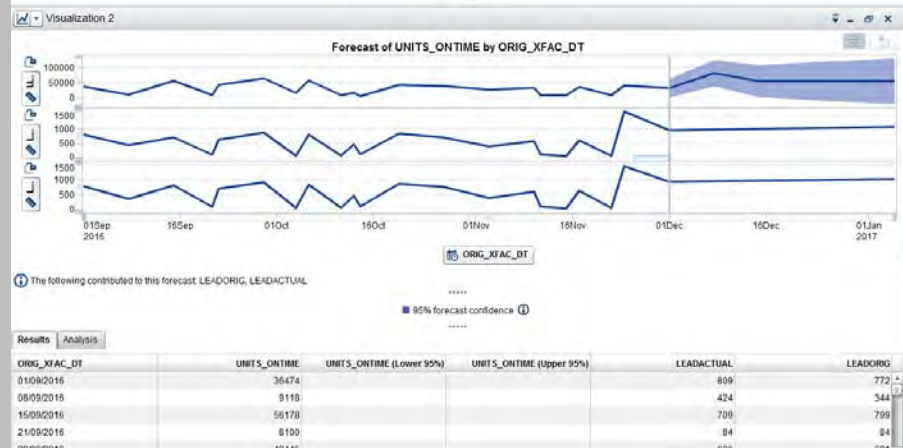
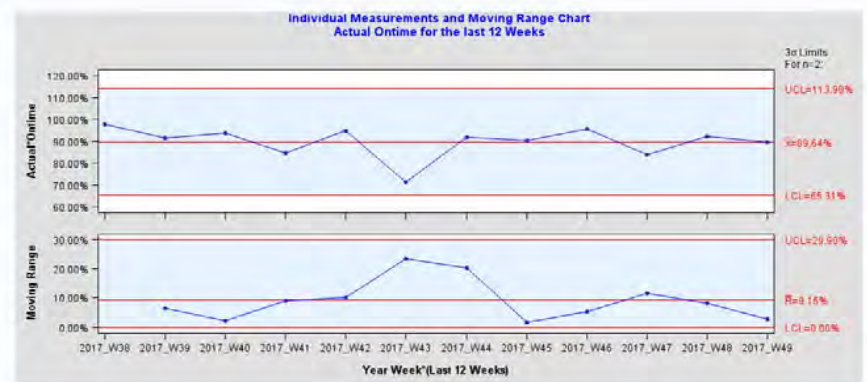
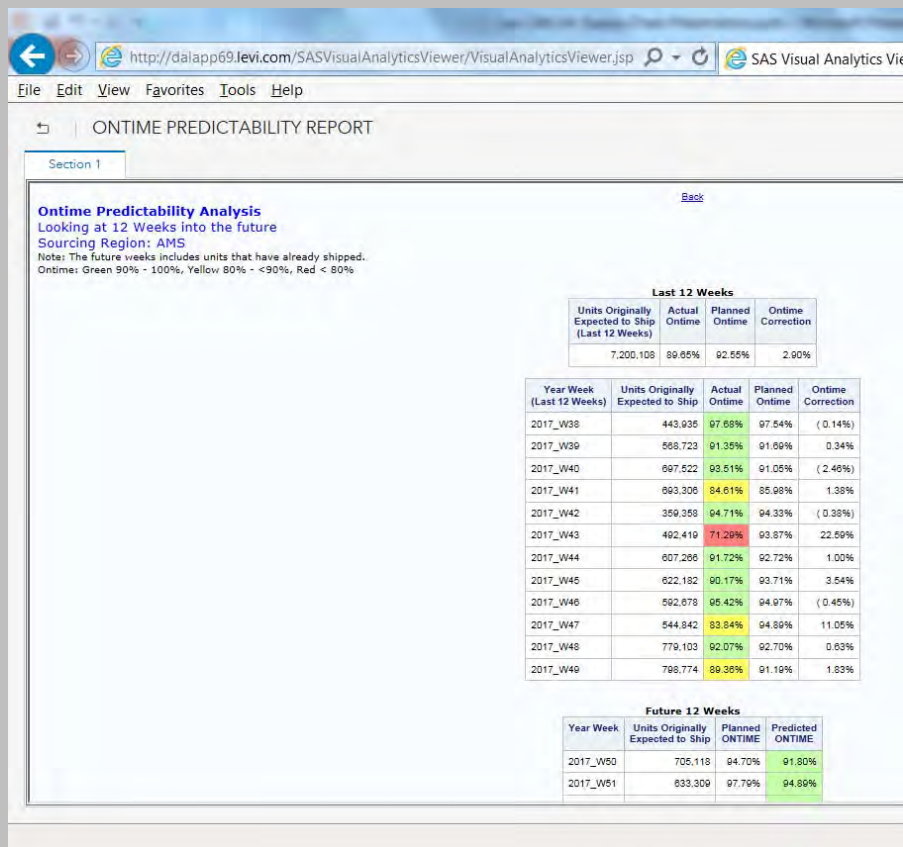


HOD ONTIME REPORT

COMPANY	PO_NUM	PO_ITEM_NUM	SHIPNUMBER	SHIPMODE	PO_STATUS	VENDOR	COUNTRY	PLANT	DC_COUNTRY	PROD_CD	BRAND	PROD_CATEG	DELAY_CODE	ORG_ID
LSE (9259)	1000187901	00010		SEA	CARTON	4403	SR LANKA	5002	UNITED KINGDOM	34189-0000	Levi's	Topo	D2	1005C
LSE (9259)	1000191899	00010	1013327550	SEA	HOD	4403	SR LANKA	5002	UNITED KINGDOM	24956-0022	Levi's	Topo		1005C
LSE (9259)	1000192238	00010	1013327400	SEA	HOD	4403	SR LANKA	5002	UNITED KINGDOM	65816-0233	Levi's	Topo		1005C
LSE (9259)	1000193453	00010	1013514000	SEA	HOD	4403	SR LANKA	5043	GERMANY	19290-0004	Levi's	Topo		1005C
LSE (9259)	1000193454	00010	1013515000	SEA	HOD	4403	SR LANKA	5045	GERMANY	19290-0004	Levi's	Topo		1012C
LSE (9259)	1000193455	00010	1013517000	SEA	HOD	4403	SR LANKA	5045	GERMANY	19290-0004	Levi's	Topo		1026C
LSE (9259)	1000193532	00010	1013327800	SEA	HOD	4403	SR LANKA	5000	UNITED KINGDOM	32888-0014	Levi's	Topo		1005C
LSE (9259)	1000195024	00010	1013327300	SEA	HOD	4403	SR LANKA	5043	GERMANY	65824-0339	Levi's	Topo		1005C
LSE (9259)	1000195027	00010	1013528900	SEA	HOD	4403	SR LANKA	5004	CZECH REPUBLIC	65824-0339	Levi's	Topo		1012C
LSE (9259)	1000195028	00010	1013526400	SEA	HOD	4403	SR LANKA	5045	GERMANY	65824-0339	Levi's	Topo		1019C
LSE (9259)	1000195033	00010	1013325700	SEA	HOD	4403	SR LANKA	5045	GERMANY	65824-0340	Levi's	Topo		1005C
LSE (9259)	1000195034	00010	1013325800	SEA	HOD	4403	SR LANKA	5045	GERMANY	65824-0340	Levi's	Topo		1012C
LSE (9259)	1000195035	00010	1013325900	SEA	HOD	4403	SR LANKA	5045	GERMANY	65824-0340	Levi's	Topo		1019C

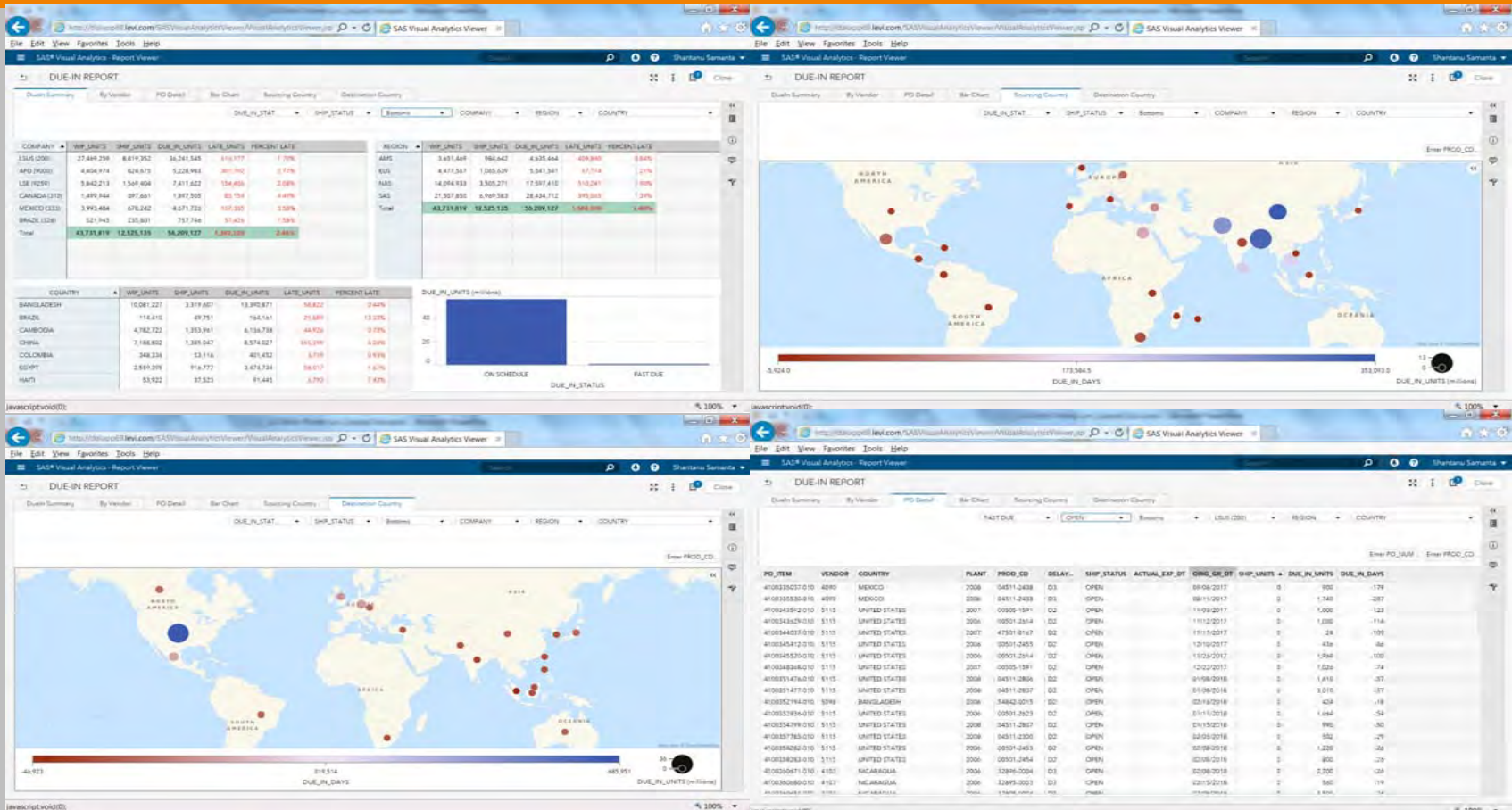
ONTIME PREDICTABILITY & FORECAST ANALYSIS

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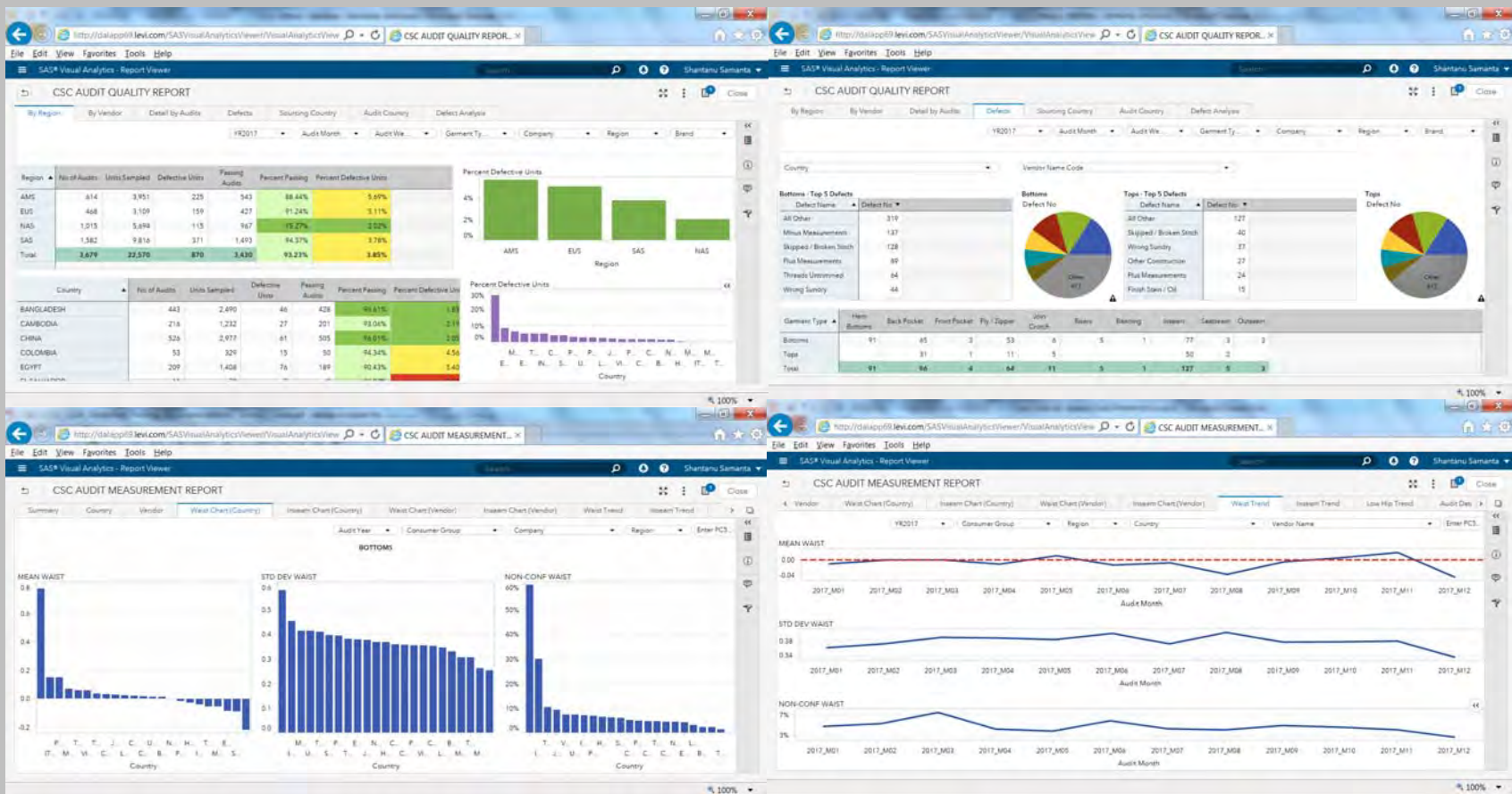
DUE-IN REPORTING

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QUALITY AUDIT REPORTING

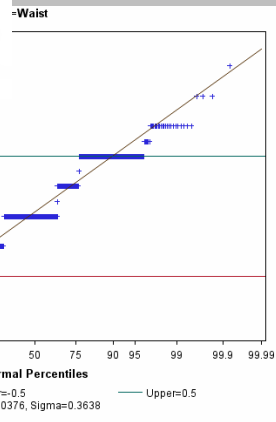
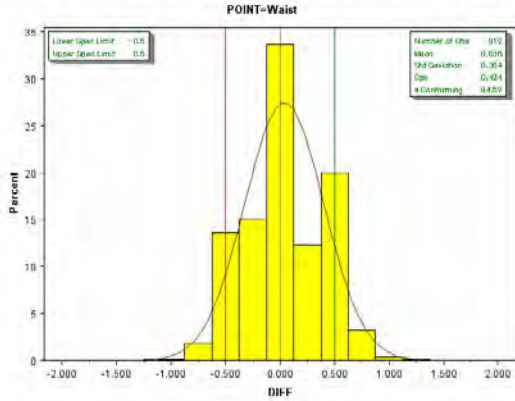
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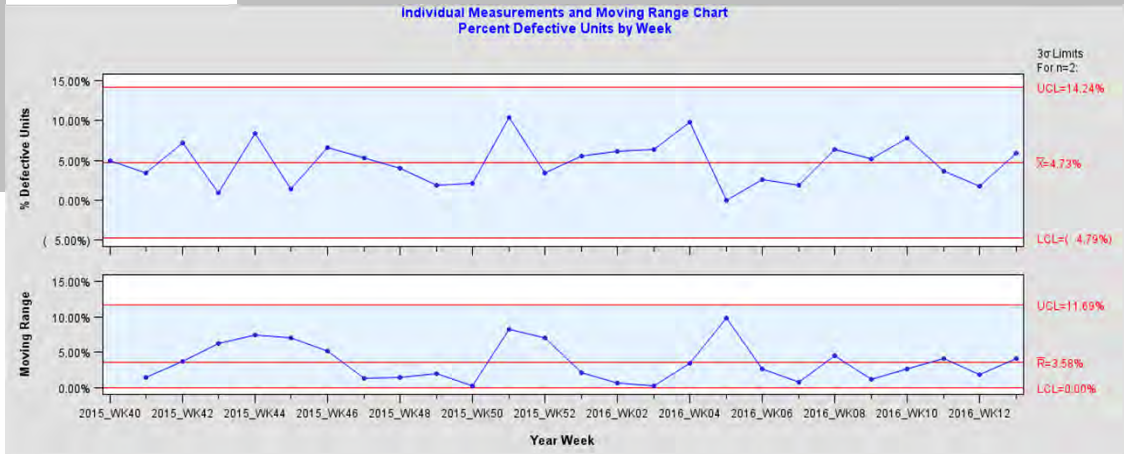
STATISTICS – FREQUENCY DISTRIBUTION HISTOGRAM / CONTROL CHARTS

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POINT	# OF GARMENTS	MEAN	STD	L3L	USL	CPK	ACTUAL NON-CONF	THEORETICAL NON-CONF	UPIPL	LIPL
Waist	912	0.038	0.364	-0.5	0.5	0.424	3.5%	17%	1.129	-1.024
Trouser	907	0.022	0.300	-0.5	0.5	0.426	5.6%	15%	1.071	-1.027

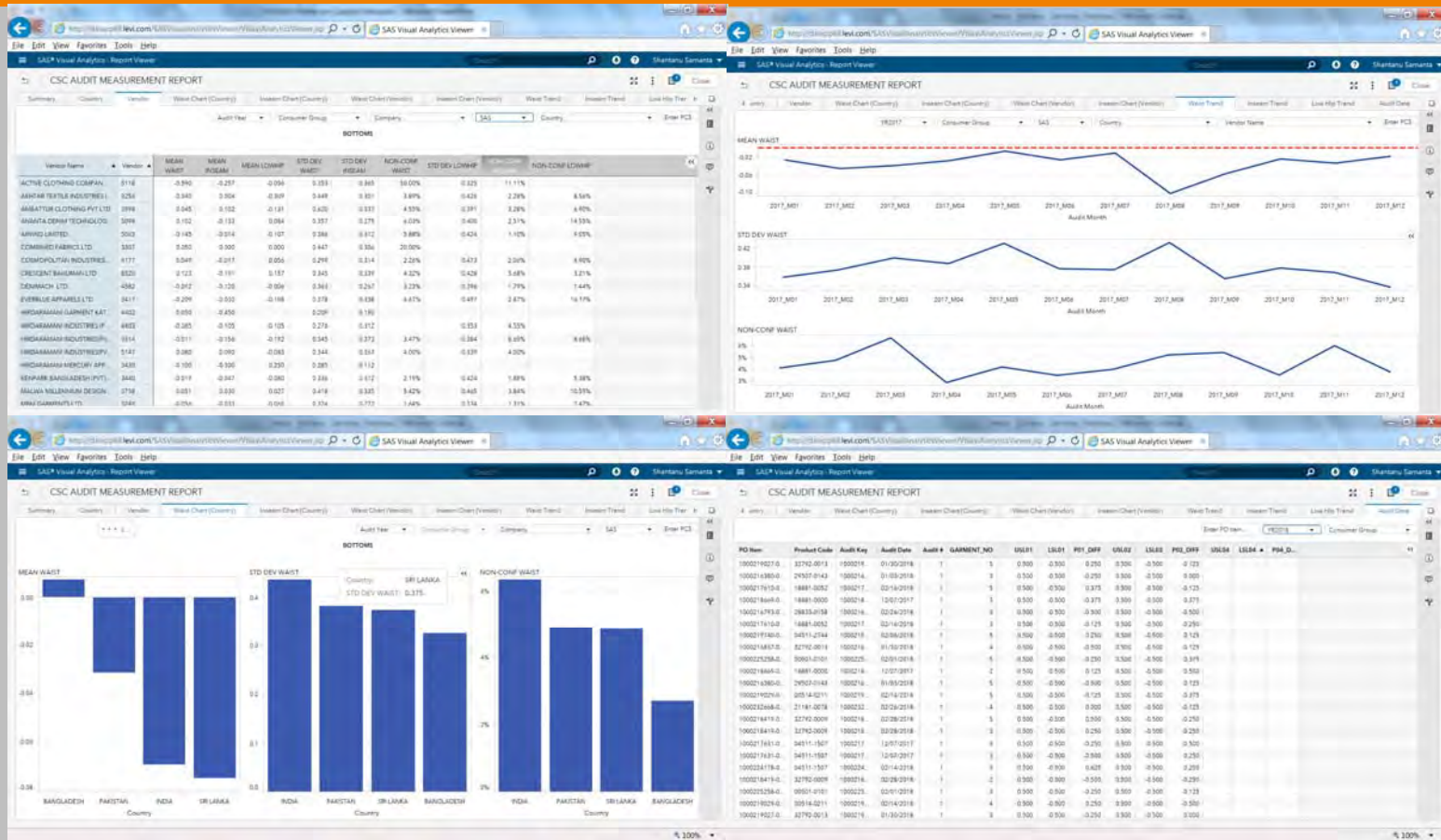


- ImR Chart
- p-Chart
- U-Chart



GARMENT MEASUREMENT ANALYSIS

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SUMMARY

Ability to perform **advanced statistical analysis**

Provides an **interactive drag-and-drop web-browser** interface for creating descriptive and predictive models

Quickly **interpret complex relationships** or key variables influencing predictive modeling outcomes within large data sets.

Understand a **variable's level of influence** on the overall model lift.

Detect outliers to determine, capture and remove them for further analysis.

Explore data using **bar charts, histograms, box plots, heat maps, bubble plots, geographic maps**

Derive models directly from correlation matrices, scatter plots, heat maps and box plots

Mobile capabilities to view on iPad, phone, and tablet

SAS Visual Analytics has enriched the capabilities, collaboration, insights, decisioning of the LS&Co. Supply Chain Users (*both internal and external*)



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