



APICS2018

THREE TIPS FOR ENSURING QUALITY AT OUTSOURCED SUPPLIERS

BEST PRACTICES FOR GLOBAL MANUFACTURING MANAGEMENT

James Ullum, MBA, C.P.M.

SOURCE INTERNATIONAL – www.sourceint.com

jimu@sourceint.com



Presenter's Bio:

JAMES ULLUM

JIMU@SOURCEINT.COM



Managing Partner of **Source International** which manages offshore supply chains and manufactures consumer and industrial products supplied to major brands in North America.

30 Years Of Experience In New Product Development and International Supply Management for Burger King Restaurants, Teleflora/Paramount Farms, and Bright Of America/Lincoln House.

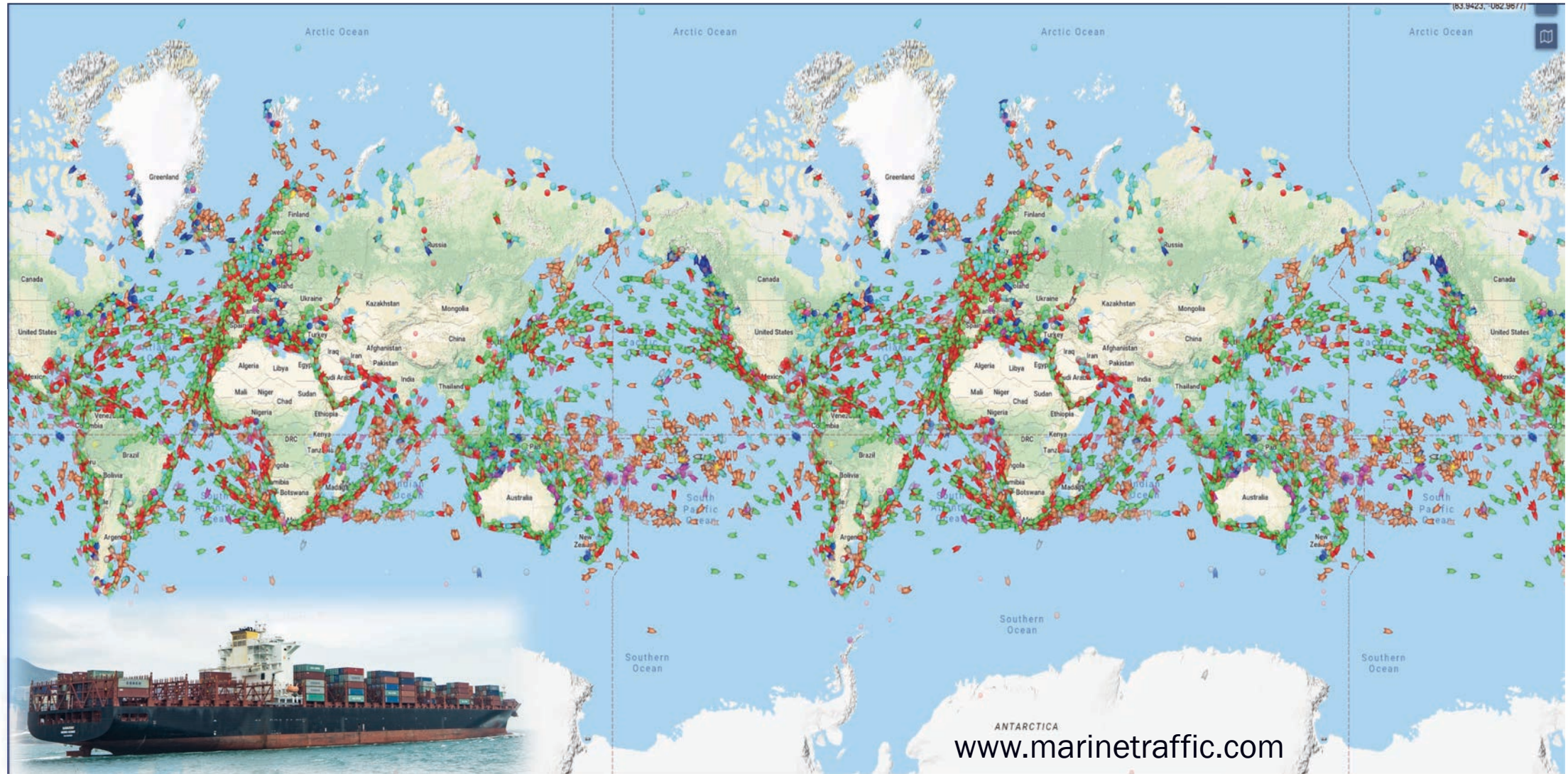
MBA - West Virginia University

C.P.M. - Institute Of Supply Management

Member of the West Virginia University Global Supply Chain Management Program Advisory Council, a past member of the Board of Directors of Asia Institute - Crane House, a regular speaker on international supply management topics, and active in real estate and venture capital investments.

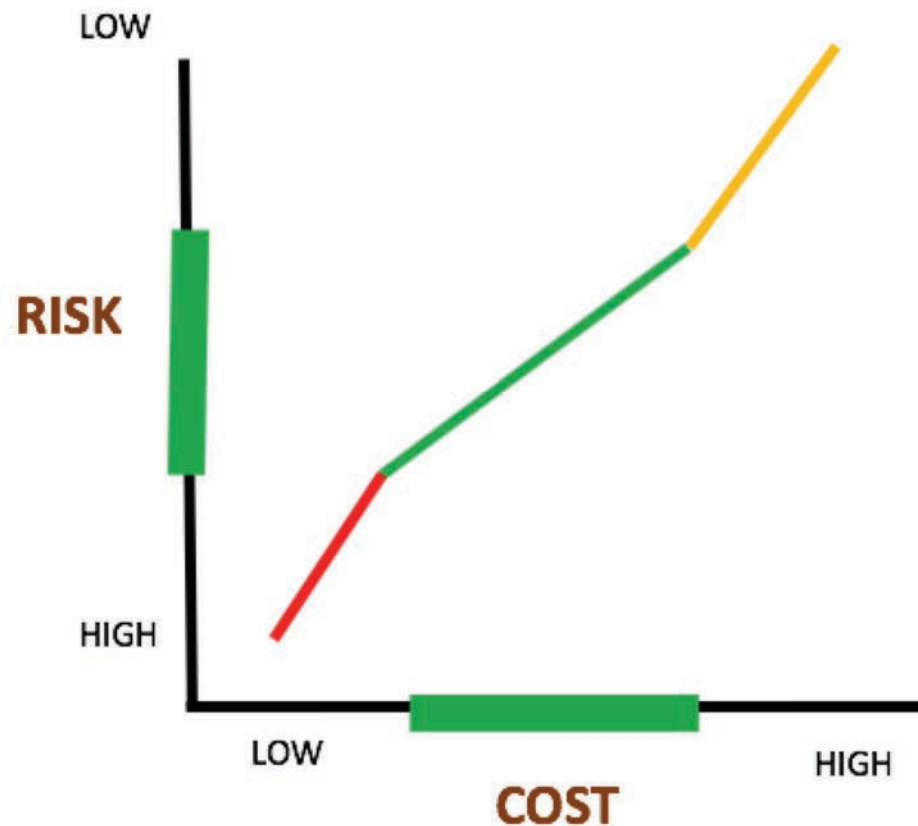
Practitioner, Educator, Entrepreneur

OUTSOURCING IS ALIVE AND WELL - MARINE TRAFFIC LIVE



MANAGING QUALITY FROM OUTSOURCED SUPPLIERS IS ABOUT MANAGING RISK

TRUTHS





1. Managing quality risk is about managing the statistical probability of a quality event.
2. Using statistical sampling tables and random selection the level of confidence that the samples represent the entire lot can be determined. Larger sample sizes and more frequency increase confidence.
3. The earlier you manage quality in the manufacturing process the lower the overall cost. Third tier auditing of outsourced suppliers adds substantially to overall cost.

STATISTICS PLAY A HUGE ROLE IN MANAGING RISK

SAMPLE SIZE CODE LETTERS							
Lot or Batch Size	General Inspection Levels			Special Inspection Levels			
	I	II	III	S1	S2	S3	S4
2 to 8	A	A	B	A	A	A	A
9 to 15	A	B	C	A	A	A	A
16 to 25	B	B	D	A	A	B	B
26 to 50	C	D	E	A	B	B	C
51 to 90	C	E	F	B	B	C	C
91 to 150	D	F	G	B	B	C	D
151 to 280	E	G	H	B	C	D	E
281 to 500	F	H	J	B	C	D	E
501 to 1200	G	J	K	C	C	E	F
1201 to 3200	H	K	L	C	D	E	G
3201 to 10000	J	L	M	C	D	F	G
10001 to 35000	K	M	N	C	D	F	H
35001 to 150000	L	N	P	D	E	G	J
150001 to 500000	M	P	Q	D	E	G	J
500001 and over	N	Q	R	D	E	H	K

Single-Sampling Plan For Normal Inspection (MIL-STD-105E)

Sample size code letter	Sample size	Acceptable Quality levels (normal inspection)																											
		0.010	0.015	0.025	0.040	0.065	0.10	0.15	0.25	0.4	0.65	1.0	1.5	2.5	4.0	6.5	10	15	25	40	65	100	150	250	400	650	1000		
		Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re	Ac Re
A	2																												
B	3																												
C	5																												
D	8																												
E	13																												
F	20																												
G	32																												
H	50																												
J	80																												
K	125																												
L	200																												
M	315																												
N	500																												
P	800																												
Q	1250																												
R	2000																												

 = Use first sampling plan below arrow. If sample size equals, lot or batch size, do 100 percent inspection.
 = Use first sampling plan above arrow.
 Ac = Acceptance number.
 Re = Rejection number.

STATISTICAL SAMPLING TABLES

1. Select Lot Size
2. Select Sampling Level
3. Determine Inspection Sample Size
4. According to AQL Determine ACCEPT & REJECT Numbers

APICS COST OF QUALITY FORMULA

Cost of Quality



PREVENTION COSTS: QA Plans, QA Policies & Procedures, QA Training

APPRAISAL COSTS: Quality Audits, Inspection, Supplier Ratings

INTERNAL FAILURE COSTS: Waste & Rework, Re-Testing, Premium Freight, Failure Analysis, Backorders, Price Pressure

EXTERNAL FAILURE COSTS: Customer Complaints, Recalls, Excessive Warranty Work, Penalties, Lost Opportunities, Damage to Reputation

MANAGING QUALITY FROM OUTSOURCED SUPPLIERS IS ABOUT MANAGING COST

- *Cost of poor or substandard quality*
- *Cost of management and coordination of contractors*
- *Cost of unplanned logistics activities and premium freight*
- *Cost of inappropriate sales and operations planning*
- *Cost of cash flow*
- *Cost of unplanned and unforeseen risks*



Supply Chain Quarterly reports that “... more than half of the outsourcing arrangements today need significant improvement if they are to maintain profitability and achieve long-term feasibility.”

OUTSOURCING PROS & CONS EXAMINED

PROS

- Lower capital investment
- Diversification of processes and materials
- Lower overall product cost
- Quicker or more efficient new product development
- Allows focus on core competencies
- Innovations not be available in-house

CONS

- Different material and measurement standards
- Language issues even domestically
- Transaction fees and exchange rate
- Intellectual property risk
- Lack of transparency and access to info
- Potential bad press

THREE TIPS FOR ENSURING QUALITY AT OUTSOURCED SUPPLIERS

#1 - VET SUPPLIERS WITH A VENGEANCE (AC)

#2 - KNOW YOUR PRODUCT & YOUR COSTS (PC)

#3- TRUST BUT VERIFY (AC)

Tip #1 - VET SUPPLIERS WITH A VENGEANCE

FINANCIAL HEALTH

REPUTATION & RELIABILITY

QUALITY SYSTEM & RECORD

SAFETY RECORD

SPECIALTY PROCESSES

CUSTOMER SERVICE

ON-SITE VISIT

FORMAL QMS AUDIT



Tip #2a - KNOW YOUR PRODUCT



PRODUCT TECH PACK
COMPLETE PACKAGE OF ALL PRODUCT
REQUIREMENTS INCLUDING BOM,
LABELING, QUALITY CHECKLIST,
TESTING, REGULATORY STANDARDS



**MATERIALS – DIMENSIONS - APPEARANCE – WORKMANSHIP -
PERFORMANCE – PACKAGING**

INSPECTION & TESTING PLAN

SAMPLING PLAN - MILESTONES FOR APPROVALS
Pre-Production - First Production – Shipping Samples

BUYER & SELLER SIGN & ATTACH TO PURCHASE ORDER



Tip #2b - KNOW YOUR COST

TOTAL LANDED COST

FACTORY PRICE

SAMPLING COSTS

THIRD PARTY INSPECTION & TESTING

LOGISTICS COSTS – OCEAN FREIGHT, DUTY

COST OF CAPITAL & CARRYING COSTS



SET REASONABLE SAVINGS GOALS

NEGOTIATE YOUR BEST DEAL BUT UNDERSTAND YOU NEVER GET SOMETHING FOR NOTHING

BUILD RELATIONSHIPS & TRUST - GIVE & TAKE

CONSIDER ALL THE PROS & CONS OF EACH FEATURE YOU ADD VERSUS THE COST TO INCLUDE IT

Tip #3 - TRUST BUT VERIFY

ON-TIME, ON-SPEC DELIVERY

REVIEW & APPROVE PRODUCTION
SCHEDULE

MONITOR WEEKLY PROGRESS AGAINST
MILESTONES

RAW MATERIALS, PRODUCTION START-UP, IN-
PROCESS, PACK-OUT

FIRST TIME PRODUCTION IS CRITICAL



KNOW WHERE YOUR PRODUCT IS BEING PRODUCED & LEVEL OF SUBCONTRACTING

ASK FOR WEEKLY PRODUCTION REPORTING WITH PHOTOS

FOCUS MORE EFFORT ON NEW VENDORS & NEW PRODUCTS

BENCHMARK RESULTS FOR CONTINUOUS IMPROVEMENT

BENCHMARKING METRICS

- VOLUMES & ON TIME SHIPPING
- PRICE & SERVICE



- PRODUCT DEFECT RATE
- OVERALL CUSTOMER SATISFACTION

LOW LABOR COST ASIA COUNTRIES

- China
- India
- Thailand
- Vietnam
- Indonesia
- Bangladesh
- Myanmar
- Sri Lanka
- Cambodia
- Pakistan



COUNTRY SUMMARY

	EXPORTS	LABOR COST	LABOR FORCE	POPULATION	INFLATION
	USD BILLIONS / YR	USD / MO	MILLIONS	MILLIONS	ANNUAL %
CHINA	\$2,270	\$688	806	1,375	1.9%
INDIA	\$287.6	\$130	502	1,254	5.8%
THAILAND	\$214.8	\$350	39.1	68	0.4%
VIETNAM	\$158.7	\$240	54.9	91.7	2.4%
INDONESIA	\$152.5	\$166	122	255	3.5%
BANGLADESH	\$29.9	\$69	81.9	158	5.5%
BURMA	\$9.8	\$93	36.1	53.9	14.6%
SRI LANKA	\$11.2	\$60	8.9	21	6.0%
CAMBODIA	\$7.9	\$140	7.9	15.6	2.0%

SOURCES: TRADINGECONOMICS.COM, DATA.WORLDBANK.ORG, [CIA WORLD FACTBOOK](http://CIA.WORLDFACTBOOK)

Louisville, Kentucky, USA

Las Vegas, Nevada, USA



SOURCE
INTERNATIONAL

Xiamen, Fujian, CHINA

WWW.SOURCEINT.COM

Source International is a product company servicing a number of industries to develop, specify, prototype, test, and manufacture their products. Our product teams consist of a merchandiser, an engineer and a quality technician working together to ensure consistent products made to spec. Our two business models service both small and larger clients.

If you have any questions or want to discuss engagement possibilities, please call us for a face-to-face meeting and a FREE product line evaluation for your outsourced products and ones that you are considering.

Contact Jim at 502-589-7900 or jimu@sourceint.com.

THANK YOU



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