

JOHN T. YEE, Ph.D., PMP, CCEA
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CAREER SUMMARY

A highly motivated, forward looking leader with extensive experience and leadership in the automotive industry, defense industry, academics, and federal government; Excellent record of achievements using innovative methods and technologies; Expertise in problem solving, modeling, analysis, solution development, process improvement, and system development; Outstanding reputation as a highly dedicated and dependable team player with effective collaboration and communication skills.

PROFESSIONAL EXPERIENCE

GOVERNMENT ACCOUNTABILITY OFFICE, LEGISLATIVE BRANCH, U.S. FEDERAL GOVERNMENT, Washington, DC, USA 2015 – Present

Data Science Staff

Responsible for establishing Advanced Data Analytics and Science capability for federal government audits engagements.

Accomplishments:

- Implemented a Big Data analytical platform based on Hadoop-Spark architecture.
- Established unstructured data analysis program focusing on text analytics.
- Led establishing Advanced Data Analytics program including structured/unstructured data analysis for audit engagement data and survey data.
- Developed text analysis methods and models for keyword search, pattern matching, clustering and categorization, topic modeling, sentiment analysis using R.
- Conducted Big Data involved audit analysis including unstructured, social media, geographical data.
- Co-led an R class and mentor students to conduct project-based learning for enhancing GAO's analytics capabilities.
- Discussed with an INTOSAI colleague for GAO's analytics initiatives and how SAIs might approach analytics.
- Guided and mentored Program Development Professionals and interns for conducting projects.

BUREAU OF ENGRAVING AND PRINTING, DEPARTMENT OF THE TREASURY, U.S. FEDERAL GOVERNMENT, Washington, DC, USA 2013 – 2014

Chief of Order Management and Delivery Systems Office

Responsible for developing and institutionalizing Advance Supply Chain Planning system and process for quality currency printing and production.

Accomplishments:

- Led adopting, executing, and institutionalizing of Oracle-enabled Advance Supply Chain Planning system for strategic changes in process, people, policy/procedure, and system.
- Develop multi-year capital spend plan for the Treasury Department and Congress approval.
- Led a program for enhancing production material and inventory management efficiency and productivity for more than 8 billion currency notes delivery a year to the Federal Reserve, including performance metrics, dashboard development.
- Conducted risk identification, assessment, and analysis for currency supply chain management.
- Developed a master/meta data structure for material and inventory management as part of Enterprise Data Management initiative.
- Led Business Analytics initiatives for quality improvement of currency production through data collection and analysis.

US COAST GUARD, CG-4, DEPARTMENT OF HOMELAND SECURITY, U.S. FEDERAL GOVERNMENT, Washington, DC, USA 2010 - 2013

Operations Research Analysis Staff

Responsible for leading and developing advanced quantitative decision-making methods and solutions for high performance operational readiness and logistics.

Accomplishments:

- Led and implemented Sector-Base Force Alignment Initiative to consolidate non-aligned billets for cost reduction and efficiency improvement for logistics support in conjunction with staffing requirements.
- Developed, analyzed, and implemented Sector Staffing Force Structure models and practices
- Involved in Logistics Information Management System development and implementation.
- Conducted cost and benefit analysis for Logistics Transformation and Modernization to measure the effectiveness of budget consumption to benefits and determine payback period.
- Estimated annual Operation & Support cost for maintaining 211 aircrafts, 452 boats, 295 cutters for Congress budget approval from life cycle cost estimating perspective.
- Developed logistics performance measurement framework with respect to mission capable status of assets for maintenance, repair, and parts inventory availability.
- Developed and implemented officer career path development models to optimally designate candidate officers to available billets, considering more than 9,000 officers force pool.

GENERAL MOTORS R&D, Warren, MI, USA 2000 - 2009

A global leader in the automotive industry.

Program Manager and Staff Researcher

Responsible for leading and managing cross-functional project teams for exploring and developing advance decision-making methods and solutions for cost reduction, quality improvement, and performance improvement for global logistics and supply chain management.

Accomplishments:

- Built project proposals, cost estimation, budget justifications, and spend plans for annual capital equipment appropriation and execution; obtained approval of budget and resource requirements in collaboration with global partners.
- Led risk assessment and risk analysis, and developed and executed risk mitigation plans for adopting new information technologies to global production and supply chain environment.
- Accommodated business units supply chain information technology needs; set performance targets; assessed, implemented, evaluated, and integrated right technologies to business.
- Developed business cases and cost estimation models for high-risk high-payback global supply chain information technology integration projects; obtained buy-in of senior management and stakeholders for corporate level adoption and implementation.
- Conducted Activity-Based Costing for multiple vehicle model production at assembly plants.
- Led development of short, medium, and long term research planning and execution roadmaps according to business needs and technology trends of information technology.
- Conducted risk assessment of global supply chain information technology integration and established corresponding risk mitigation strategies.
- Led cross-functional continuous improvement project teams that span across different business areas, including production, supply operations, order management, inbound logistics, outbound logistics, suppliers, transportation service providers, and dealers.
- Led business process analysis, improvement plan, solution development and integration along global supply chain.
- Reported periodically to cross-functional leadership for project progress using presentations, analysis reports, memos, briefings; resolved issues, challenges, and conflicts in support of leadership.

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- Ensured the quality of supply chain system implementation and operations by conducting performance measurement and analysis as to project deliverables and budgets at major project milestones through gate reviews.
- Proved \$200 million annual cost savings of delivery chain, through vehicle dwell time reduction, quality containment, labor savings, inventory reduction, and process improvement by developing a globally applicable RFID vehicle tracking and inventory management system.
- Verified \$300 million annual cost savings, through supply chain container fleet size reduction, misrouting and misplacement prevention, production interruption prevention, labor savings, and process improvement, by developing a globally applicable RFID returnable container tracking system.
- Determined cost savings of \$400 million by optimizing a multi-objective multi-unit material global sourcing and procurement considering volume discount bids.
- Achieved optimal design and analysis of supply chain components by developing a Petri net-based rapid simulation framework and data envelopment analysis-DEA method, that efficiently builds various, sophisticated supply chain models and analyzes performance metrics.
- Determined and conducted supply chain performance metrics analysis, including production throughput, order fulfillment, order-to-delivery time, on-time vehicle delivery, on-time material delivery, supplier scorecard, container availability, logistics costs, etc.
- Implemented a tamper-proof e-seal and intrusion detection tracking system for ocean containers from Asia to the U.S. to Canada by defining best policies, procedures, and practices for secure trade with foreign countries, as part of Operation Safe Commerce III initiative at the Department of Homeland Security.
- Implemented a semantic mediation-based test-bed for B2B and P2P supply chain interoperability using deterministic record linkage in collaboration with Automotive Industry Action Group, AIAG and National Institute of Standards and Technology, NIST as part of the Advanced Technologies for Interoperability of Heterogeneous Enterprise Networks and their Applications, ATHENA project, funded by European Union.
- Developed cost estimation models for e-manufacturing initiatives for global implementation.
- Developed and executed high complexity production scheduling models considering vehicle model-option mix, sold order, stock order, and delivery date.
- Conducted cross-sectional survey analysis to research consumer behavior and preferences changes in vehicle purchase patterns and trends.
- Identified annual cost savings of \$200 million by identifying root causes of high return repair incidents through big warranty data matching and optimizing service parts markup determination using probabilistic, statistical modeling.
- Improved mid-size car profitability by 15% by optimizing model and option content, consumer behavior, vehicle availability, and warranty, and reduced warranty cost by 20% through improving quality, reliability, and durability, QRD, via cost modeling.
- Conducted vehicle development life cycle cost estimation from design, through engineering, manufacturing, delivery & logistics, supply chain management, to warranty & services.
- Initiated and executed close research collaboration with academic institutions and industry partners in a global basis. Managed numerous internal and external projects.

NATIONAL HUMAN GENOME CENTER, Howard University, Washington, DC, USA 1999 – 2000

Genome research institution funded by National Institute of Health.

Researcher

Responsible for developing bio-statistical analysis methods for influencing factors of diseases

Accomplishments:

- Determined correlations among several parameters of diseases by developing statistical survivability models utilizing regressions

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- Developed stochastic process models for analyzing disease onset patterns based on pedigree information and implemented to a user-friendly software package, say G.E.M.S.

AGENCY FOR DEFENSE DEVELOPMENT, TaeJön, Korea
National defense research institute

1984 – 1994

System Integration Manager for Integrated Logistics Support

Responsible for establishing integrated logistics support for weapon systems.

Accomplishments:

- Conducted weapon systems life cycle cost estimation from materiel solution analysis, through technology development, engineering and manufacturing development, production and deployment, to operations and support.
- Achieved operational readiness of sophisticated weapon systems by developing logistic support elements - maintenance planning and supply support, system analysis, logistic support analysis-LSA, reliability, availability, maintainability-RAM analysis, operational effectiveness, repair level analysis, life cycle cost estimation, and human factors analysis.
- Developed maintenance and training equipment to support repair and maintenance of the weapon system.
- Optimized production scheduling, resource allocation, inventory control, just in time-JIT, and reliability.
- Developed hardware and software interface designs for system integrations.
- Accomplished close collaboration with domestic companies - SamSung, DaeWoo, LG, HyunDai and foreign companies were Texas Instruments, Hughes Aircraft, Siemens in Germany, Thomson CSF in France, Aerlikon in Swiss, etc. Managed several projects with domestic and foreign companies.

ACADEMIC EXPERIENCE

Professor, International Summer Semester, SungKyunKwan Univ. 2019, 2020
Teaching Assignments: Technology, Society and Sustainability, The 4th Industrial Revolution

Professor, Systems Management Engineering Department, SungKyunKwan Univ. 2014 – 2015
Teaching Assignments: Engineering Economy, Product Life Cycle Management, Creative Design

Lecturer, College of Business, University of Michigan-Dearborn 2010
Teaching Assignments: Project Management, Information Systems Management

Adjunct Professor, College of Business, University of Michigan-Dearborn 2007 - 2009
Teaching Assignments: Operations Management, Analysis and Design of Supply Chains, Supply Chain Logistics Management (MBA Program)

Adjunct Professor, Management of Technology Department, SungKyunKwan Univ. 2007 – 2014, 2017 - 2018
Teaching Assignments: New Product Development Process, Advanced Manufacturing Information Engineering, Technology Integration to Business (M.S. & Ph.D. Program)

Visiting Faculty, Industrial & Manufacturing Engineering, Penn. State Univ. 2003 - 2006
Foster research collaboration with Industrial & Manufacturing Engineering, Electrical Engineering, Computer Engineering, Information Science & Technology, and Business School faculty.

EDUCATION

Ph.D., Industrial & Manufacturing Engineering (*specialized in Operations Research*), Pennsylvania State University, University Park, PA, USA

AWARDS / CERTIFICATIONS / AFFILIATIONS

John Yee

Certified Cost Estimator and Analyst (International Cost Estimating and Analysis Association)

DAWIA Cost Estimating Certification Level I (finished requirements), Level II (in process)

Certified Project Management Professional (PMP) (Project Management Institute)

Certified Acquisition Project Manager Level I (Department of Homeland Security)

Federal Acquisition Certification-Contracting Officer's Representatives (FAC-COR) Level III (Department of the Treasury)

Six Sigma Green Belt Certification

Marquis Who's Who 2009 in the World

Boss Kettering Award, General Motors

Best Paper Award, Korea Institute of Industrial Engineers

Research Proposal Review Board Member, the Department of Homeland Security

Editorial Board Member, International Journal of Services Operations and Informatics

Reviewer for academic journals, such as, International Journal of Production Economics, International Journal of Production Research, Journal of Manufacturing, International Journal of Industrial Engineering, and more

Standard Committee Member, IEEE 1451.5 Wireless Communication Protocols for Smart Transducer Interface

Member, Automotive Industry Action Group

PUBLICATIONS

- Textbook

- **Technology Integration to Business (2013) by Springer**

- Refereed Journal Publications and Book Chapters

- "A Product Life Cycle Management Information Model for Green Manufacturing," *Energy Policy*, Under Review, 2018.
- "Energy Simulation Framework Integrated with Green Manufacturing-enabled PLM Information Model," *Int. J. of Precision Engineering and Manufacturing-Green Technology*, 2(3), pp217-224, 2015.
- "An Approach to Successfully Integrate Real-time Tracking Technology to Automotive Vehicle Shipment Planning and Execution Environments," *Journal of the Korea Society for Simulation*, Under Review, 2015.
- "A Dynamic Optimization for Automotive Vehicle Shipment and Delivery," *Journal of the Korea Society for Simulation*, December 2014.
- "A market-based approach for dynamic vehicle deployment planning using radio frequency identification (RFID) information." *International Journal of Production Economics* 128, pp.235-247, 2010.
- "Delivery supply chain planning using radio frequency identification (RFID)-enabled dynamic optimization." Chapter 10 in *Supply Chain Management and Knowledge Management – Integrating Critical Perspectives in Theory and Practice*, pp.303-347, 2009.
- "Value analysis of location-enabled radio frequency identification information on delivery chain performance." *International Journal of Production Economics* 112 (1), pp. 403-415, 2008.
- "Manufacturing interoperability using a semantic mediation." *International Journal of Advanced Manufacturing Technology* 39(1), pp.199-210, 2008.
- "Agent-based shipment algorithm for capacitated vehicle routing problem with load balancing." *Journal of the Korean Institute of Industrial Engineers*.2007
- "Multiagent-based dynamic deployment planning in RTLS-enabled automotive shipment yard," *Lecture Notes in Artificial Intelligence*, 4509, pp. 38-49, 2007.
- "Impact analysis of customized demand information sharing on supply chain performance." *International Journal of Production Research*, Vol.43, No.16, pp.3353-3373, 2005.
- "3-D localization and feature recovering through CAD-based stable pose calculation." *Pattern Recognition Letters*, vol.22, no.2, pp.105-121, 2001.
- "Phase type approximation of stochastic Petri nets for analysis of manufacturing systems." *IEEE Trans. on Robotics and Automation*, vol.16, no.3, pp.318-322, 2000.
- "A Petri net model to determine optimal assembly sequences with assembly operation constraints." *Journal of Manufacturing Systems*, vol.18, no.3, pp.203-213, 1999.
- "A dynamic programming algorithm to determine optimal assembly sequences using Petri nets." *Int. Journal of Industrial Engineering*, vol.6, no.1, pp.27-37, 1999.
- "Printed circuit board (PCB) assembly." *Industrial Engineering Encyclopedia*, A. Mital and J. G. Chen (Editors), 1998.

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- “A case study on the evaluation of a design adequacy of human factors for a weapon system - by heuristic method,” *Interfaces, Korean Institute of Industrial Engineers* (15 pp.), 1990.

- Refereed Proceedings

- “Model-based performance engineering of General Motor’s vehicle supply chain.” IEEE Int. Conf. on Systems, Man, and Cybernetics, Montreal, Canada, Oct 2007.
- “A family of market-based shipment methodologies for delivery supply chain.” Winter Simulation 2005, Orlando, FL, Dec 4-7, 2005.
- “Markovian, Dynamic Supply Chain Shipment Planning Using Real-Time Radio Frequency Identification (RFID) Information.” IEEE Transactions on Automation Science and Engineering Conference, Edmonton, Canada, Aug 1-2, 2005.
- “Radio Frequency Identification (RFID)-enabled Markovian Decision Model for Dynamic Shipment Planning in Supply Chains.” IIE Conference, Atlanta, GA, May 14-18, 2005.
- “Wireless-based Dynamic Optimization for Load Makeup Using Auction Mechanism.” IIE Conference, Houston, TX, May 15-19, 2004.
- “The Value of Wireless Real-time Information for Vehicle Shipment.” 37th CIRP Conference, Budapest, Hungary, May 19-21, 2004.
- “Establishment of product offering and production leveling principles via supply chain simulation under order-to-delivery environment.” Winter Simulation Conference, San Diego, California, Dec. 8-11, 2002.
- “Simulation anywhere anytime: web-based simulation implementation for evaluating order-to-delivery systems and processes.” Winter Simulation Conference, San Diego, California, Dec. 8-11, 2002.

PATENTS

US20080065436 – Supply chain facility performance analyzer

US20080306783 – Modeling a supply chain

US20100127869 – Hierarchy of RFID tags for accessing history and other data description/claims