

# NICHOLAS LOYD, PH. D.

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## EDUCATION

### **Ph.D. Industrial Engineering** **2017**

The University of Alabama in Huntsville College of Engineering  
Dissertation: *"Analysis of The Use of Employee Perception to Assess the Implementation of Lean Based on the Toyota Production System and Toyota Way"*

### **MSE Engineering Management** **2006**

The University of Alabama in Huntsville College of Engineering  
Capstone: *"Application of Lean Enterprise and Six Sigma as an Amalgamated Improvement Strategy"*

### **BSE Industrial and Systems Engineering** **2006**

The University of Alabama in Huntsville College of Engineering  
Summa Cum Laude

## TEACHING EXPERIENCE

### **CLINICAL ASSISTANT PROFESSOR** **2019-PRESENT**

#### **EM 760 Engineering Organization Structures and Systems (2020-Present)**

The University of Alabama in Huntsville College of Engineering  
Developed curriculum and taught principles of organizational design in traditional, hybrid and fully online formats

#### **EM 747 (661) Strategic Engineering Management (2020-Present)**

The University of Alabama in Huntsville College of Engineering  
Developed curriculum and taught core principles of strategic thinking, strategic planning, and strategic leadership in traditional, hybrid, and fully online formats

#### **EM 660 Engineering Management Theory (2019-Present)**

The University of Alabama in Huntsville College of Engineering  
Developed curriculum and taught foundational theory of management for engineering professions in traditional, hybrid, and fully online formats

#### **ISE 324 Work Design (2019-Present)**

The University of Alabama in Huntsville College of Engineering  
Developed curriculum aligning with industry needs, including Lean Operations Management Systems

### **ADJUNCT INSTRUCTOR** **2007-2018**

#### **ISE 324 Work Design (2010-2018)**

The University of Alabama in Huntsville College of Engineering  
Developed curriculum aligning with industry needs, including Lean Operations Management Systems

#### **ISE 428-429 Systems Analysis and Design I & II (2008-2010)**

The University of Alabama in Huntsville College of Engineering  
Instructed and mentored senior design student teams on real-world projects for senior capstone course

**MSC 605 Operations Management (2015-2017)**

The University of Alabama in Huntsville College of Business  
 Chosen by Dean of Business as select faculty for the inaugural Supply Chain Management Certificate program for U.S. Army Materiel Command Cohort program

**MSC 385 Operations Analysis (2007, 2009-2015)**

The University of Alabama in Huntsville College of Business

**RESEARCH &  
 PROFESSIONAL  
 EXPERIENCE**
**THE UNIVERSITY OF ALABAMA IN HUNTSVILLE****2000-PRESENT**

I have served as Principal Investigator for over \$8M in research awards in the following roles:

**Director, Center for Management and Economic Research (2015-Present)**

- CMER operates out of the College of Business
- Leads center based on goals aligned with college and university goals strategic plans
- Manages administrative aspects such as annual budgets, assessing hiring needs, performance evaluations, and reporting to University administration
- Pursues and secures client contracts and grant funding that supports the mission of the CMER
- Identifies opportunities to integrate the university student resources into CMER activities in an effort to offer real-world experience and experiential learning for the students

**Director, Alabama Technology Network (ATN) Huntsville Center (2011-Present)**

- Manages administrative aspects such as annual budgets, negotiating annual funding levels, assessing hiring needs, and coordinating client impact survey reporting with the corporate Alabama Technology Network office, which serves as the state's Manufacturing Extension Partnership (MEP) entity
- Works with small and medium-sized businesses by delivering services such as strategic planning, growth services, innovation, continuous improvement, and quality systems implementation

**Research Associate/Research Scientist (2000-2015)**

- Coached and guided executive management of small and medium-sized companies in identifying strategic and continuous improvement opportunities
- Developed and led delivery of innovation, strategy deployment, leadership, sustainability, and continuous improvement services to client companies as part of the Alabama Technology Network (ATN), the state's Manufacturing Extension Partnership (MEP)
- Managed projects with client companies resulting in retention and/or growth of sales, retention and/or creation of jobs, and improvements in quality and on-time delivery to customers
- Facilitated over 300 projects globally in a wide variety of industries (including automotive, aerospace, and biomedical manufacturing, government organizations and contractors, seaports, and service sectors) in the areas of strategic planning, innovation, and continuous improvement
- Facilitated cross-functional teams of people from all levels of the organization, guiding them through continuous improvement and scientific problem-solving

**Triad Martial Arts Academy, Cullman, AL****2013-2016**

- Provided venture capital for new ownership
- Developed and managed ownership transition strategy
- Served as principal operating manager during ownership transition

**SERVICE****Professional and Community Service (Active)**

- Engineering Management Graduate Program Lead, UAH
- Community Engagement and Outreach ad hoc committee for UAH 2028 COE strategic plan
- Von Braun Space Symposium planning committee member
- Institute of Industrial and Systems Engineers (IISE)- Member
- American Society of Engineering Management (ASEM)- Member, Reviewer for Marketing and Sales for Engineering Managers domain of the 3<sup>rd</sup> Edition ASEM Engineering Management Handbook
- Alabama Automotive Manufacturer's Association, Committee Member, Young Professionals and Industry Training
- Manufacture Alabama, Committee Member, Economic Growth and Expansion
- ISEEM Graduate Faculty- provides ad hoc advice on graduate research for colleagues at UAH and Auburn University
- Canine rescue and fostering volunteer – Madison Animal Rescue Foundation, Bullies to the Rescue, Alabama Boston Terrier Rescue
- Brazilian Jiu Jitsu instructor, Triad Martial Arts Academy

**CREDENTIALS****Professional Training and Certifications**

- Certified Professional in Engineering Management, ASEM (2020)
- Harvard X Data Science Professional Certificate Program (2020)
- MIT Sloan Executive Education Internet of Things: Business Implications Online Short Course certificate (2019)
- Toyota Production System Supplier Center for Top Management certificate (2015)
- Innovation Engineering Black Belt certification (October 2014)
- Lean Six Sigma Black Belt Certification (December 2014)
- Lean Advancement Initiative (LAI) Lean Healthcare certified trainer (April 2014)
- Eureka! Ranch Innovation College (December 2013)
- Innovation Engineering Leadership Institute Certificate of participation (April 2012)
- Lean Enterprise Value Supply Chain facilitator- MIT Lean Advancement Initiative (June 2011)
- Toyota Kata Coach for Improvement and Coaching Kata (2011)
- Certified Lean Manufacturing Bronze Practitioner, Society of Manufacturing Engineers and the Association for Manufacturing Excellence (December 2009)
- Certified Practical Energy Practitioner by Dr. Joe Davis, PE, CEM (July 2009)
- Certified by the National Institute of Standards and Technology (NIST) as a trainer and practitioner in full catalog of Lean Enterprise services (2001 – 2009)
- Certified by the Massachusetts Institute of Technology's (MIT) Lean Advancement Initiative as a Lean Academy Instructor (January 2006)
- NIST MEP Certification in Coaching for Transformation (July 2005)
- Six Sigma Green Belt certified by IISE (September 2002)
- Sandler Sales 2-day training certificate (November 2002)

**Awards, Honors, and Achievements**

- Brown Belt, Brazilian Jiu Jitsu, Triad Martial Arts Academy 2015
- U.S. Army THAAD Missile Project Office Certificate of Appreciation 2003
- Alabama Technology Network Innovator of the Year 2003
- Alabama Technology Network Rookie of the Year 2001

## PUBLICATIONS

## Refereed Journal Articles

- Huang, Z., Harris, G., and Loyd, N. (2021), "An Improved Lean Assessment Based on Employee Perception", *Journal of Manufacturing Technology Management*, (Accepted for Publication 12/21/2020). <https://doi.org/10.1108/JMTM-04-2020-0178>.
- Loyd, N., Harris, G., Gholston, S. and Berkowitz, D. (2020), "Development of a lean assessment tool and measuring the effect of culture from employee perception", *Journal of Manufacturing Technology Management*, Vol. 31 No. 7, pp. 1439-1456. <https://doi.org/10.1108/JMTM-10-2019-0375>.
- Loyd, N. (2018), "Content Validation of an Assessment Tool to Measure Lean Deployment Based on the Toyota Production System and Toyota Way" *International Journal of Lean Enterprise Research*, Vol. 2, No. 3, DOI: [10.1504/IJLER.2018.093636](https://doi.org/10.1504/IJLER.2018.093636).
- Loyd, N. (2016), "Empirical Study of Toyota Motor Corporation Relative to the Good to Great Framework," *Journal of Management Research*, Vol. 8 No. 3, <https://doi.org/10.5296/jmr.v8i3.9374>.
- Loyd, N. and Gholston, S. (2016), "Implementation of a Plan-Do-Check-Act Pedagogy in Industrial Engineering Education," *International Journal of Engineering Education*, Vol. 32 No. 3(A). pp 1260-1267.
- Loyd, N., Jennings, L., Siniard, J., Holden, A., Rittenhouse, G. and Spayd, M. (2009), "The Application of Lean Enterprise to Improve Seaport Operations," *Transportation Research Record*, No. 2100, p 29-37, [DOI 10.31412F2100-04](https://doi.org/10.31412F2100-04).

## Conference Papers

- Loyd, N., Gholston, G., Schroer, B., Gunter, S. (2019), "Survey Measuring Employee Perception of the Degree of the Toyota Culture in a Successful Lean Production System Implementation". Peer reviewed paper, proceedings of AlaSim 2019, Huntsville, AL.
- Loyd, N., Gholston, S., Schroer, B. (2019), "Simulation: One of Many Lean Tools Used for Lean Training and Implementation". Peer reviewed paper, proceedings of AlaSim 2019, Huntsville, AL.
- Gholston, G., Loyd, N., Aykanmbi, M. (2018), "Assessing the Maturity of Your Lean Six Sigma Implementation". Peer Reviewed Honorable Mention Best Paper, Engineering Lean Six Sigma Conference, Atlanta, GA.
- Loyd, N., Schroer, B., Gunter, S., Moeller, D (2018), "Simulation as a Tool in Analyzing Manufacturing Process Variability". Peer reviewed paper, proceedings of AlaSim 2018, Huntsville, AL.
- Holden, A., Loyd, N., Blanchard, L. (2011), "A Practical and Theoretical Approach to Sustainability Using Process Improvement," Peer reviewed paper, proceedings of the Industrial Engineering Research Conference, Reno, NV.
- Loyd, N., Harris, G., Blanchard, L. (2010), "Integration of A3 Thinking as an Academic Communication Standard," Peer reviewed paper, proceedings of the Industrial Engineering Research Conference, Cancun, MX.
- Harris, G., Bao, Y., Landry, T., Loyd, N., Holden, A., and Blanchard, L. (2010), "Management and kaizen team attitudes and lean/clean project improvement sustainability," Peer reviewed paper, proceedings of American Society of Engineering Management Annual Conference, Fayetteville, AK.
- Loyd, N. and McNairy, M. (2003), "Process Model Simulation to Show Benefits of Kanban Systems," Peer reviewed paper, proceedings of the Huntsville Simulation Conference, Huntsville, AL.
- Loyd, N. (2002), "Simulation of Information Systems in a Lean Factory," Peer reviewed paper, proceedings of the Huntsville Simulation Conference, Huntsville, AL,
- Czarnecki, H and Loyd, N. (2001), "Simulation of Lean Assembly Line for High Volume Manufacturing". Peer reviewed paper, proceedings of the Huntsville Simulation Conference, Huntsville, AL.
- Schroer, B. and Loyd, N. (2000), "Use of Discrete Event Simulation for Manufacturing Systems Training," Peer reviewed paper, proceedings of Southeastern Simulation Conference, Huntsville, AL.

### Other Scholarly Publications and Chapters

- Loyd, N. (2017), *Analysis of the Use of Employee Perception to Assess the Implementation of Lean Based on the Toyota Production System and Toyota Way* (Doctoral Dissertation). The University of Alabama in Huntsville.
- Loyd, N. (2006), *"The Application of Lean Enterprise and Six Sigma as an Amalgamated Improvement Strategy,"* Master's Capstone, The University of Alabama in Huntsville  
Published as Chapter 1 in the book ***Lean Six Sigma: An Introduction***, (Icfai University Press, 2008)  
Published as Chapter 3 in the book ***Lean Management: Concepts and Industry Perspectives*** (Icfai University Press, 2007)
- Loyd, N. (2001), *"Improved Process for Welding Aluminum Skins onto Body Frames,"* Journal of Industrial Engineering Design

### PRESENTATIONS Conference Presentations

- Dyas, S., Gholston S., and Loyd, N., *"Factors Affecting Decision Making and Relation to Error-free Performance"*, IISE Engineering Lean Six Sigma Conference, September 2019, Houston, TX.
- Gholston, S. E., Loyd, N., and Ayokanmbi, M., *"Expanding on the Assessment of Your Lean Six Sigma Maturity,"* IISE Annual Conference & Exposition, May, 2019.
- Loyd, N. (2017), *"Does the Toyota Way Culture Affect the Success of Lean Production System Implementation?"* Lean Six Sigma Conference, Huntsville, AL.
- Loyd, N. (2017), *"The Effect of Culture on Successful Implementation of Lean Production Systems."* Keynote, Applied Lean Leadership Conference, Huntsville, AL.
- Loyd, N. (2016), *"Measuring the Effects of Culture on the Implementation of Lean."* IISE Engineering Lean Six Sigma Conference, San Antonio, TX.
- Loyd, N., Gholston, S., and Farrington, P. (2016), *"Development of a Tool to Measure the Effects of Culture on Lean Production Systems."* IISE Annual Conference, Anaheim, CA.
- Loyd, N. (2010), *"Lean Enterprise System to Improve Seaport Operations,"* presentation at the Industrial Engineering Research Conference, Cancun, MX.
- Loyd, N. and Siniard, J. (2009), *"Modern Continuous Improvement Methods to Improve Seaport Velocity and Productivity,"* presentation at the American Association of Port Authorities Terminal Managers Seminar and American Association of Port Authorities Port Operations, Safety, and Information Technology Seminar, Seattle, WA.
- Loyd, N. and Siniard, J. (2009), *"Lean Enterprise at Seaports,"* AAPA Port Productivity Conference, Long Beach, CA.
- Loyd, N. (2004), *"Principles of Lean in the Office,"* Alabama Quality Award, Tuscaloosa, AL.
- Loyd, N. (2003), *"Value Stream Mapping in Office Processes,"* Alabama Automotive Manufacturers Association quarterly meeting, Birmingham, AL.
- Loyd, N. (2002), *"The Power of Hands-on Training for Lean Enterprise,"* AMCOM Lean Conference, Huntsville, AL.