

**Pawan Bhandari**

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Email: [pawan.bhandari@mnsu.edu](mailto:pawan.bhandari@mnsu.edu)**EDUCATION****Doctor of Philosophy (Ph.D.)****May 2022**

Technology Management (Quality Systems), Indiana State University, Terre Haute, IN

**Master of Science (M.S.)****May 2016**

Manufacturing Engineering Technology, Minnesota State University, Mankato, MN, 2016

**Bachelor of Science (B.S.)****May 2012**

Manufacturing Engineering Technology, Minnesota State University, Mankato, MN, 2012

**ACADEMIC EXPERIENCE****Instructor in Health Care Systems Engineering****Oct 2018 – Jun 2022**

Mayo Clinic College of Medicine and Science, Mayo Clinic, Rochester, Minnesota

**Instructor in Health Care Systems Engineering****Jun 2016 – Nov 2017**

Mayo Clinic College of Medicine and Science, Mayo Clinic, Rochester, Minnesota

**Adjunct Faculty****Aug 2019 – May 2022**

College of Science, Engineering and Technology, Minnesota State University, Mankato, Minnesota

**PROFESSIONAL/ INDUSTRIAL EXPERIENCE****Principal Health Systems Engineer, Mayo Clinic, Rochester, MN****Mar 2021 – Jun 2022****Sr. Health Systems Engineer, Mayo Clinic, Rochester, MN****May 2018 – Feb 2021**

Applied engineering, technology, and management skills to design, develop, test, and evaluate integrated systems for managing complex processes involving the delivery of healthcare services. Developing and testing new requirements for complex large-scale projects, enabling teams in the application of management, systems, process engineering frameworks, and statistical methods. Constantly learning and applying Artificial Intelligence/ Machine Learning tools and models to analyze comprehensive patient data sets, determine patterns, and identify relationships. Continuously applying management and engineering expertise to define the need and functionality of healthcare processes and systems to assess the current and future state of project requirements. Building and implementing dashboards, reports, and simulation models to help visualize operational decision imperfections with minimal to no patient impact. Developing optimization models with various modules of the Electronic Health Record (EHR) system to help institutional leaders make data-driven operational decisions.

**Sr. Process Improvement Consultant, UW Medicine | Valley Medical Center, Renton, WA****Feb 2018 – Apr 2018**

Coached and mentored teams across the institution through improvement efforts using Process Improvement and Change Management principles. Lead cross-functional and enterprise-wide projects that support our "Patients are First" mission. Contribute to the growth and development of the Process Improvement team and support the spread of our Process

Improvement Methodology through teaching, coaching, and mentoring others. Facilitate teams at every level of the organization, from front-line staff to VP and above, both clinical and non-clinical, to implement and test changes that lead to improvements in Safety, Quality, Employee Engagement, and Fiscal Responsibility using the Plan-Do-Study-Act cycle.

**Sr. Health Systems Engineer, Mayo Clinic, Rochester, MN.**

**Aug 2017 – Nov 2017**

Served as the Regional Change Management Lead for EHR Implementation Project since Project Initiation through Go-Live. Liaised between Enterprise/Project and the region by being the project point person for provider leadership, allied health staff leadership, and ancillary services leadership as well as all the front-line staff in the region. Provided strategic partnership and services in readiness assessment, workflow review sessions, gap analysis, operational impact assessment sessions, training, leadership engagement, event/food/tour logistics, reporting engagement metrics & executing health system-specific deliverables. Provided consulting services for operational and process improvement projects at a regional and enterprise level using process improvement, lean, Six Sigma, project management, and systems engineering tools. Served as an Instructor in Health Care Systems Engineering, College of Medicine, Mayo Clinic.

**Health Systems Engineer, Mayo Clinic, Rochester, MN.**

**Jan 2016 – Feb 2017**

Served as the Regional Change Management Lead for Epic Implementation Project and got promoted to the next level within a year of service in this role. Provided end-to-end strategic business consulting and management engineering services at various levels of the Mayo Clinic organization, from departments and divisions to governance committees at an enterprise, site, and region level. Managed simple, moderately complex, and complex systems improvement efforts using project management, lean, Six Sigma, and systems engineering methodologies and tools. Established, coordinated, and integrated continuous improvement efforts with the processes related to Quality, Safety, Patient Satisfaction, and Outcomes. Got appointed as an Instructor in Health Care Systems Engineering, College of Medicine, Mayo Clinic.

**Process Improvement Manager, Mayo Clinic, Rochester, MN.**

**Mar 2013 – Jan 2016**

Managed, helped to design, and coordinated 3 Quality Improvement symposiums (On average, 35 projects were published and showcased). Assisted project teams to think out of the box and design newer or modified processes within a system, map the current and future state value stream(s), benchmark with the best practice or brainstorm gaps, and identify and implement solutions. Brought analytical interpretation, consultation, and education for project teams to achieve organizational excellence through formal and informal education and training. Partnered with internal and external customers, contractors, and vendors during project work. Created and maintained proper documentation and communication to key stakeholders through but not limited to Project Charter, Project Status Reports, Presentations, and Closure Report. As a Quality Academy Faculty Member/Reviewer, reviewed projects and instructed staff to help achieve the next level of internal certification levels (Bronze, Silver, and Gold)

**Manufacturing Engineer, Door Engineering & Manufacturing LLC, Kasota, MN.**

**May 2011 – Mar 2013**

Started as an intern and a full-time position was offered upon graduation. Introduced, tested, and implemented the concepts of process improvement, Six Sigma/DMAIC, lean manufacturing principle, and tools (5S, A3 problem solving & documentation, Value Stream Mapping, visual factory, inventory standardization and reduction, standardized shop floor layout, streamlined product & process flow, Balanced scorecard & KPIs, Kaizen, etc.). Systematized all the continuous improvement projects through A3 report documentation. Optimized stations and shop floor with the 'visual factory' concept. Drafted Standard Operating Procedures and Work Instructions for all stations and departments. Formed a Kaizen team to pinpoint the bottlenecks and address them on a priority basis. As an interim Safety Manager, compiled all OSHA/government-required written programs, offered required training to the staff and worked on abating safety hazards, and saved \$300,000 in preventable safety-related citations.

**Manufacturing Engineer Intern, Minnesota Elevator Inc, Mankato, MN.**

**Nov 2010 – May 2011**

Implemented Six Sigma/DMAIC project in a manufacturing setting. Studied existing production schedules, job variation, and operations processes within the scope of the assigned project and analyzed them. Documented and evaluated the existing procedure and focused on the areas of reducing job order paperwork and eliminating errors improving efficiency and

productivity. Recommended future state improvements with cost breakdowns and saving initiatives. Reduced overall job order paperwork in the assigned project by 40%.

## **CERTIFICATIONS**

Prosci Certified Change Management Practitioner (Mayo Clinic, 2016)

Mayo Clinic Quality Fellow: Gold level Certification (Mayo Clinic Quality Academy, 2015)

Certified Six Sigma Blackbelt (American Society of Quality, 2014)

Mayo Clinic Quality Fellow: Silver level Certification (Mayo Clinic Quality Academy, 2013)

Mayo Clinic Quality Fellow: Bronze level Certification (Mayo Clinic Quality Academy, 2013)

Certified Quality Improvement Associate (American Society of Quality, 2013)

Lean Six Sigma Green Belt (Purdue University, 2012)

## **AWARDS**

Lean Six Sigma Competition Award – 2<sup>nd</sup> Place (Industrial Engineering and Operations Management Society International, Detroit, Michigan, 2020)

Simulation Competition Award – 3<sup>rd</sup> Place (Industrial Engineering and Operations Management Society International, Detroit, Michigan, 2020)

Best Project Award (Mayo Clinic, Rochester, Minnesota, 2014)

Best Presenter Award (Undergraduate Research Symposium, Minnesota State University, Mankato, 2012)

## **PROFESSIONAL MEMBERSHIPS AND SERVICES**

American Society for Quality (ASQ)	
Member	2012 - Present
Industrial Engineering and Operations Management Society International (IEOM)	
Member	2020 - Present
Minnesota State University Automotive & Manufacturing Engineering Technology (AMET) Industrial Advisory Board	
Board Member	2020 – 2022
Society of Manufacturing Engineers (SME)	
Member	2016 - 2017
The Association of Technology, Management, and Applied Engineering (ATMAE)	
Member	2018 – 2020

## **PRESENTATIONS EXTRAMURAL**

### **National or International**

#### **Invited**

A Demo: Supervised Machine Learning Application to solve real-world opportunities in healthcare. 11/2021

6th Industrial Engineering and Operations Management Conference-Virtual

#### **Oral**

Process and impact of applying a formal change management plan during implementation of new Electronic Health Record technology and system ATMAE (The Association of Technology, Management, and Applied Engineering) 11/2018

2018 Conference Kansas City, Missouri	
Impact of a National Accreditation Program on Organizational Capabilities at the North West Regional Health Authority in Trinidad and Tobago: A Case Study 4th Industrial Engineering and Management Conference, University of the West Indies, St. Augustine Campus, Trinidad Saint Augustine, Trinidad and Tobago	12/2018
Application of quality improvement tools in healthcare industry that are widely used in manufacturing industry to improve customer satisfaction, reduce waste and increase efficiencies ATMAE (The Association of Technology, Management, and Applied Engineering) 2019 Conference Charlotte, North Carolina	11/2019
Exam Room Utilization Study to drive business decisions in a healthcare setting ATMAE (The Association of Technology, Management, and Applied Engineering) 2019 Conference Charlotte, North Carolina	11/2019
On Socioeconomic Impacts of Technological Advancements in Healthcare The 5th North American International Conference on Industrial and Operations Management Detroit, Michigan	08/2020
Development of a Novel Risk Calculator to Reduce 30-day ED Visits after Bariatric Surgery American College of Surgeons (ACS) Quality and Safety Conference VIRTUAL	08/2020
Prediction of Patients Who Are at a Higher Risk of Coming Back to Emergency Department Within 30 Days of a Bariatrics Surgery Procedure by Using Binary Logistic Regression 2020 ATMAE (The Association of Technology, Management, and Applied Engineering) and IAJC (International Association of Journals and Conferences) Virtual Joint Conference	11/2020
Six Sigma Methodology to Improve Operational Efficiencies in a Community Based Imaging Center 2020 ATMAE (The Association of Technology, Management, and Applied Engineering) and IAJC (International Association of Journals and Conferences) Virtual Joint Conference	11/2020
Analysis of technology use across healthcare systems to manage patient's care Health & Biomedical Sciences Summit Minnesota State University, Mankato, Minnesota Health & Biomedical Sciences Summit, Minnesota State University Mankato, Minnesota	03/2021
COVID-19 Surge Planning in Response to Global Pandemic in a Healthcare Setting: A Lean Six Sigma Approach 11th Annual International Conference on Industrial Engineering and Operations Management (Virtual) Singapore	2021
<b>Poster</b> Implementing Lean Thinking in an Inpatient Pharmacy Mayo Clinic Quality Conference 2014 Rochester, Minnesota	2014

Application of Six Sigma Methodology to Improve Patient Satisfaction in an Eye Clinic 2019 Mayo Clinic Midwest Quality Conference Rochester, Minnesota	03/2019
Reliability Modelling and Quality Analysis of SQL Servers in Database Reporting The 5th North American International Conference on Industrial and Operations Management Detroit, Michigan	08/2020
<b>Regional</b>	
<b>Poster</b>	
A Study on Lean Manufacturing Principles Undergraduate Research Conference (Minnesota State University) Mankato, Minnesota	2012
An Existent Case Study in Six Sigma DMAIC Southwest Minnesota Chapter - APICS Student Paper Competition Mankato, Minnesota	2014
Recovery Time Management Model of Care Phase III Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2014
Patient Problems Resolution Project Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2015
Same Day Care Phase 2 Model of Care Project Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2015
<b>Unclassified</b>	
<b>Poster</b>	
OR Scheduling Improvement Project Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2014
Bariatric Surgery Accreditation Project Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2015
Clinical Alarms Management Project Mayo Clinic Health System - Quality Improvement Day Mankato, Minnesota	2015
AI/ML Solutions: An Evaluation of Google Cloud AutoML Mayo Clinic Mayo Clinic AI Symposium Rochester, Minnesota	05/2021

## **BIBLIOGRAPHY**

### **Peer-reviewed Articles**

Clendenin C, Abed K, Herbeck M, Leibfried D, Mulenburg C, Thompson P, Westphal B, Casio T, **Bhandari P**, Herzberg P. Phase 2 Post Anesthesia Recovery Time Management: A New Model of Care. *Journal of PeriAnesthesia Nursing*. 2016.

**Bhandari P**, Johnson W, Evers C, Petersen H, Guerra-Zubiaga D. Utilization of a survey tool to identify, quantify improvement Science and Engineering Conference on Technology Management (ICTM) Conference

Proceeding. 2017.

**Bhandari Pawan**, Badar M. Affan, Childress Vincent. On Socioeconomic Impacts of Technological Advancements in Healthcare Proceedings of the 5th NA International Conference on Industrial Engineering and Operations Management. 2020; 2921-2930.

**Bhandari P**, Badar A, Childress V. COVID-19 Surge Planning in Response to Global Pandemic in a Healthcare Setting: A Lean Six Sigma Approach 11th International Conference on Industrial and Operations Management Conference Proceeding. 2021.

Ramjewan AK, Stelpflug A, Leung M, Elsen S, **Bhandari P**, Coffey J. Staffing models for integration of virtual visits into clinical operations Management in Healthcare. 2022; 6(2).

Anil G, Hirisave Krishna B, Johnson CC, Richards SL, **Bhandari P**. Outpatient Practice Reactivation in an Integrated Community Practice During the COVID-19 Pandemic. Telemed J E Health. 2022 Apr; 28 (4):583-590 Epub 2021 July 22 PMID: 34292775 DOI: 10.1089/tmj.2021.0107