

IDDRISU AWUDU
College of Business Administration
Texas A&M University – Central Texas

EDUCATION

Doctor of Philosophy (PhD), 2013

Industrial and Manufacturing Engineering, North Dakota State University, USA

Master of Science (MSc), 2008

Industrial Mathematics, Kwame Nkrumah University of Science and Technology, Ghana

Bachelor of Science (BSc), 2004

Computer Science and Physics, University of Ghana, Ghana

Higher National Diploma (HND), 2000

Mechanical Engineering, Accra Technical University, Ghana

RESEARCH INTERESTS

- Optimization, operations research, and operations management
- Financial engineering, investment and portfolio analysis
- Simulation of business and industrial systems
- Financial hedging and strategies
- Sustainability in oil and biofuels (ethanol)
- Supply chain management, operations management, data analytics

ACADEMIC WORK EXPERIENCE

- **Associate Professor of Management, Quinnipiac University (AACSB Accredited University), Hamden, CT August 2014 ~ Present**

Undergraduate courses

- MG 211- Operations Management
- MG 342- Supply Chain Analytics (scheduled for Fall 2018)
- MG 340- Supply Chain Logistics
- MG 341- Service Operations Management

Graduate courses

- MBA 635- Decision Making for Business
- MBA 643- Strategic Sourcing and Supply Management
- MBA 642- Logistics Management

- **Assistant Professor of Management, Minnesota State University, Moorhead, August 2013 ~2014:**
 - Courses MBA 671-Healthcare Management Systems (Face-to-face and online)
 - Courses MGMT/MKTG 33-Data Mining Using Business Intelligence (Face-to-face and online)
 - Courses MGMT 370-Management Information Systems (Face-to-face and online)
 - Courses MGMT 380-Operations Management (Face-to-face and online)

- **Research Assistant Professor/PostDoc, North Dakota State University, Department of Agribusiness and Applied Economics, Fargo, August 2012~ 2013:**
 - Developing risk management models for biofuels supply chain
 - Developing a working document for corn biofuel risk and hedging strategies
 - Developing a simulation trade game for the biofuel market
 - Developing logistics models for biofuel supply chain management

- **Graduate teaching assistant, North Dakota State University, Industrial and Manufacturing Engineering, August 2008~ August 2012:**
 - IME 470/670 Introduction to Quantitative Modeling
 - IME 480/680 Production and Inventory Control
 - IME 472 Simulation of Business and Industrial Systems
 - IME 485 Industrial/Manufacturing Facility Design
 - IME 489 Project Management/ Engineering Capstone
 - IME 482/682 Automation Systems
 - IME 450/650 Systems Engineering and Management

PUBLICATIONS

Book Chapter

1. Yakubu, M. and **Awudu, I.** (2020). Handbook of Research on Innate Leadership Characteristics and Examinations of Successful First-Time Leaders. IGI Global. **ISBN13:** 9781799875925.
2. Tokgöz, E., **Awudu, I.**, & Trafalis, T. B. (2015, July). A Single-Facility Manifold Location Routing Problem with an Application to Supply Chain Management and Robotics. In *International Workshop on Machine Learning, Optimization and Big Data* (pp. 130-144). *Springer International Publishing*.

Journal papers (Refereed)

1. Jin, Y., Norbis, M., and **Awudu, I.** (2021). Supplier-dedicated resources and flexibility's roles in a manufacturer's superior performance. *Journal of General Management-Sage (Forthcoming 2021)*. *Meets SoB Quality Standards: Listed in Cabell's, 32%*

- Acceptance Rate, CCI 26% in Management. Double Blind Peer Review (QU affiliation).**
2. Doumbia, M., O., **Awudu, I.**, Yakubu, M., and S., F., Al Ganideh. (2021). The impact of information sharing on organizational performance: A supply chain chain perspective. *International Journal of Business Performance and Supply Chain Modelling*. (Forthcoming 2021). **Meets SoB Quality Standards: Listed in Cabell's, 21% Acceptance Rate, CCI 32% in Management. Double Blind Peer Review (QU affiliation).**
 3. Wilson, W., Skadberg, K., **Awudu, I.**, Dahl, B., and Yakubu, M. (2021). Optimal hedging in a processing environment: A case of ethanol production (Forthcoming). *International Journal of Revenue Management*. **Meets SoB Quality Standards: Listed in Cabell's, 11-20% Acceptance Rate, CCI 20% in Management, Double Blind Peer Review (QU affiliation)**
 4. Adobor, H., **Awudu, I.**, and Norbis, M. (2021). Integrating Artificial Intelligence into Supply Chain Management: Promise, Challenges, and Guidelines. *International Journal of Logistics Systems and Management (Forthcoming)*. **Meets SoB Quality Standards: Listed in Cabell's, 11-20% Acceptance Rate, CCI 40%. Double Blind Peer Review (QU affiliation).**
 5. Doumbia, M., O., **Awudu, I.**, Yakubu, M., and Gonela, V. (2020). Pharmaceutical Supply Chain Management Practices and Organizational performance: A Ghanaian Perspective. *International Journal of Information Systems and Supply Chain Management (Forthcoming Winter 2021)*. **Meets SoB Quality Standards: Listed in Cabell's, 25% Acceptance Rate, CCI (28%). Double Blind Peer Review (QU affiliation).** Volume 14, Issue 4, Article 2.
 6. Gonela, V., Zhang, J., Salazar, D., Awudu, I. (2020). Solid Waste Management: A Review from the Supply Chain Perspective. *Journal of Supply Chain and Operations Management*. **Meets SoB Quality Standards: Listed in Cabell's, 20% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 7. Afful-Dadzie, A., Afful-Dadzie, E., Abbey, N.A., Owusu Ansah, B. and Awudu, I. (2020). *Renewable Electricity Generation Target Setting in Developing Countries: Modeling, Policy, and Analysis*. Energy for Sustainable Development. **Meets SoB Quality Standards: Listed in Cabell's, 10% Acceptance Rate, CCI 91% in Economics and Finance, Double Blind Peer Review (QU affiliation)**
 8. Al Ganideh, S.F., & **Awudu, I.** (2020). Arab-Muslim Americans' personality riddle and consumer ethnocentrism. *Journal of Global Marketing*, 34, 1-22. **Meets SoB Quality Standards: Listed in Cabell's, 18-22% Acceptance Rate, CCI 32% in Marketing, Double Blind Peer Review (QU affiliation)**
 9. Tokgoz, E., **Awudu, I.**, and Kuppusamy, S. (2020). Advancing Transportation Routing Decisions Using Riemannian Manifold Surfaces. *Journal of Advanced Transportation*. **Meets SoB Quality Standards: Listed in Cabell's, 28% Acceptance Rate, CCI 54% in Management, Double Blind Peer Review (QU affiliation)**
 10. **Awudu, I.**, Wilson, W., Mahdi, F., Bachkar, K., Dahl, B., and Acquaye, A. (2020). Application of Big Data Copula-Based Clustering for Hedging in Renewable Energy Systems.

- (Forthcoming)**. International Journal of Revenue Management. **Meets SoB Quality Standards: Listed in Cabell's, 11-20% Acceptance Rate, CCI 20% in Marketing, Double Blind Peer Review (QU affiliation)**
11. **Awudu, I.**, Asare, A., Asa, E., Osmani, A., Gonela, V., and Afful-Dadzie, A. (2019). Maximizing Profits in an Ethanol Supply Chain with Hedging Strategies. *Journal of Supply Chain and Operations Management*, Volume 17, Number 2. **Meets SoB Quality Standards: Listed in Cabell's, 30% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 12. **Awudu, I.**, Kuppusamy, S., Norbis, M., & O'Connor, M. (2019). Recruitment strategies in a university institution: a theoretical cost minimization approach. *Cogent Economics & Finance*, 7(1), 1607050. **Meets SoB Quality Standards: Listed in Cabell's, 38% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 13. Gonela, V., Salazar, D., Zhang, J., Osmani, A., **Awudu, I.**, & Altman, B. (2019). Designing a sustainable stochastic electricity generation network with hybrid production strategies. *International Journal of Production Research*, 57(8), 2304-2326. **Meets SoB Quality Standards: Listed in Cabell's, 20% Acceptance Rate, CCI 70%, Double Blind Peer Review (QU affiliation)**
 14. Bachkar, K, **Awudu, I.**, Osmani, A., Hartman, B.,C. (2017). Fleet management for rail car transport of ethanol. *Research in Transportation Business and Management*. Vol. 1, issue 1, pages, 13-19. **Elsevier, impact factor 0.919, (ABDC-grade C)**
 15. Afful-Dadzie, A., Afful-Dadzie, E., **Awudu, I.**, and Banuro, J.K. (2017). Power Generation Capacity Planning Under Budget Constraint in Developing Countries. *Applied Energy*, vol. 188, issue C, pages 71-82. **Elsevier, impact factor 7.18, Blind Peer-Review (QU affiliation)**
 16. **Awudu, I.**, Wilson, W., & Dahl, B. (2016). Hedging strategy for ethanol processing with copula distributions. *Energy Economics*, 57, 59-65. **Meets SoB Quality Standards: Listed in Cabell's, 30% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 17. **Awudu I.**, Asare A, Zhang J, Afful-Dadzie A & Thomas Brashear. (2015). The impact of economic, social and environmental on a firm: A case study of bioethanol plants. *Journal of Supply Chain and Operations Management*, 14, 23-46. **Meets SoB Quality Standards: Listed in Cabell's, 32-25% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 18. **Awudu, I.**, Zhang, J., Osmani, A., Bachkar, K., Malm, J., & Yakubu, M. (2015). Financial Hedging and Sustainability Modeling Considering Uncertainties: A Case Study of Ethanol Supply Chain. *Journal of Management and Sustainability*, 5(2), 1. **Meets SoB Quality Standards as at 2015: Listed in Cabell's, 39% Acceptance Rate, Double Blind Peer Review (QU affiliation)**
 19. Osmani, A., Zhang, J., Gonela, V., & **Awudu, I.** (2013). Electricity generation from renewables in the United States: Resource potential, current usage, technical status, challenges, strategies, policies, and future directions. *Renewable and Sustainable Energy Reviews*, 24, 454-472.
 20. **Awudu I.**, Zhang J. (2012). Uncertainties and sustainability in biofuel supply chain: A review. *Renewable and Sustainable Energy Reviews* 16 (2) 1359– 1368.
 21. **Awudu I.**, Zhang J. (2012). Stochastic production planning for a biofuel supply chain under demand and price uncertainties. *Applied Energy* (103) 189-196. **ABDC grade category A.**

22. Zhang J, Osmani A, **Awudu I**, Gonela V. (2012). An integrated switchgrass biofuel supply chain system. *Applied Energy (102)*-1205-1217. **ABDC grade category A.**

Journal papers under review

- William, W., Iddrisu, A., Skadberg, K., Bruce Dahl (2020). Optimal hedging opportunities in a processing firm: A case of ethanol. *Energy Systems Journal*.
- Tokgoz, E., Awudu, I. (2020). Cost Effective Renewable Energy Optimization by Solving Location Routing Problem on Riemannian Manifolds. *European Journal of Operational Research*.
- Awudu, I., Wilson, W., Fathi, M., Bachkar, K., Dahl, B., Acquaye, A., Pardalos, P.M. (2019). Application of data-driven copula-based clustering for hedging in renewable energy. *International Journal of Revenue Management*.
- Awudu, I., Asare, A., Asa, E., Osmani, A., Gonela, V., Afful-Dadzie, A. (2019). Hedging strategies in a processing environment: A case study of ethanol. *Annals of Operations Research*.

Conference papers (Proceedings-full paper submission)

- Gonela, V., Awudu, I., and Gosnell, J. (2019). Designing a Coal and Biomass Based Electricity Network Considering Different Emission Schemes. Institute for Operations Research and Management Science (INFORMS), Seattle, WA.
- Norbis, M., Awudu, I. Yan, J. (2019). Multi-resource constraint for vessel optimization: A case study of Tema Port Ghana. Athens, Greece
- Boison, D., Norbis, M., Awudu, I., and Yan, J. (2019). Port Optimization at Tema: Simulation and Optimization Approach. ORMS Today, INFORMS, 2019.
- Adobor, H., Awudu, I., Norbis, M. (2019). Artificial Intelligence and supply chain performance. NEDSI. Philadelphia, USA
- Awudu I, Boison, D and Norbis, M. (2017). Optimizing the use of sea-port berthing space: A case study of Tema Port in Ghana: WBI Conference Proceedings, Castellanza, Italy.
- Tokgoz E, Trafalis T, & Awudu I. (2015). A Single-Facility Manifold Location Routing Problem with an Application to Supply Chain Management and Robotics. *Lecture Notes in Computer Science, Springer*.
- Bachlar K., Enyonda C., Awudu I., Osmani A., and Target B. (2015). Decision support model for managing the the security risk in the global container supply chain: a case study. Proceedings of the 2015 IEMS Conference, SA, CA.
- Vinay G, Zhang J, Osmani A, and Awudu I. (2013). Designing effective and efficient scheduling policy to improve laboratory performance. (Accepted) in Industrial Engineering Regional Conference (IERC) for review in March 2013.
- Zhang J, Osmani A, Vinay G, and Awudu I. (2013). Adaptive Hospital Bed Allocation Approach under Multiple Uncertainties. (Accepted) in the Industrial Engineering Regional Conference (IERC), Puerto Rico, June, 2013.

- Zhang J, Osmani A, Awudu I, and Vinay G. (2013). Optimal Scheduling Approach to Minimize Resource Conflict in Audiology Clinics. (Accepted) in the Industrial Engineering Regional Conference (IERC), Puerto Rico, June, 2013.

Conference papers (Abstract presentations)

1. Afriyie, E.O., Yakubu, M. and Awudu, I. (2020). Performance in small and medium enterprises considering human resource practices: A case of Ghana'. March 26-28, NEDSI, Boston, USA.
2. Yan, J., Norbis, Awudu, I. (2019). Supplier flexibility and supply chain manufacturing performance. NEDSI. Philadelphia, USA
3. Awudu I, and Asare A. (2017). Risk hedging in buyer and supplier strategy: A case of ethanol production: Northeast Decision Sciences Institute (NEDSI), Springfield, MA, USA.
4. Awudu I, and Asare A. (2017). Risk hedging in buyer and supplier strategy: A case of ethanol production: *Academy of International Business-Northeast Conference*. AIBNA (Quinnipiac University), Hamden, CT, USA.
5. Awudu I, and Norbis M. (2016). Optimizing the port clearance time reduction during importation: A case study of Ghana. *Academy of International Business-Northeast Conference*. AIBNA, Philadelphia, PA, USA.
6. Awudu I, (2016). Ethanol risk management hedging with copula. INFORMS Annual Conference, Nashville, TN, USA
7. Kuppusamy S, Awudu I, and Norbis M. (2016). Risk Modeling in Food Supply Chain, Insights, *INFORMS Conference*, Philadelphia, PA
8. Khalid, A., Iddrisu, Fesseha, I., (2016). Financial and operational hedging: A case study of ethanol supply chain. *Industrial Engineering Management Conference*, Tampa, Florida, FL
9. Asare, A., Chelariu, C., Brashear, T, Awudu, I., (2015). Value Appropriation in Dynamic Environments: An Analysis of Digital Marketing Channels, *Summer American Marketing Association's Educator's Conference*, Boston, MA
10. Bachkar K, Awudu I, Gebremiakel F. (2015). Risk and Uncertainty in Global Supply Chain Logistics: an Overview and Research Agenda, *Industrial Engineering Management Conference*, Tampa, Florida, FL
11. Bachkar K, Awudu I, Gebremiakel F. (2015) Humanitarian Logistics: Meeting the Challenge of Aligning U.S. National Interest with Humanitarian Interest, *Industrial Engineering Management Conference*, Tampa, Florida, FL
12. Bachkar K, Awudu I, Gebremiakel F. (2015) Risk Assessment for the Security of the Global Container Supply Chain: A Case Study. *Industrial Engineering Management Conference*, Tampa, Florida, FL
13. Awudu I, (2014). Modeling and optimization of biofuel supply chain considering uncertainties and hedging strategies, *INFORMS, San Francisco, CA*
14. Awudu I, (2014). Teaching Sustainability from an Optimization and Analytics Perspectives, *INFORMS, San Francisco, CA*
15. Gebremikael F Awudu I, Bachkar K, (2014) Risk Management in Agricultural Supply Chain: A Case Study. *INFORMS, San Francisco, CA*

16. Awudu I, Asa E, Zhang J. (2012). Sustainability Incorporation in Modeling an Oil Supply Chain. Oct. 14-17th, INFORMS, USA
17. Awudu I, Asa E, Zhang, J. (2012) Optimizing Crude Oil Supply Chain Decisions with Policy Impact: Oct. 14-17th, INFORMS, USA
18. Awudu I, Zhang J. (2012). Deterministic and stochastic demand forecasting using Systems Application Product (SAP) with Fokker-Planck extensions. National Society of Black Engineers (NSBE), March, 28-April 1st, Pittsburgh, USA.
19. Awudu I, Zhang J. (2011). On the incorporation of uncertainty models in ethanol supply chain. National Society of Black Engineers (NSBE), March 24th-28th, Missouri, USA.
20. Awudu I, Zhang J. (2011). On the incorporation of uncertainty and sustainability concepts in an ethanol supply chain. National Society of Black Engineers (NSBE), March 24th-28th, Missouri, USA

PRESENTATIONS

Malm, J., Yakubu, M. & **Awudu, I.** Quantitative and Qualitative Research Workshop, "Transition from dissertation to manuscript" University of Professional Studies, Accra, Ghana, Invited. (June 29, 2017).

Awudu, I., Malm, J., & Yakubu, M. Graduate Students Thesis Writing and Mentorship Seminar, University of Ghana, Legon, Accra Ghana, Invited. (May 31, 2017).

Yakubu, M., Malm, J., & **Awudu, I.** Faculty Research Workshop, "A summary of research expectation for PhD students" Accra Technical University, Accra, Ghana, Invited. (June 9, 2017).

Technical Papers

- J Zhang, V. Gonela, A. Aslani, A. Osmani, I. I. Awudu. (2011). "Final Briefing: Computer model to allow facility to decide whether to schedule in a centralized or decentralized manner" VERC P1-68.
- J Zhang, V. Gonela, A. Osmani, I. I. Awudu. (2012). "Decision for an off the shelf patient scheduling software purchase for VERC". *Ongoing*.

Projects (Responsibility: Research Assistant)

- Awudu Iddrisu, William Wilson, David Ripplinger. (2012). Developing a renewable energy trading program for North Dakota State University Business School. BARRY HALL PROJECT *Ongoing*. (Already funded: Funds \$~250,000.00)
- Awudu Iddrisu, William Wilson, David Ripplinger. (2012). Evaluating ethanol and corn cross hedging to aid in developing a renewable energy trading program for North Dakota State University Business School. BARRY HALL PROJECT *Ongoing*.

REFEREEING

- International Transactions in Operations Research- Wiley
- Renewable and Sustainable Energy Reviews- Elsevier
- International Journal of Production Research- Taylor and Francis
- International Journal of Production Economics- Elsevier
- Journal of Cleaner Production- Elsevier
- Springer Journal of Quality and Quantity- Springer
- International Journal of Integrated Supply Management
- Applied Energy Journal

EDITORIAL BOARD

- Editorial Board Member, Journal of Asia Business Studies (*Cabells, with CCI, IF, and AR*)
- Editorial Board Member Journal of African Business Research (JABR)

CORPORATE WORK EXPERIENCE

Production and Resource Capacity Planner

June 2009 to August 2010, (Navteq) NOKIA, Fargo, ND, USA

- Planned the daily outlook for production work in the two offshore production centers
- Developed weekly planning schedule and performance indicators for planned against actual
- Teamed up to discuss budgeting models with the Project Management Team
- Liaised with Project Leaders to develop continuous improvement standards for outlining daily status work
- Finalized baseline output for the work development and tracking for quarter defined activities
- Worked with the quality team to develop a score procedure for the work that are outlined in offshore and in-house production
- Undertook a course in Project Management in Clarity to assist with team role assignments and updates
- Instructor/Trainer, Nestle, SAP Super User for Advance Planning and Optimization, SAP APO (SYSTEM APPLICATION PRODUCT ADVANCE PLANNING AND OPTIMIZATION) (August 2007-April 2008)

SAP APO Demand Planner

Apr 2007 to June 2008, Nestle, Accra, Ghana

- Responsible for sales and marketing analysis to achieve a consensus demand plan using SAP APO
- Developed and updated weekly commercial review to analyze the impact of sales target for the month in question

- Analyzed monthly demand data using deterministic and stochastic statistical tools like *ARIMA, Croston, Auto Forecast and Markov Chains models*
- Trained end users in the usage of *SAP APO* and statistical analysis in general using various modules
- Lead Demand Planner in implementing system changes together with the *CIF* administrator on any core modules within *SAP APO, SNP and PPDS*
- Extracted and worked on Demand Plan Accuracy from *SAP BIW* and analyzed the results
- Chosen as the *SAP APO* super user responsible for *DIL* and end to end process integration between *SNP and PPDS*
- Assisted the logistic and warehouse team during the *GO-LIVE* in inventory counting
- Responsible for the *MFR* preparation and inputs in meeting the Country Manager of Nestle Ghana to finalize demand plan for the next planning horizon

Marketing Analyst

Oct 2006 to Mar 2007, Afripa Telecom, Accra, Ghana

- Provided technical and customer assistance on *VSAT, WIPL, DECT* and other telecommunication tools
- Designed weekly schedule for clients prospected and monthly updates on sales and targets
- Analyzed competitors' products and services through value adding approach in terms of technology, pricing and developing trends
- Customized lane for valued customers and developed tools for easy accessibility of in-house customers by the company associates
- Assisted customers on product location and air lifting for forklift drivers
- Located and assisted customers in item put away during layaway and later pick up
- Assisted in inventory management and warehouse job scheduling

COMPUTER SKILLS

- Proficient in *SAP APO* experienced in most *MS Office* application tools, *LINDO, Minitab, MATLAB, GAMS* (software)
- Exposure to *SAP SNP and PPDS*
- Introductory *C++, Java, ASP.net, CSS, Oracle Database and SQL*

AWARDS AND ACHIEVEMENT

- Best Researcher Quinnipiac School of Business, 2019-2020 Academic Year
- Finalist, Center for Excellence in Teaching, 2019-2020 Academic Year
- Nominated for Quinnipiac Center for Excellence in Teaching, 2016, 2017, 2018, 2019, and 2020
- Three (3) Time Carnegie African Diaspora Fellowship Program (CADFP) Winner

- Among the top 10% of my graduating class in Mechanical Engineering for Higher National Diploma
- Achieved the second-best results for Stochastic Processes in my *MSc* in Industrial Mathematics
- Selected as the super user for Nestle limited to train end users in *SAP APO* applications
- Selected as a representative to audit the account of the Physics Students Association, University of Ghana branch
- Selected for *Ernst and Young high impact presentation by Nestle Ghana Limited*
- Analyzed the demand forecasting using *SAP APO DP* in measuring supply chain *KPI* as an *MSc* thesis submitted in partial fulfillment of my *MSc* degree
- Certificate in Financial Mathematics at the *7 City Learning Center led by Dr. Paul Wilmot*. Topics studied include *Annuities, Gratuities, Compound Interest, Options, Futures, Swaps and other derivative*

OTHER PROFESSIONAL ACTIVITIES

- Member, Institute for Operations Research and Management Science (INFORMS) member, 2009-till date
- Member, National Society of Black Engineers (NSBE), 2001-till date
- Member, Institute of Industrial Engineers (IIE), 2012-till date.

SERVICE

- Accounting, DEC (Prof. George Baah), 2nd Year Review
- Accounting DEC, (Prof. George Baah), 4th Year Review
- Committee Member, SOB Dean Search, 2020
- Chaplain, Quinnipiac, 2018-Present
- Quinnipiac Master's in Social Work Lecture, 2018, 2019, 2020
- Sermon Delivery, Masjid Al-Bilal Mosque, New Britain, CT