Moses Olabhele Esangbedo's Résumé

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Doctor of Management

I develop uncertainty-aware decision-analytics for enterprise and industrial decarbonization, combining grey systems theory and fuzzy MCDM frameworks to prioritize low-carbon investments where data is incomplete or ambiguous. My work translates rigorous modelling into decision tools and applied training that improve energy resilience, operational efficiency, and corporate sustainability. I have industry experience in oil & gas and industrial equipment, and a record of cross-cultural collaboration and practitioner-facing education.

Key Accomplishments:

- 32 scientific publications in quality research journals to disseminate the research results.
- Two monograph of some original contribution to the grey system theory in the business decision domain.
- Participate in the "emerging technology in civil aviation industry" project of National Social Science Fund of China, under Grants 18ZDA103 and 18BJY030.
- Supported Seven Ph.D. students having Challenges with their research and supervised 6 undergraduate students.

EDUCATION

PhD in Management Science and Engineering (WES Evaluation) March 2017
Northwestern Polytechnical University, Xi'an, China

M.Sc. in Communication and Information System (WES Evaluation) April 2012
Northwestern Polytechnical University, Xi'an, China

Chinese Language Course, Chinese Proficiency Test-Level 5 June 2009
Northwestern Polytechnical University, Xi'an, China

B.Eng. in Electrical/Electronic Engineering (WES Evaluation) November 2006
Madonna University, Anambra State, Nigeria

PUBLICATIONS AND MONOGRAPHS

[1] **Moses Olabhele Esangbedo** and J. Xue, *Grey Systems Theory in Business Management*. MDPI - Multidisciplinary Digital Publishing Institute, 2025. doi: 10.3390/books978-3-0365-9654-9.

[2] **Moses Olabhele Esangbedo,** S. Bai, S. Mirjalili, and Z. Wang, "Evaluation of human resource information systems using grey ordinal pairwise comparison MCDM methods," *Expert Systems with Applications*, vol. 182, p. 115151, 2021.

[3] **Esangbedo Moses Olabhele**, Economic and regulatory drivers of consumer-centric product innovation: A case study of Chinese smartphones in Nigeria International Review of Economics & Finance, 2026, 109: 105338

[4] **Moses Olabhele Esangbedo** and M. Tang, "Evaluation of enterprise decarbonization scheme based on grey-MEREC-MAIRCA hybrid MCDM method," *Systems*, vol. 11, no. 8, p. 397, 2023.

[5] **Moses Olabhele Esangbedo,** B. O. Taiwo, H. H. Abbas, S. Hosseini, M. Sazid, and Y. Fissha, "Enhancing the exploitation of natural resources for green energy: An application of LSTM-based meta-model for aluminum prices forecasting," *Resources Policy*, vol. 92, p. 105014, 2024.

[6] **Moses Olabhele Esangbedo,** J. Xue, S. Bai, and C. O. Esangbedo, "Relaxed Rank Order Centroid Weighting MCDM Method With Improved Grey Relational Analysis for Subcontractor Selection: Photothermal Power Station Construction," *IEEE Transactions on Engineering Management*, vol. 71, pp. 3044–3061, 2024, doi: 10.1109/TEM.2022.3204629.

[7] Wei J, **Esangbedo Moses Olabhele***, Wang Y., Li Y. Spatio-Temporal Evolution Measurements for High-Quality Developmental Concepts in China's Emergency Industry, Sage Open, 2026, 21582440251403259

[8] Chen, Z., Tu, B. **Esangbedo, Moses Olabhele***, Toward contextualized research integrity in higher education: a fuzzy-set analysis of individual and organizational configurations among university faculty, Scientific Reports, In Press.

[9] Q. Cao, **Moses Olabhele Esangbedo,** S. Bai, and C. O. Esangbedo, "Grey SWARA-FUCOM weighting method for contractor selection MCDM problem: A case study of floating solar panel energy system installation," *Energies*, vol. 12, no. 13, p. 2481, 2019.

[10] Y. Liu, **Moses Olabhele Esangbedo,** and S. Bai, "Adaptability of inter-organizational information systems based on organizational identity: Some factors of partnership for the goals," *Sustainability*, vol. 11, no. 5, p. 1436, 2019.

[11] **Moses Olabhele Esangbedo** and A. Che, "Evaluating Business Environment in Africa Using Grey Number Weights.," *Journal of Grey System*, vol. 28, no. 3, 2016, Accessed: Nov. 25, 2024.

[12] **Moses Olabhele Esangbedo** and A. Che, "Grey Weighted Sum Model for Evaluating Business Environment in West Africa," *Mathematical Problems in Engineering*, vol. 2016, pp. 1–14, 2016, doi: 10.1155/2016/3824350.

[13] **Moses Olabhele Esangbedo** and B. O. Samuel, "Application of machine learning and grey Taguchi technique for the development and optimization of a natural fiber hybrid reinforced polymer composite for aircraft body manufacture," *Oxford Open Materials Science*, vol. 4, no. 1, 2024, Accessed: July 16, 2024.

[14] **Moses Olabhele Esangbedo** and J. K. Abifarin, "cost and quality optimization taguchi design with grey relational analysis of halloysite nanotube hybrid composite: CNC machine manufacturing," *Materials*, vol. 15, no. 22, p. 8154, 2022.

[15] **Moses Olabhele Esangbedo** and J. K. Abifarin, "Determination and managerial implications of machine conditions for high-grade industrial polycaprolactam (nylon 6)," *Scientific Reports*, vol. 13, no. 1, p. 10779, 2023.

[16] **Moses Olabhele Esangbedo** and J. Wei, "Grey hybrid normalization with period based entropy weighting and relational analysis for cities rankings," *Sci Rep*, vol. 13, no. 1, p. 13797, Aug. 2023, doi: 10.1038/s41598-023-40954-4.

[17] **Moses Olabhele Esangbedo** and S. A. Adeyemi, "Effects of Sales and Distribution Expenses on Organizational Performance in Nigeria's Consumer Goods Sector," *Management Science and Business Decisions*, vol. 3, no. 2, pp. 5–17, 2023.

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[19] **Moses Olabhele Esangbedo** and S. Bai, "Scaling Foreign-Service Premium Allowance Based on SWARA and GRA with Grey Numbers.," *Journal of Grey System*, vol. 32, no. 1, 2020, Accessed: Sept. 30, 2024. [Online].

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[21] C. Chen and **Moses Olabhele Esangbedo,** "Evaluating University Reputation Based on Integral Linear Programming with Grey Possibility," *Mathematical Problems in Engineering*, vol. 2018, pp. 1–17, June 2018, doi: 10.1155/2018/5484326.

[22] C. O. Esangbedo, J. Zhang, **Moses Olabhele Esangbedo,** S. D. Kone, and L. Xu, "The role of industry-academia collaboration in enhancing educational opportunities and outcomes under the digital driven Industry 4.0," *Journal of Infrastructure, Policy and Development*, vol. 8, no. 1, p. 2569, 2023.

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[26] J. Xue, **Moses Olabhele Esangbedo,** Q. Zhang, W. Zhang, and L. Wu, "The Impact of Emerging Technologies in the Aviation Manufacturing Industry: A Case Study of the Gradual-Change Factors in Shaanxi, PR China," *IEEE Transactions on Engineering Management*, vol. 71, pp. 220–232, 2024, doi: 10.1109/TEM.2021.3118709.
[27] X. Lu, C. Shan, **Moses Olabhele Esangbedo,** and J. Guo, "Research on IP Address Replacement Technology Based on Iptables," in *2011 7th International Conference on Wireless Communications, Networking and Mobile Computing*, IEEE, 2011, pp. 1–3. Accessed: Nov. 25, 2024.
[28] X. Zhang, H. Sun, X. Jin, and **Moses Olabhele Esangbedo,** "Existence of an equilibrium for pure exchange economy with fuzzy preferences," *Journal of Intelligent & Fuzzy Systems*, vol. 39, no. 3, pp. 2737–2752, 2020.
[29] Z. Wang, **Moses Olabhele Esangbedo,** and S. Bai, "Project portfolio selection based on multi-project synergy.," *Journal of Industrial & Management Optimization*, vol. 19, no. 1, 2023, Accessed: Sept. 30, 2024.

PROFESSIONAL EXPERIENCE

Associate Professor **July 2022 –Date**
Xuzhou University of Technology, China

- Executing the double-carbon reduction project for enterprise with short and long-term goals for the year 2030 and 2060, respectively.
- Lectured students on Scrum Masters, Product Owner, and Product Management on emerging Agile and Lean methods.
- Improving the culture by incorporating SAFe Agile values and principles in the National Natural Science Fund of China project.
- Conducting research on project control solutions to be used for planning, scheduling, and tracking projects through plans, schedules, monitors, and reports on activities related to the project.
- Conducting research on decision-manage approach under uncertain to contributes to project estimation process.

Product Manager **September 2023 – Date**
Zeed Worldwide, Harbor Pond Dr, Meriden.

- Identification of problem definition as part of continuous process improvement using Define, Measure, Analyze and Improve to support the business continuity of the organization.
- Migrated the company from Rally to Jira using development principles, values, concepts, methods, best practices, and techniques as needed to perform at the job level.
- Project backlog refinement and prioritizing with configuring Jira hybrid solutions that combines kanban board with scrum.
- Assisting to develop and execute an enterprise Customer Relationship Management (CRM) strategy.
- Gathering business requirements using appropriate elicitation techniques like user observation, brainstorming, client interviewing, and document analysis.
- Working with the CEO in developing the strategic vision and roadmaps for the year 2024 with validating the epics with architects.

Postdoctoral Research/Business Analyst **July 2020 – June 2022**
Xi'an Huading Project Management Consulting Co., Ltd.

- Analyzed, synthesized, and interpreted construction and financial data to identify opportunities for process improvement.
- Coached different scrum teams through various iterations during projects.
- Led a cross-functional scrum team through the development, enhancement, and maintenance of enterprise-level mobile applications with a high degree of confidence, independence, and sound judgment.
- Evaluated and implemented decision-making assessment for subcontractor selection for the floating solar-panel generation plant.

Postdoctoral Research/Enterprise and Decision-making Analyst **July 2018 – June 2020**
School of Management, Northwestern Polytechnical University, Xi'an, China

- 14 scientific publications in quality research journals to disseminate the decision-making results.

- One monograph of some original contribution to the grey system theory in the business decision domain.
- Researched on multi-criteria decision-making weighting problem based on the grey system and regulatory focus theories.
- Researched on improved grey relational analysis with hybrid point allocation multi criteria decision-making methods.
- Participated in the "Emerging technology in civil aviation industry" project of National Social Science Fund of China.
- Supported four Ph.D. students having Challenges with their research.

Strategic Project Manager and Agile Trainer **July 2017– April 2018**
Shandong Kerui Petroleum Equipment Company Ltd, Dongying, China

- Organized and managed staff training sessions such as Agile methodologies, Kerui's enterprise culture, Erui's international introduction, REGI business interpretation and "partnership programme," product line sales mode and policy, and cross-cultural communication within Nigerian (Lagos and Port Harcourt offices) and Sudanese branches, as well as Headquarters in China.
- Rendered superior level recruitment expertise to deliver over 1,000 CVs and suggested four strong candidates for CFO.
- Trained and mentored foreign staff, existing teams on Agile practices and influence the Journey team and leaders on the culture change required to shift from a traditional to an Agile approach and mindset foreigner to improve performance level.
- Interacted with local staff to collect queries and controlled overall activities of internal CV pool development.
- Deployed Agile methodologies in HR project.

Smart Electric Meter Requirements Engineer **June 2012–June 2017**
Huizhou Zhongcheng Electronic Technology. Co. Ltd, China

- Conducted requirements elicitation and analysis for developing the Nigerian market by developing a business case with model canvas.
- Prepared work packages to support factory construction and set up activities.
- Managed and supervised 15 fifteen factory workers on daily factory layout.
- Managed Scheduled work hours, resolved conflicts, and determined pay rate.

Graduate Project Coordinator **April 2007– March 2008**
Pipelines and Product Marketing Co. Ltd, (PPMC-NNPC) • Kaduna, Nigeria

- Calibrated switches, installation of transmitters.
- Programmed of the Inventory Management System (Fuel – FACS/AccuLoad).
- Participated in FMC and Smith Metering and Values training by CAKASA Nigeria Company Limited.
- Participated in HSE, fire safety, and first aid drills.

JOURNAL APPOINTMENT

Editorial Board: 1. International Journal of Grey Systems (IJGS), ISSN 2767-6412;
2. Management Science and Business Decisions (MSBD), ISSN 2767-6528.

Reviewer: Advances in civil engineering, Advances in materials science and engineering, Applied sciences, Artificial intelligence review, Artificial intelligence review, Behavioral sciences, Buildings, Complexity, Computational intelligence and neuroscience, Evergreen, Evergreen, Expert systems with applications, Food frontiers, Health services insights, IEEE access, IEEE transactions on engineering management, IEEE/ASME transactions on mechatronics, IET software, IETE journal of research, Information technology for development, Infrastructures, Intelligent transportation systems, IEEE transactions on, International journal of environmental research and public health, International journal of grey systems, International journal of innovation and technology management, International journal of management science and engineering management, International Journal of Manufacturing Engineering, International journal of systems science, ISPRS international journal of geo-information, Journal of advanced transportation, Journal of computational design and engineering, Journal of engineering design, Journal of environmental engineering and landscape management, Journal of food science, Journal of fuzzy extension & applications, Journal of management analytics, Management science and business decisions, Mathematical problems in engineering, Mathematical reviews, Modelling and simulation in engineering, PloS one, Quantitative science studies, Scientific reports, Sensors, Shock and vibration, Sustainability, Systems, Technological and economic development of economy.

AWARDS

- Cultivation project of excellent academic works of Northwestern Polytechnic University, 2022.
- Excellent PhD Thesis of Northwestern Polytechnical University, 2019.
- Chinese Scholarship Council scholarship award, Ph.D., 2012-2017.
- Bilateral Educational Agreement, Federation Scholarship Board, Nigerian scholarship award, Ph.D., 2012-2016.
- Creative and Innovative Project, Northwestern Polytechnical University, 2011.
- Excellent Student Award, International College of Northwestern Polytechnical University (NPU), China, 2010.
- Chinese Scholarship Council scholarship award, M.Sc., 2008-2012.
- Bilateral Educational Agreement, Federation Scholarship Board, Nigerian scholarship award, M.Sc., 2008-2012.

SPECIALIZED TRAINING AND CERTIFICATION

Certified SAFe 6 Architect	2025
Certified SAFe 6 DevOps Practitioner	2025
Certified SAFe 6 Advanced Scrum Master	2024
Certified SAFe 6 Practitioner	2024
Certified SAFe 6 Release Train Engineer	2024
Certified SAFe 6 Agile Product Manager	2024
Certified SAFe 6 Agilist	2024
Certified SAFe 6 Lean Portfolio Manager	2024
Certified SAFe 6 Practice Consultant	2024
ServiceNow Micro-Certification (Agile and Test Management Implementation, CMDB Health, Flow Designer, Predictive Intelligence, Configure the CMDB, Welcome to ServiceNow)	2025
Jira Fundamentals	2024
Certified SAFe 6 Scrum Master (SSM)	2023
Certified SAFe 6 Product Owner/Product Manager (POPM)	2023
Business Analysis Body of Knowledge (BABOK®) Guide Training	2017
Microsoft Specialist	2015
Microsoft Certified Professional (MCP)	2012
CompTIA Network+ Certified Professional	2010
Cisco Certified Network Associate (CCNA)	2010
Graduate Member - Nigerian Institutes of Management (NIM-Charted)	2008
Proficiency Certificate in Management (NIM-Charted)	2008
CompTIA A+ Certified Professional	2007
FMC and Smith Metering and Values training by CAKASA Nigeria Company Limited	2007
Total Quality Management (TQM) training	2007
HSE training.	2007
Fire and first aid training	2007

SUMMARY OF QUALIFICATION

- Expert in Agile and Scrum project methodologies to drive IT initiatives.
- Agile enterprise trainer.
- Proficient in the use of Jira and Confluence, Rally.
- Advanced Multi-Criteria Decision-Making Solution.
- Proficient knowledge of Microsoft suite (Excel, Word, PowerPoint, VISIO, Project, SharePoint, Teams etc.).
- Alternative office suite, Google docs, Libre-office, WPS.
- Promote a SAFe Agile mindset through the development.
- C++ programming (IBM CPLEX) for Operation Research.
- Expert with Jira, Confluence, Jira Query Language (JQL).
- Project management skills within a matrix environment.
- Proven ability to manage complex projects.
- Strong writing skills editorial and board member of academic journals.
- Develop and implement innovation and design thinking.
- Provide regular and open communication across the program.
- Deep practical experience of Scrum and Kanban.
- Credible and dependable leader.

- Experience conducting experiments, user interviews, usability studies, with the use of NVivo, RQDA, QDA-Miner.
- Proficient using data analytics and A/B testing tools combined with brainstorm to influence decision-making.
- Analytical skills, manipulating data, building hypotheses, and identifying high-leverage opportunities.
- Preparing top quality long document report using LaTeX, SciScape, Typeset, Overleaf etc.
- Advance computer networking technique for remote work, such as SSH, RDP, VNC, Spice, TeamViewer, AnyDesk etc.
- Enterprise communication interoperability platform, Teams, Zoom, Loom, LucidChart, Slack.
- Professional grade video editing for creating value such time lapse, low light, colour grading with DaVinci Resolve.
- Tools to adopt Lean 6 sigma, such as Value Stream Mapping, SIPOC, DMAIC, RACI, PESTEL, RCA, SWOT.
- Data analysis with Minitab, R, SPSS, JASP, Jamovi.
- Lunix for enterprise solutions; Ubuntu, OpenSuse, Redhat.
- Advance Linux solutions such as KVM, Docker, patching and configuring the Linux kernel, Netfilter/ IP Tables.
- Cloud solutions: Azure, Owncloud, Google, CodeCloud.
- Expert using MCDM methods such TOPSIS, AHP, WSM.

THESIS

PhD Thesis Title: Evaluating Business Environment in Africa Using Improved ROC Weights and WSM
Under the Supervision of Professor **Ada Che (15829058580, ache@nwpu.edu.cn)**

Abstract: As Chinese investments grow in Africa, the decision in which country to begin investment is of great importance to investors. Business environment is one of the most important factors that influences investors decision. Investing in Africa is a complex decision-making problem when considering every factor that affects African business environment, the business environment evaluation as well as determining investors objectives. Multi-Criteria Decision Making (MCDM) approach is used in addressing this problem by improving traditional methods because of the complexity of the research question.

The innovation and contributions of this thesis are in three aspects:

Firstly, an improved hierarchical model for evaluating Africa business environment is provided in this thesis. The hierarchical model is deduced from the Doing Business Project (DBP) by the World Bank. This thesis empirically validated the hierarchical model for Africa business environment based on Partial Least Squares (PLS) Structural Equation Modelling (SEM), and 26 criteria are theoretically valid for evaluating Africa by removing the DBP indicators that are not able to explain the African business environment. The improved evaluation hierarchical model compared to the DBP indicators provides a 48.64% reduction in the number of measured variables, as well as a 26.4% increment on the Average Variance Extracted (AVE).

Secondly, a new kind of weighting method called the Grey Relational Analysis – Integral Linear Programming – Rank Order Centroid (GRA-ILP-ROC) weighting method for determining the weights of indicators in group decision-making is proposed by combining three methods; the Grey Relational Analysis (GRA), Integer Linear Programming (ILP) approach and Rank Order Centroid (ROC) weights. To begin, grey numbers that correspond to the linguistic values are used to calculate the weights of the criteria. Next, the GRA based on grey numbers is used to evaluate the indicators according to their level of importance. The weights of the indicator are determined using the ROC weighting method. Simultaneously, a major limitation of determining the grey distinguishing coefficient is addressed using Integer Linear Programming (ILP) approach to improve the GRA by a pairwise comparison of the weights to determine the grey possibility degrees that an indicator is more important, and thereafter the rankings of the indicators are transformed to weights. This approach does not require determining the grey distinguishing coefficient.

Thirdly, the Weighted Sum Model with Time Weights (WSM-TW), Grey Weighted Sum Model (GWSM) and the Integral Linear Programming with Grey Possibilities (ILP-GP) approaches are proposed for African business environment evaluation. As a result of the dynamic nature of business environment and its indicator system, this thesis first proposed the WSM-TW that at assigns weights to different years the data are worth using the ROC weighting method, and then aggregates the indicator system using the WSM at different years. Next, grey numbers are used in representing a period of data for the dynamic indicators, and base on this the Grey Weighted Sum Model (GWSM) is proposed, however this model requires determining the whitenization coefficient for ranking the alternatives. To address this limitation, this further proposed the Integral Linear Programming with Grey Possibilities (ILP-GP) in ranking the alternatives. The ILP-GP approach begins with a pairwise comparison of the alternative on every indicator as grey numbers, the grey inferior or superior possibility degrees are determined, and the rankings of the alternatives are

addressed as Integer Linear Programming problem.

Finally, using the World Bank database in evaluation the business environment in Africa, the proposed WSM-TW, GWSM and ILP-GP evaluation methods are validated, sensitivity analysis is conducted to understand the factors that can impact the results, and a comparison of the results obtained from three methods are carried out, as well as African business environment are classified into three groups, providing investors decision support in determining where to invest in African countries.
Keywords: Grey System Theory (GST), African Business Environment Evaluation, Rank Order Centroid (ROC) Method, Weighted Sum Model (WSM), Partial Least Squares (PLS), Integer Linear Programming (ILP)