**Paper Title (18 font bold center)**

**Zeki Ayag (12 font bold center)**

Full Professor of Industrial Engineering

Faculty of Engineering and Natural Sciences

Kadir Has University

Istanbul, Turkey

zekia@khas.edu.tr

**Gunduz Ulusoy**

Professor Emeritus in Industrial Engineering

Faculty of Engineering and Natural Sciences

Sabanci University

Orhanli, Tuzla, Istanbul, Turkey

gunduz@sabanciuniv.edu

**Ahad Ali and Don Reimer**

A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering (12 font center)

Lawrence Technological University

Southfield, MI 48075, USA

aali@ltu.edu, dreimer@ltu.edu

**Paper Title**

* 18 font with bold and center justification
* All titles should be in standard mixed case, where the first letter of each word is capitalized and followed by lower case letters, as noted below:

**Lean Manufacturing, Operations Management and Six Sigma Applications**

**Authors and Affiliations**

* Author name – 12 font with bold and center justification
* Affiliation – 12 font with center justification
* Authors with same affiliation should be together
* Authors with different affiliation should be listed separately with one space in between
* Email can be added for each author
* Single space between affiliation and abstract title

**Abstract (12 font)**

Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract Abstract (10 font)

* Abstract title  – 12 font with bold and center justification
* Abstract text – 10 font with full justification
* Not exceeding 200 words.

**Keywords (12 font)**

Keyword 1, Keyword 2, Keyword 3, Keyword 4 and Keyword 5. (10 font)

* No more than five keywords (10 font)

## 1. Introduction (12 font)

## Add introduction here including motivation of the research (why this research is important / why this research is needed), and problem statements. (10 font)

## 1.1 Objectives (11 font)

## Add research objectives here. Make sure to fulfil all the research objectives at the end and articulate in the conclusion. Focus on key unique research contributions (10 font)

## 2. Literature Review (12 font)

## Add literature review here (10 font)

## 3. Methods (12 font)

## Add methods here (10 font)

## 4. Data Collection (12 font)

## Add data collection here. (10 font)

## 5. Results and Discussion (12 font)

## 5.1 Numerical Results (11 font)

## Add numerical results here. Make sure to describe all tables and add inferences (10 font)

## 5.2 Graphical Results (11 font)

## Add graphical results here. Make sure to describe all figures and add inferences. If needed, add statistical analysis here. (10 font)

## 5.3 Proposed Improvements (11 font)

## Add propose improvements write here including additional numerical and graphical results (10 font)

## 5.4 Validation (11 font)

## Add any validation here including improvement with statistical hypothesis tests write here (10 font)

## 6. Conclusion (12 font)

## Add conclusion here. Make sure to address that all objectives are met and emphasize of unique research contribution (10 font)

## References (12 font)

## Add references here. Make sure to follow IEOM reference format. See details at the end. (10 font)

Rahman, M. A., Sarker, B. R. and Escobar, L. A., Peak demand forecasting for a seasonal product using Bayesian approach, *Journal of the Operational Research Society*, vol. 62, pp. 1019-1028, 2011.

Reimer, D., Entrepreneurship and Innovation, Available: http://www.ieomsociet.org/ieom/newsletters/, July 2020.

Reimer, D. and Ali, A., Engineering education and the entrepreneurial mindset at Lawrence Tech, *Proceedings of the 3rd Annual International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey, July 3 – 6, 2012, pp. xx-xx.

Reimer, D., Title of the paper, *Proceedings of the 5th North American International Conference on Industrial Engineering and Operations Management*, Detroit, Michigan, USA, August 10-14, 2020, pp. xx-xx.

Shetty, D., Ali, A. and Cummings, R., A model to assess lean thinking manufacturing initiatives, *International Journal of Lean Six Sigma*, vol. 1, no. 4, pp. 310-334, 2010.

**Biography (12 font)**

Add each author biography – limited to 250 words. (10 font)

## Page Layout

* 8 1/2" X 11" paper
* All margins: 1.00"
* Full justification
* Times New Roman font
* Maximum 12 pages
* Single space for entire manuscript
* Each paper should have abstract, introduction, literature review with minimum 15 citations including some recent publications, methods, data analysis, numerical and graphical results, statistical analysis, validation, conclusion and references.
* Conference name as a header and copyright information as footer must be used. Copyright information implies that IEOM Society International has right to publication the paper

 **1. Headings (12 font)**

* 12 font size with bold and left justification
* Header should have numbering

## 1.1 Sub-Headings (11 font)

* Title – 11 font with sub-numbering
* Text – 10 font with no indexing
* One space between paragraphs

**Literature Review**

If author is mentioned at the beginning for the citation:

Rener (2020) developed the SC network with uncertainty. - For Single author

Rener and Ali (2020) developed the SC network with uncertainty. - For two authors

Rener et al. (2020) developed the SC network with uncertainty. - For more than two authors

or if author is mentioned at the end for the citation:

SC network was developed with uncertainty (Rener 2020). - For single author

SC network was developed with uncertainty (Rener and Ali 2020). - For two authors

SC network was developed with uncertainty (Rener et al. 2020). - For more than two authors

**Full details should be provided at the end for Reference Section:**

Rener, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

Rener, A., and Ali, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

Rener, A., Ali, A., and Reimer, D., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

**Few aspects to be considered to prepare a literature review:**

* Introductory write up for literature review
* Make sure to add some recent references
* Avoid paper-by-paper review. It should be based on category. Similar topics, applications or tools could be added in one paragraph. Few citations should be in a paragraph.
* A summary paragraph should be added.

**Figures**

* Texts of figure should be readable
* Original high quality pictures
* Center justification
* Title of Figure should be in center and it must be mentioned as “Figure x: …”
* Title of figure should be sentence case with center justification and 10 font
* Title should be after figure
* All figure numbers must be mentioned in the body of the paper.
* One space between texts and figure, figure and title of the figure and title of the figure and texts.

Figure 1. Name of the figure

**Tables**

* Texts of table should be readable
* Center justification
* Title of table should be in center and it must be mentioned as “Table x: …” It should be added before table.
* Title of table should be sentence case with center justification and 10 font size
* All table numbers must be mentioned in the body of the paper.
* One space between texts and table, table and title of the table and title of the table and texts.

Table 1. Name of the table

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**Equations**

* Equation numbering is optional.

## Acknowledgements

* Add acknowledgement if needed

**IEOM Reference Format**

**Citation Styles**

If author is mentioned at the beginning for the citation, use the below format:

Rener (2020) developed the SC network with uncertainty. - For Single author

Rener and Ali (2020) developed the SC network with uncertainty. - For two authors

Rener et al. (2020) developed the SC network with uncertainty. - For more than two authors

If author is mentioned at the end for the citation, use the below format:

SC network was developed with uncertainty (Rener 2020). - For single author

SC network was developed with uncertainty (Rener and Ali 2020). - For two authors

SC network was developed with uncertainty (Rener et al. 2020). - For more than two authors

**Full details should be provided at the end for Reference Section:**

Rener, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

Rener, A. and Ali, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

Rener, A., Ali, A. and Reimer, D., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, 2020.

## References Guidelines

* References title – 12 font with bold and left justification
* References texts – 10 font
* Use single space
* No empty line between two references
* No numbering should be used for references
* Last name and year should be used for any reference citation. Last name and year should be used for single author and double authors. For more than two authors, last name of the first author and “et al.” with year should be used. For examples: Reimer (2009), (Reimer 2009), Reimer and Ali (2009), (Reimer and Ali 2009), Reimer et al. (2009) and (Reimer et al. 2009). Number is not allowed in the reference citation.
* All references must be cited in the paper.
* Journal and conference names should in italic.
* Title of the book should be in italic.
* All lines after the first line of references list should be indented one-fourth (1/4) inch from the left margin. This is called hanging indentation.
* Below are some examples.

**For journal papers**

One author

Last name, first initial., Title of the paper, *Journal Name*, vol., no., pp., year.

Lee, J., Measurement of machine performance degradation using a neural network model, *International Journal of Modelling and Simulation*, vol.16, no. 4, pp. 192-199, 1996.

Two author (more authors will have similar format with addition authors)

Last name, first initial. and last name, first initial., Title of the paper, *Journal/Conference Name*, vol., no., pp, year.

Cook, V. and Ali, A., End-of-line inspection for annoying noises in automobiles: trends and perspectives, *Applied Acoustic*, vol. 73, no. 3, pp. 265-275, 2012.

Rahman, M. A., Sarker, B. R. and Escobar, L. A., Peak demand forecasting for a seasonal product using Bayesian approach, *Journal of the Operational Research Society*, vol. 62, pp. 1019-1028, 2011.

Reimer, D., and Ali, A., Engineering education and the entrepreneurial mindset at Lawrence Tech, *Proceedings of the International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey, July 3 – 6, 2012.

Shetty, D., Ali, A. and Cummings, R., A model to assess lean thinking manufacturing initiatives, *International Journal of Lean Six Sigma*, vol. 1, no. 4, pp. 310-334, 2010.

**For conference papers**

One author

Last name, first initial. Title of the paper, *Conference Name*, pp. xx-xx, city, country, dates, year.

Reimer, D., Entrepreneurship learning experiences, *Proceedings of the 12th Annual International Conference on Industrial Engineering and Operations Management*, pp. xx-xx, Istanbul, Turkey, March 7-10, 2022.

O’Neill, E., Introduction to Improving Adaptive Snow-Sports through Engineering Design, Ergonomic Form and Function, *Proceedings of the 4th North American International Conference on Industrial Engineering and Operations Management*, pp. 1486-1487, Toronto, Canada, October 23-25, 2019.

Two author (more authors will have similar format with addition authors)

Last name, first initial. and last name, first initial., Title of the paper, *Conference Name*, pp. xx-xx, city, country, dates, year.

Aghimien, D. and Aigbavboa, C., Performance of selected funding schemes used in delivering educational buildings in Nigeria, *Proceedings of the 3rd North American International Conference on Industrial Engineering and Operations Management*, pp. 108-119, Washington DC, USA, September 27-29, 2018.

Motsepe, Y. A., Makhanya, B. and Pretorius, J.H.C., Exploring the impact project definition readiness index on capital projects for coal-fired power station projects, *Proceedings of the First African International Conference on Industrial Engineering and Operations Management*, pp. 638-649, Pretoria, South Africa, October 29 – November 1, 2018.

**For books**

Last Name, First Initial. and Last Name, First Initial., *Title of the book*, edition, publisher, year.

Chang, T., Wysk, R. and Wang, H., *Computer-Aided Manufacturing*, 3rd Edition, Prentice Hall, New Jersey, 2006.

**For website**

Last Name, First Initial. and Last Name, First Initial., Article title article title article title article title article title, Available: http://www.ieomsociety.org/Details.aspx?id=xxx, May 21, 2019. If the author's name is not listed, begin with the title of the article for citation.

Name of the website, Available: http://www.ieomsociety.org/Details.aspx?id=xxx, Accessed on May 21, 2019.

**For Newspaper**

Last Name, First Initial. and Last Name, First Initial., Newspaper article title, date of publication, URL. Accessed Month Day, Year. If the author's name is not listed, begin with the title of the newspaper article for citation.

**All references should be organized alphabetically**

**References**

Aghimien, D. and Aigbavboa, C., Performance of selected funding schemes used in delivering educational buildings in Nigeria, *Proceedings of the 3rd North American International Conference on Industrial Engineering and Operations Management*, pp. 108-119, Washington DC, USA, September 27-29, 2018.

Ali, A. and Rener, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, year.

Chang, T., Wysk, R. and Wang, H., *Computer-Aided Manufacturing*, 3rd Edition, Prentice Hall, New Jersey, 2006.

Cook, V. and Ali, A., End-of-line inspection for annoying noises in automobiles: trends and perspectives, *Applied Acoustic*, vol. 73, no. 3, pp. 265-275, 2012.

Krstovski, S., Quality index, www.ieomsociety.org/newsletter/. Accessed May 21, 2020.

Lee, J., Measurement of machine performance degradation using a neural network model, *International Journal of Modelling and Simulation*, vol.16, no. 4, pp. 192-199, 1996.

Masud, A.S.M. and Whitman, L.E., Educating future engineers: An example, *Proceedings of the First International Conference on Industrial Engineering and Operations Management*, pp. 175-179, Dhaka, Bangladesh, January 9 – 10, 2010.

Motsepe, Y. A., Makhanya, B. and Pretorius, J.H.C., Exploring the impact project definition readiness index on capital projects for coal-fired power station projects, *Proceedings of the First African International Conference on Industrial Engineering and Operations Management*, pp. 638-649, Pretoria, South Africa, October 29 – November 1, 2018.

O’Neill, E., Introduction to Improving Adaptive Snow-Sports through Engineering Design, Ergonomic Form and Function, *Proceedings of the 4th North American International Conference on Industrial Engineering and Operations Management*, pp. 1486-1487, Toronto, Canada, October 23-25, 2019.

Rahman, M. A., Sarker, B. R. and Escobar, L. A., Peak demand forecasting for a seasonal product using Bayesian approach, *Journal of the Operational Research Society*, vol. 62, pp. 1019-1028, 2011.

Reimer, D., and Ali, A., Engineering education and the entrepreneurial mindset at Lawrence Tech, *Proceedings of the International Conference on Industrial Engineering and Operations Management*, Istanbul, Turkey, July 3 – 6, 2012.

Reimer, D., Entrepreneurship learning experiences, *Proceedings of the 12th Annual International Conference on Industrial Engineering and Operations Management*, pp. xx-xx, Istanbul, Turkey, March 7-10, 2022.

Reimer, D., Entrepreneurship, innovation and experiential learning, Available: http://www.ieomsociety.org/id=xxx, May 21, 2019.

Rener, A., Ali, A. and Reimer, D., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, year.

Rener, A., Optimization of the supply chain network using uncertainty, *International Journal of Industrial Engineering and Operations Management*, vol. xx, no. xx, year.

Retnanto, A., Parsaei, H.R. and Parsaei, B., The role of program advisory board in elevating the degree program content *Proceedings of the 9th International Conference on Industrial Engineering and Operations Management,* pp. 739-741, Bangkok, Thailand, March 5-7, 2019.

Shetty, D., Ali, A. and Cummings, R., A model to assess lean thinking manufacturing initiatives, *International Journal of Lean Six Sigma*, vol. 1, no. 4, pp. 310-334, 2010.

# Biography / Biographies (for single author – biography and multiple authors- biographies) – 12 font bold

* Include bio of each author at the end of the paper
* Limited to 250 words

**Zeki Ayag, Ph.D., P.Eng.** is currently as a Full Professor of Industrial Engineering at the Faculty of Engineering and Natural Sciences at Kadir Has University. Before, he served as Director of the Graduate School of Science and Engineering between 2014-2017, and Founding Chairman of Industrial Engineering between 2005-2015 at the same university. He holds an undergraduate degree in Industrial Engineering Department of Faculty of Business Administration, a Master’s in Engineering Management Program of Industrial Engineering, and a Ph.D. degree in Industrial Engineering Program of Industrial Engineering at Istanbul Technical University (I.T.U). Before joining to Kadir Has University, he worked as an Assistant Professor in Istanbul Kultur University for almost 2 years. In addition to his academic experience, he has national and international industrial experience such as; CAD Engineer in Magna International, Inc., Cam-Slide Mfg. (CANADA), Engineering Designer in Mold-Masters Ltd. (Canada), Construction Department Chief in Makina Takim Endustrisi A.S., and Quality Assurance Engineer in PIMAS A.S. He has published many articles in leading periodical journals indexed by SCI®) and SCI-Expanded®, such as International Journal of Production Research, Journal of Intelligent Manufacturing, IIE Transactions, Journal of Engineering Design and Journal of Intelligent and Fuzzy Systems and so on. He is a licensed Professional Engineer (P. Eng.) from both Society of Professional Engineers in Ontario (PEO) in CANADA, and Chamber of Mechanical Engineers of Turkey (TMMOB). He is Senior Member of Institute of Industrial Engineers (IIE). He has also various memberships such as Operational Research Society, TURKEY (YAD), Turkish Industrial Engineers Group (TURK IE), Society of Fuzzy Systems, TURKEY (BUSIDE), International Society on Multiple Criteria Decision Making (MCDM), International Association of Engineers (IAENG), IAENG Society of Industrial Engineering, IAENG Society of Operations Research, IAENG Society of Artificial Intelligence, IAENG Society of Information System Engineering and so on. He is also Associate Editor in Advances in Fuzzy Systems, former Editorial Board Member of International Journal of Production Research, and in different capacities for other journals. He also serves Program Evaluator for MÜDEK (Association of Evaluation and Accreditation of Engineering Programs), and Institutional External Evaluator and Team Leader for YÖK (Council of Higher Education in Turkey) Quality Council.

**Gündüz Ulusoy** received his BSc in mechanical engineering from Robert College, Istanbul in 1970; an MSc in mechanical engineering from the University of Rochester in 1972 and a Ph.D. in operations research from Virginia Tech in 1975. He served in the Department of Industrial Engineering, Boğaziçi University in Istanbul as a faculty member (1976-1999) and as Head of Department (1985-1993). He also served as Vice President of Boğaziçi University (1992-1994). In 1983, he worked as a postgraduate research fellow in the Operational Research Department in Lancaster University. He spent a year on leave from Boğaziçi University in the industry. He was a member of the Executive Board of the Turkish Scientific and Technical Research Council (1993-1997) and Chairman of the Executive Board of the Marmara Research Center (1995-1997). He served on the Executive Board of the Turkish Quality Association (1998-2002) and chaired its Quality Award Committee (1998-2002). He also served on the Board of Boğaziçi University Alumni Association (1988-1991) and the Board of Elginkan Foundation (1994-2000). He is a founding member of the Science Foundation and the Turkish Informatics Foundation.

In 1999 he joined the Faculty of Engineering and Natural Sciences at Sabancı University and established the Manufacturing Systems Engineering Program. He founded and became the Co-Coordinator of the Leaders for Industry Program (2001-2004). He founded the TUSIAD-Sabancı University Competitiveness Forum and served as its Director (2003-2008). He was a member of the Standing Committee on Sustainable Competitiveness of the Manufacturing Industry established by the Office of the Prime Minister of Turkey (2007-2010). Since 2015 he has served as an Emeritus Professor at Sabancı University.

He received Teaching Awards at Boğaziçi University and Sabancı University. In collaboration with TUSIAD and the related Trade Associations, he studied competitive strategies and sectoral benchmarking in the Turkish automotive, cement, electronics, white goods, and machine manufacturing industries. He conducted research on technology and new product development management in the Turkish automotive parts and components industry and on the new product development capability of the Turkish electronics industry. As a UNICE Competitiveness Working Group member in Brussels, he contributed to its competitiveness, entrepreneurship, and innovation research.

His primary research areas are competitiveness, innovation, digitalization and manufacturing strategies, and project management and scheduling. He has published research articles in Interfaces, Operations Research, Journal of the Operational Research Society, European Journal of Operational Research, International Journal of Production Economics, International Journal of Production Research, IIE Transactions, International Journal of Production and Operations Management, Journal of Operations Management, Naval Research Logistics, Computers & OR, and Frontiers of Engineering Management.

He was an Associate Editor of the European Journal of Operational Research (1981-2000), and Contributing Editor to the International Abstracts in Operational Research (1978-1992), Chief Editor of the Turkish Journal of Operational Research (1983-1985), and served as the Guest Editor for several academic journals. In 2021, the textbook he co-authored with Öncü Hazır and titled An Introduction to Project Modeling and Planning was published by Springer Nature.

**Ahad Ali** is an Associate Professor and Director of Industrial Engineering Program in the A. Leon Linton Department of Mechanical, Robotics and Industrial Engineering at the Lawrence Technological University, Southfield, Michigan, USA. He earned B.S. in Mechanical Engineering from Khulna University of Engineering and Technology, Bangladesh, Masters in Systems and Engineering Management from Nanyang Technological University, Singapore and PhD in Industrial Engineering from University of Wisconsin-Milwaukee. He has published journal and conference papers. Dr Ali has completed research projects with Chrysler, Ford, New Center Stamping, Whelan Co., Progressive Metal Manufacturing Company, Whitlam Label Company, DTE Energy, Delphi Automotive System, GE Medical Systems, Harley-Davidson Motor Company, International Truck and Engine Corporation (ITEC), National/Panasonic Electronics, and Rockwell Automation. His research interests include manufacturing, simulation, optimization, reliability, scheduling, manufacturing, and lean. He is member of IEOM, INFORMS, SME and IEEE.

**Donald M.** Reimer is the managing member of The Small Business Strategy Group, L.L.C and serves as an adjunct professor at Lawrence Technological University**.** Mr. Reimer holds a Bachelor of Science degree in Industrial Management from Lawrence Technological University and a Master of Arts degree in Political Science from University of Detroit/Mercy. He has been recognized as a professional management consultant with over 45 years of experience in working with closely-held businesses. He has taught courses in entrepreneurship, management and corporate entrepreneurship and innovation for engineers. Mr. Reimer served as member of the Minority Economic Development Committee of New Detroit. He has served as a KEEN Fellow for The Kern Family Foundation. He is member of the Lawrence Tech Alumni Board of Directors and has elected a Fellow of the IEOM Society International. Mr. Reimer is a faculty advisor of the Student Chapter of the IEOM Society at Lawrence Tech.