2026/11

Professor Amy J. C. Trappey
Tsing Hua Distinguished Professor
Department of Industrial Engineering and Engineering Management
National Tsing Hua University, Taiwan
Email : trappey@ie.nthu.edu.tw
Tel : +886-3-5742651
Fax : +886-3-5722204

I. EDUCATION

Ph.D. Industrial Engineering, Purdue University, 1989
M.S. Quantitative Business Analysis, Louisiana State University, 1985
B.S. Industrual Management, National Cheng Kung University, 1983

II. PROFESSIONAL EXPERIENCE

2008 – Current	**Tsing Hua Distinguished Professor.** Department of Industrial Engineering and Engineering Management (IEEM), National Tsing Hua University (NTHU), Taiwan
2017	**Principal Investigator/Director.** Advanced manufacturing and service management research center (AMSMRC), NTHU.
2008 – 2011	**Dean and Chair Professor.** College of Management, National Taipei University of Technology, Taiwan
2011 – 2014	**Adjunct Chair Professor.** College of Management, National Taipei University of Technology, Taiwan
2007 – 2010	**Program Director.** Industrial Engineering and Management Program, National Science Council, Taiwan
2003 – 2008	**Center Director** (Founder). Electronic Business Center (renamed Enterprise Logistics and E-Business Center – ELEBC in 2008), NTHU, Taiwan
2006 – 2007, 2012	**Visiting Research Fellow.** School of Engineering Systems and Centre for Integrated Engineering Management (CIEAM), Queensland University of Technology, Australia
2003 – 2006	**Chairperson**. Department of IEEM, NTHU, Taiwan
1998 – 1999	**Research Fellow and Visiting Professor.** George Mason University and ECRC, Fairfax, Virginia, USA
1996 – 2008	**Professor.** Department of IEEM, NTHU, Taiwan
1992 – 1996	**Associate Professor.** Department of Industrial Engineering, NTHU, Taiwan
1990 – 1992	**Assistant Professor.** Department of Industrial & Manufacturing Systems Engineering, Iowa State University, Iowa, USA
1990 – 1990	**Visiting Assistant Professor.** School of Industrial Engineering, Purdue University, USA

III. RESEARCH INTERESTS

Knowledge Engineering, E-Business/E-Analytics/E-Discovery, IP Analysis and Management, Engineering Asset Management, Renewable Energy Management, Patent Informatics

IV. HONORS AND AWARDS

1. 2026 – Received the **Lifelong Science Influence Rankings (1960- 2025)** and **2025 Science Impact Rankings** in the Stanford University published **World's Top 2% Scientists** lists.
2. 2025 – Received the **Best Paper Award** in 2025 Chinese Institute of Industrial Engineers Annual Conference, Kaohsiung, Taiwan, Nov. 29, 2025.
3. 2024 – Received the **Lifelong Science Influence Rankings (1960- 2023)** and **2023 Science Impact Rankings** in the Stanford University published **World's Top 2% Scientists** lists.

4. 2023 – Received the **Best Paper Award** in 2023 Chinese Institute of Industrial Engineers Annual Conference, Taichung, Taiwan, Dec. 9, 2023.
5. 2022 – Received the **Lifelong Science Influence Rankings (1960- 2021)** and **2021 Science Impact Rankings** in the Stanford University published **World's Top 2% Scientists** lists.
6. 2021 – Received the **2020 Science Impact Rankings** in the Stanford University published World's Top 2% Scientists list.
7. 2019 – Received the **Best Paper Award** in 2019 Chinese Institute of Industrial Engineers Annual Conference, Taipei, Taiwan, Nov. 23, 2019.
8. 2019 – Received the **Most Active Technical Committee Award** in 2019 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 2019), Bari, Italy, Oct. 6-9, 2019.
9. 2018 – Received the **Best Paper Award** in 2018 International Conference on Advanced Manufacturing (ICAM 2018), Yunlin, Taiwan, Nov. 16-18, 2018.
10. 2016 – Received the **Best Paper Award** in The 10th International Conference on Advanced Information Technologies and The 6th Forum on Taiwan Association for Web Intelligence Consortium, Taichung, Taiwan, April 23, 2016.
11. 2015 – Received the **Best Paper Award** in 2015 Chinese Institute of Industrial Engineers Annual Conference, Taichung, Taiwan, Dec. 12, 2015.
12. 2014 – **CIIE Fellow**, Chinese Institute of Industrial Engineers Fellow, Taiwan.
13. 2012~2015 – **Director of International Society of Engineering Asset Management (ISEAM)**
14. 2010 – **International Society of Engineering Asset Management (ISEAM) Fellow**
15. 2009 – **Industrial Engineering Medal** – Academic Research, Chinese Institute of Industrial Engineers, Taiwan.
16. 2007 – Received the **MBAA Distinguished Paper Award** in Operations Management & Entrepreneurship, Annual MBAA International Conference, Chicago, IL, USA, March 28-30, 2007.
17. 2004 – **ASME Fellow**, American Society of Mechanical Engineers, USA.
18. 1999 – 2001 – National Science Council (NSC) Research Excellent Award, Taiwan.
19. 1997 – Best Research Paper Award, Chinese Institute of Engineers (5 recipients nation-wide in all engineering disciplines), Taiwan.
20. 1997 – Best Research Paper Award, Chinese Institute of Industrial Engineers (2 recipients nation-wide in IE discipline), Taiwan.
21. 2007 – Best Research Paper Award, Chinese Institute of Industrial Engineers (3 recipients nation-wide in IE discipline), Taiwan.
22. 1996 – The Best Organizer of Symposium and Sessions (BOSS) Award, IMECE, ASME International Conference, USA.

V. PROFESSIONAL SERVICES AND CREDITS

Journal Editorial Appointments:

1. **Senior Editor - *Journal of Engineering Design* (2022~Now)**
2. **Special Content Editor – *Advanced Engineering Informatics* (2020~Now)**
3. **Associate Editor – *Advanced Engineering Informatics* (2015~2020)**
4. **Associate Editor – *World Patent Information*, 2020~2023 (Editor-in-Chief, 2024~Now)**
5. Associate Editor – *IEEE Trans. Systems, Man, Cybernetics: Systems* (2015~2022)
6. Editor-in-Chief – *International Journal of Electronic Business Management* (2003 ~ 2008; 2012~2016)
7. Editor-in-Chief – *Journal of the Chinese Institute of Industrial Engineers* (2003~2004)
8. Senior Editor – *Journal of the Chinese Institute of Industrial Engineers* (2000~2002)
9. Advisory Board – *Journal of the Chinese Institute of Industrial Engineers* (2005 ~ 2008)
10. Editorial Board – *International Journal of Agile Systems and Management* (2016 ~ Now)
11. Editorial Board – *World Patent Information* (2016 ~ 2020)

12. Editorial Board – *Advanced Engineering Informatics* (2011~2015)
13. Editorial Board – *Journal of Industrial and Production Engineering* (2009~2023), (Honorary (Past) Editors, 2024~Now)
14. Editorial Board –*International Journal of Advanced Logistics* (2014 ~ 2019)
15. Editorial Review Board – *International Journal of Applied Logistics* (2010~2022)
16. Editorial Board – *Journal of the Chinese Society of Mechanical Engineers* (1998~2002)
17. Editorial Board – *Industry Forum* (2001~2006)
18. Editorial Board – *IIE Transactions* (2001~2003)
19. Guest Editor – International Journal of Advanced Engineering Informatics (SCI), many issues; Expert Systems with Applications (SCI); Journal of Systems Science and Systems Engineering (SCI), 3 issues; IEEE Transactions on Components, Packaging, and Manufacturing Technology; International Journal of Computer Applications in Technology, 2 issues; International Journal of Technology Management (SCI/SSCI)

Professional Societies:

1. Society of Mechanical Engineering (**ASME**) – **Fellow**. Received Best Organizer of Symposium and Session (BOSS) Award, IMECE 1996
2. International Society of Engineering Asset Management (**ISEAM**) – **Fellow**, Executive Board Director (2012 ~ 2015)
3. International Society of Transdisciplinary Engineering (**ISTE**) – **Technical Committee Member (ISPE was renamed to ISTE in 2018)**
4. International Society of Productivity Enhancement (**ISPE**) - **Executive Board Member**, Host ISPE international conference CE2009 in Taipei)
5. **IEEE – Senior Member**, CSCWD Technical Committee (TC) Co-Chair, IEEE Systems, Man, and Cybernetics (IEEE-SMC) Society (TC Member)
6. Chinese Institute of Industrial Engineers (**CIIE**) – **Fellow**, Secretary General, Board Member, Society Journal - JCIIE Editor-in-Chief

Government and NGO Advisory and Professional Services:

1. **Board Member, Board of Directors.** The Automotive Research & Testing Center (ARTC), Taiwan (2021 ~ Now).
2. **Technology Advisor**. Ministry of Economic Affairs, Executive Yuan, Taiwan (central government) (2009 ~ 2017)
3. **Chair of Engineering Accreditation Reviews** for Accreditation Council, The Institute of Engineering Education Taiwan (IEET), a signatory of The Washington Accord, Seoul Accord, and Sydney Accord.
4. **Program Director** - Industrial Engineering and Management, National Science Council (NSC), Executive Yuan, Taiwan
5. **Advisor.** Industrial Technology Research Institute (ITRI) and Cooperate Synergy Development Center (CSD), Taiwan
6. **Advisor.** Institute for Information Industry (III), Taiwan

International Conference and Symposium Organizing:

1. 2017 – Conference co-chair, 2017 ISPE International Conference on Transdisciplinary Engineering (TE2017), Singapore, July 10-13, 2017.
2. 2017 – Program Committee, The 2017 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 2017), Banff, Canada, October 5-8, 2017.
3. 2016 – Special Session Co-Chair, The 2016 IEEE International Conference on Systems, Man, and Cybernetics (IEEE SMC 2016), Budapest, Hungary, October 9-12, 2016.

4. 2014 – General Conference Chair, The 18th IEEE International Conference on Computer Supported Cooperative Work in Design International Conference (CSCWD 2014), sponsored by IEEE SMC Society, Hsinchu, Taiwan, May 21~23, 2014.
5. 2012 – International Scientific Committee Chair, International Conference on Advanced Manufacturing (ICAM 2012), sponsored by SME (Taiwan Chapter), Yilan, Taiwan
6. 2010 – General Co-Chair, International Conference on Mass Customization and Personalization Asia 2010 (MCP Asia 2010), Taipei, Taiwan
7. 2009 – General Co-Chair, 16th ISPE International Conference on Concurrent Engineering (CE2009), July 20-24, 2009, Taipei, Taiwan
8. 2009 – Symposium Organizer, Symposium on Advances and Technical Challenges in RFID Research and Applications, 2009 ASME International Conference on Manufacturing Science and Engineering (MSEC2009), Oct. 4~7, 2009, W. Lafayette, Indiana, USA.
9. 2006~Current – Program Committee Member, IEEE CSCWD International Conference (CSCWD2006 ~ CSCWD2010)
10. 2006~Current – Program Committee Member, ISPE International Conference on Concurrent Engineering (CE2006 ~ CE2010) and ISPE Society Executive Board Member.
11. 2006 – Conference Co-Chair, 36th International Conference on Computer and Industrial Engineering (ICCIE), Taipei, Taiwan.
12. 2001 – International Conference Organizer – The 2001 APEC Small & Medium Enterprise E-Commerce Symposium, Hsinchu, Taiwan, June.
13. 2000 – Cluster Chair – "E-Business International Perspectives," 2000 INFORMS Meeting, San Antonio, Texas, USA.
14. 1999 – Cluster Chair – "Enterprise Integration," 1999 INFORMS Meeting, Cincinnati, Ohio, USA.
15. 1996 – Cluster Chair – "Advanced Manufacturing Technology," 1996 Institute for Operations Research and Management Science (INFORMS) Meeting, Washington D.C., USA.
16. 1996 – Symposium Organizer and Contributing Editor of the Proceedings – "Advanced Product Data Management," 1996 ASME International Mechanical Engineering Congress and Exhibition (IMECE), MED-Vol-4, Atlanta, Georgia, USA.

VI. GRADUATE STUDENTS THESES SUPERVISOR (1990~2026 June)

(A) Ph.D. Students Graduated: **16**
(B) M.S. Students Graduated: **143**

VII. JOURNAL PUBLICATIONS (Complete list of publications can be provided upon request)

1. Trappey, A. J. C., Liu, C. R., and Chang, T.-C., 1988, "Fuzzy non-linear programming: Theory and application in manufacturing," *International Journal of Production Research*, Vol. 26, No. 5, pp. 975-985.
2. Trappey, A. J. C., and Liu, C. R., 1990, "A literature survey of fixture design automation," *International Journal of Advanced Manufacturing Technology*, Vol. 5, pp. 240-255.
3. Trappey, A. J. C., and Liu, C. R., 1992, "An automatic workholding verification system," *Robotics and CIM*, Vol. 9, No. 4, pp. 321-326.
4. Trappey, A. J. C*., Liu, C. R., and Matrubhutam, S., 1992, "An integrated system shell concept for design and planning, " *Journal of Design and Manufacturing*, Vol. 2, pp. 1-17.
5. Trappey, A. J. C., and Liu, C. R., 1993, "Automated fixture configuration using projective geometry approach," *International Journal of Advanced Manufacturing Technology*, Vol. 8, pp. 297-304.

6. Huang, S.-H., and Trappey, A. J. C., 1992, "The integration of modular fixture database, fixturing knowledge base and 3-D fixture planning interface," *Computers & Industrial Engineering*, Vol. 23, No. 4, pp. 381-385.
7. Downs, K.A., and Trappey, A. J. C., 1992, "A sequential block approach to the design of a cost estimation system," *Computers & Industrial Engineering*, Vol. 23, No. 4, pp. 423-426.
8. Trappey, C. V., Trappey, A. J. C., Feinberg, R., 1993, "A knowledge base system for predicting merchandise investment returns," *Applied Artificial Intelligence* - An International Journal , Vol. 7, pp. 207-221.
9. Trappey, C. V., and Trappey, A. J. C., 1993, "Planning merchandise investments using fuzzy optimization," *Journal of Intelligent and Fuzzy Systems*, Vol. 1, No. 3, 189-197.
10. Trappey, A. J. C.*, Matrubhutam, S., 1993, "Fixture configuration using projective geometry," *Journal of Manufacturing Systems*, Vol. 12, No. 6, pp. 486-495.
11. Trappey, A. J. C.*, and Lai, C.-S., 1995, "A data representation scheme for sheetmetal parts: Expressing manufacturing features and tolerance requirements," *Journal of Manufacturing Systems*, Vol. 14, No. 6, pp. 393-405.
12. Trappey, C.V., Trappey, A.J., Hwang, S.J., 1995, "Computer aided quality function deployment for retail automation," *Journal of Management and Systems*, Vol. 2, No. 1, pp. 31-49 (in Chinese).
13. Trappey, A.J.C.*, Hou, J.L., Yeh, D.C., 1996, "Development of a computer aided modular fixture planning system," *Journal of the Chinese Institute of Industrial Engineers*, Vol. 13, No. 4, pp. 371-379 (in Chinese). **[Received the 1997 outstanding research paper awards from the Chinese Institute of Engineers and the Chinese Institute of Industrial Engineers.]**
14. Trappey, C. V.*, Trappey, A. J. C., and Hwang, S.-J., 1996, "A computerized quality function deployment approach for retail services," *Computers & Industrial Engineering*, Vol. 30, No. 4, pp. 611-622.
15. Trappey, A. J. C.*, Peng, T.-K., Lin, H.-D., 1996, "An object-oriented bill of materials system for dynamic product management," *Journal of Intelligent Manufacturing*, Vol. 7, pp. 365-371.
16. Peng, T.-K., and Trappey, A. J. C.*, 1997, "CAD-integrated engineering data management system for spring design," *Robotics and Computer-integrated Manufacturing*, Vol. 12, No. 3, pp. 271-281.
17. Hou, J.L., and Trappey, A.J.C., 1997, "A methodology for applying V-blocks and clamps to non-prismatic workpart fixture," *International Journal of Computer Application in Technology* Vol. 10, Nos. 3/4, .pp. 152-169.
18. Hou, J.L., and Trappey, A.J.C., 1997, "The illustration of systematic fixture design approach for automotive part machining," *Journal of the Chinese Society of Mechanical Engineers* (in English), Vol. 18, No. 6, pp. 499-511.
19. Trappey, A.J.C.*, Liu, T.-H., and, Hwang, C.-T., 1997, "Using EXPRESS data modeling technique for PCB assembly analysis," *Computers in Industry*, Vol. 34, pp. 111-123.

20. Liu, T.-H., Trappey, A. J. C., and Chan, F.-W., 1997, "A scheduling system for IC packaging industry using STEP enabling technology," *IEEE Trans. on Component, Packaging, and Manufacturing Technology, Part C*, Vol. 20, No. 4, pp. 256-267.
21. Peng, T.-K. and Trappey, A.J.C., 1997, "Developing a STEP-based engineering data management system," *Journal of Management and Systems*, Vol. 4, No. 2, pp. 91-126.
22. Peng, T.-K. and Trappey, A.J.C.*, 1998, "A step toward STEP-compatible engineering data management - the data models of product structure and engineering changes," *Robotics and Computer-integrated Manufacturing*, Vol. 14, No. 2, pp. 89-109.
23. Liu, T.-H., Trappey, A.J.C., and King, Z.-J., 1998, "A computerized calibration service supporting system (I): system design and development," *International Journal of Computer Applications in Technology*, Vol. 12, No. 1, pp. 46-59.
24. Trappey, C.V., and Trappey, A.J.C., 1998, "A chain-store marketing information system: realizing internet-based enterprise integration and electronic commerce," *Industrial Management and Data System*, 98/5, pp. 205-213. **[Received Highly Commended Award, Literati Club, MCB University Press.]**
25. Tu, C.-L., Trappey, A.J.C., 1998, "Decision making of mortgage loan approval using artificial neural network approach," *Journal of The Chinese Fuzzy Systems Association* (Taiwan), Vol. 4, No. 1, pp. 31-44.
26. Trappey, C.V., and Trappey, A.J.C., 1998, "Internet-based retail information integration and electronic commerce: Using object oriented principles," *Communications of the ICISA*, Fall, pp. 14-24.
27. Liu, T.-H., Trappey, A.J.C., and Shyu, J.-B., 1999, "ISO10303-based PCB assembly data model for assembly analysis," *Concurrent Engineering: Research and Applications*, Vol. 7, No. 2, June, pp. 159-176.
28. Trappey, C.V., and Trappey, A.J.C., Gulledge, T.R., and Sommer, R., 1999, "Transferring information technology to the defense industry supply chains: The role of electronic commerce resource centers," *Journal of Management Information System* (Taiwan), Vol. 6, No. 1, pp.181-197.
29. Hou, J.-L., and Trappey, A.J.C., 1999, "On the development of computer-aided hydraulic fixture selection system," *Journal of the Chinese Institute of Industrial Engineers*, Vol. 16, No. 1, pp. 39-61.
30. Trappey, A.J.C., and Chang, C.R., 1999, "ISO10303-compliant computer-aided wheel-rim design system – the framework and data model," *International Journal of Production Research (IJPR*), Vol. 38, No. 6, pp. 1325-1338.
31. Yao, Y.H., and Trappey, A.J.C.*, 2000, "ISO10303 compatible data model and its applications for PC configuration management," *Robotics and CIM*, Vol. 16, No. 5, pp. 339-352.
32. Peng, T.K., and Trappey, A.J.C.*, 2000, "以 STEP 為基礎建構整合性產品資料管理雛形系統," *Journal of Chinese Institute of Industrial Engineers*, Vol. 17, No. 1, pp. 87-101 (in Chinese).

33. Trappey, C.V.*, and Trappey, A.J.C., 2001, “Electronic commerce in greater China,” *Industrial Management and Data System*, Vol. 101, No. 5, pp. 201-209.
34. Trappey, C.V., Trappey, A.J.C*., and Chang, Y.-P., 2000, “Internet Storefront Reengineering Using an Electronic Schema Approach,” *Human Systems Management*, Vol. 19, pp. 295-303.
35. Liu, T.-H.*, Trappey, A.J.C., and Lin, C.-S., 2000, “Development of SDAI-based common access interface for object-oriented DBMS,” *The International Journal of Concurrent Engineering: Research & Applications (CERA)*, Vol. 8, No. 3, pp. 230-241.
36. Trappey, A.J.C., Wang, H.-C., and Hou, J.-L., 2000, “Enable e-business applications by integrating ERP with Internet-based EDI,” *The International Journal of Agile Manufacturing* (Accepted, forthcoming).
37. Hou, J.L.*, and Trappey, A.J.C., 2001, “A computer-aided fixture design system for comprehensive modular fixtures,” *International Journal of Production Research*, Vol. 39, No. 16, pp. 3703-3725.
38. Hou, J.L.*, Trappey, A.J.C., and Z.-X. You, 2001, “Development of product data management system considering build-to-order PC configuration management,” *Journal of the Chinese Society of Mechanical Engineers* (in English), Vol. 22, No. 5, pp. 409-420.
39. Trappey, A.J.C.*, and Ho, P.-S., 2002, “Human resource assignment system for distribution centers,” *Industrial Management and Data Systems*, Vol. 102, No. 2, pp. 64-72.
40. Hou, J.L., Trappey, C.V., and Trappey, A.J.C., 2003, “Enabling a centralized enterprise knowledge management hub for the high technology value chain,” *International Journal of Service Technology and Management*, Vol. 4, No. 4, pp. 424-441.
41. Hou, J.L.*, Trappey, C.V., and Trappey, A.J.C., 2002, “A web-based document server for knowledge management in a supply chain,” International Journal of *Agile Manufacturing*, Vol. 5, No. 1, pp. 77-88.
42. Yao, Y.-H., Trappey, A.J.C.*, and Ho, P.-S., 2003, “XML-based ISO9000 electronic document management system,” *Robotics and CIM*, Vol. 19, No. 4, pp. 355-370.
43. Yao, Y.H., and Trappey, A.J.C.*, 2003, “Using ISO10303 data standard and XML standard web technology to enable ISO9000 document management,” *International Journal of Computer Applications in Technology*, Vol. 18, No. 1-4, pp. 117-132.
44. Huang, C.-J., Trappey, A.J.C.*, and Yao, Y.-H., 2003, “Design and develop WfMC-based modularized network collaborative design system (WfMC為基之模組化網路協同設計系統分析與建置),” *Journal of Chinese Institute of Industrial Engineers*, Vol. 20, No. 4, pp. 422-434.
45. Huang, C.-J., Trappey, A.J.C.*, Yao, Y.-H., Yeh, S.-C., and Cheng, Y.-H., 2003, “Adopting contact center approach to collaborative product development - using TFT-LCD design chain as case study,” *International Journal of E-Business Management*, Vol. 1, No. 3, pp. 120-128.
46. Trappey, A.J.C.*, Trappey, C.V., Hou, J.-L., and Chen, B.J.G., 2004, “Mobile agent technology and application for online global logistic services,” *Industrial Management and Data System*, Vol. 104, No. 2, pp. 169-183.

47. Ho, P.-S., Trappey, A.J.C.*, and Trappey, C.V., 2004, "Data interchange services: use of XML hub approach for the aerospace supply chain," *International Journal of Technology Management*, Vol. 28, No. 2, pp. 227-242.
48. Trappey, A.J.C.*, and Trappey, C.V., 2004, "Global content management services for product providers and purchasers," *Computers in Industry*, Vol. 53, pp. 39-58.
49. Hsu, F.-C., Trappey, A.J.C., Hou, J.-L.*, Trappey, C.V., and Liu, S.-J., 2004, "Develop a multi-channel legal knowledge service center with knowledge mining capability," *International Journal of E-Business Management*, Vol. 2, No. 2, pp. 92-99.
50. Trappey, A.J.C., and Ho, P.-S., 2005, "Design and develop an e-exchange platform using XML trade hub approach for global supply chain integration," *Journal of Management Information System*, Vol. 12, No. 3, pp. 67-86.
51. Yao, Y.-H., Lin, Gilbert Y.P., Trappey, A.J.C., 2005, "Using knowledge-based intelligent reasoning to support dynamic equipment diagnosis and maintenance," *International Journal of Enterprise Information Systems*, Vol. 2, No. 1, pp. 17-29.
52. Hsu, F.-C.*, Trappey, A.J.C., Trappey, C.V., Hou, J.-L., and Liu, S.-J., 2006, "Technology and knowledge document cluster analysis for enterprise R&D strategic planning," *International Journal of Technology Management*, Vol. 36, No. 4, pp. 336-353.
53. Trappey, A.J.C.*, Trappey, C.V., Lin, F.T.L., 2006, "Automated silicon intellectual property trade using mobile agent technology," *Robotics and CIM*, Vol. 22 (2006), pp. 189-202.
54. Trappey, A.J.C., and Lu, T.-H., 2006, "Process reengineering of collaborative mold design and manufacturing – a system engineering evaluation approach," *Material Science Forum – Progress on Advances Manufacture for Micro/Nano Technology 2006*, pp. 619-624.
55. Chiang, T.A., Trappey, A.J.C.*, Ku, C.C., 2006, "Using a knowledge-based intelligent system to support dynamic design reasoning for a collaborative design community", *International Journal of Advanced Manufacturing Technology*, Vol. 31, No. 5, pp. 421-433.
56. Trappey, A.J.C.*, Hsu, F.-C., Trappey, C.V., and Lin, C.-I., 2006, "Development of a patent document classification and search platform using a back-propagation network," *Expert Systems with Applications*, Vol. 31, pp. 755-765.
57. Trappey, C.V.*, Shih, T.Y., and Trappey, A.J.C., 2007, "Modeling international investment decisions for financial holding companies," *European Journal of Operational Research*, Vol. 180 (2007), pp. 800-814.
58. Trappey, A.J.C., Trappey, C.V.*, and Hsieh, E.C.H., 2006, "Automatic categorization of patent knowledge for R&D knowledge self-organization," *Journal of Management*, Vol. 23, No. 4, pp. 413-424.
59. Huang, C.-J.*, Trappey, A.J.C., and Yao, Y.-H., 2006, "Developing an agent-based workflow management system for collaborative product design," *Industrial Management and Data System*, Vol. 106, No. 5, pp. 680-699.
60. Trappey, A.J.C., Chiang, T.-A.*, and Ke, S., 2006, "Developing an intelligent workflow management system to manage project processes with dynamic resource control," *Journal of*

Chinese Institute of Industrial Engineers, Vol. 23, No. 6, pp. 484-493. (TSSCI/EI) **[Received the 2007 outstanding research paper awards from the Chinese Institute of Industrial Engineers.]**

61. Chiang, T.-A., and Trappey, A.J.C.*, 2007, "Development of value chain collaborative model for product lifecycle management and its LCD industry adoption," *International Journal of Production Economics*, Vol. 109, No. 1-2, pp. 90-104.
62. Trappey, A.J.C.*, and Hsiao, D.W., 2008, "Applying collaborative design and modularized automotive assemblies for automotive ODM supply chain," *Computers in Industry*, Vol. 59, pp. 277-287.
63. Trappey, C.V., Trappey, A.J.C.*, and Lin, F.T.L., 2007, "Developing silicon intellectual property E-trade mechanisms for system on chip design and integration," *International Journal of Computer Integrated Manufacturing (IJCIM)*, Vol. 20, No. 5, pp. 423-435. (SCI)
64. Trappey, C.V., Trappey, A.J.C.*, Lin, G.Y.P., Liu, C.S., and Lee, W.T., 2007, "Business and logistic hub integration to facilitate global supply chain linkage," *Journal of Engineering Manufacture, Part B*, Vol. 221, pp. 1221-1233.
65. Trappey, A.J.C.*, Lin, G.Y.P., Ku, C.C., and Ho, P.-S., 2007, "Design and analysis of rule-based knowledge system supporting intelligent dispatching and its application in TFT-LCD industry," *International Journal of Advanced Manufacturing Technology*, Vol. 35, No. 4, pp. 385-393.
66. Trappey, A.J.C.*, and Trappey, C.V., 2008, "An R&D knowledge management method for patent document summarization," *Industrial Management and Data System*, Vol. 108, No. 2, pp. 245-257.
67. Trappey, C.V., Trappey, A.J.C.*, Liu, C.S., Lee, W.T., and Hung, Y.L., 2008, "The design and evaluation of a supply chain logistic hub for automobile and parts distribution," *Materials Science Forum*, Vol. 594, pp. 119-131.
68. Hsiao, D.W.*, Trappey, A.J.C., Ma, L., Fan, Y.-C., and Mao, Y.-C., 2008, "Agent-based integrated and collaborative engineering asset management," *Materials Science Forum*, Vol. 594, pp. 481-493.
69. Wognum, N., and Trappey, A.J.C., 2008, "PLM challenges," *Advanced Engineering Informatics*, Vol. 22 (2008), pp. 419-420.
70. Trappey, A.J.C., and Chiang, T.-A.*, 2008, "A DEA benchmarking methodology for project planning and management of new product development under decentralized profit-center business model," *Advanced Engineering Informatics*, Vol. 22 (2008), pp. 438-444.
71. Chiang, T.-A., Trappey, A.J.C., Chen, W.-C., 2008, "Benchmark new product development processes using DEA-based modularized approach," *Issues in Information Systems*, Vol. IX, No. 2, pp. 153-162.
72. Trappey, A.J.C., Taghaboni-Dutta, F., and Trappey, C.V., 2008, "A framework for a green product lifecycle management system," *Issues in Information Systems*, Vol. IX, No. 2, pp. 123-131.

73. Trappey, C.V., Trappey, A.J.C.*, Chiang, T.-A., and Kuo, J.-Y., 2009, "A strategic product portfolio management methodology considering multiple objectives and enterprise R&D resource constraints," *The International Journal of Technology Management*, Vol. 48, No. 2, pp. 258-276.
74. Trappey, A.J.C., Lu, T.-H.*, and Fu, L.-D., 2009, "Development of an intelligent agent system for collaborative mold production with RFID technology," *Robotics and CIM*, Vol. 25, No. 1, pp. 42-56.
75. Hsiao, D.W., Trappey, A.J.C.*, Ma, L., Ho, P.-S., 2009, "An integrated platform of collaborative project management and silicon intellectual property management for IC design industry," *Information Sciences*, Vol. 179, Issue 15, pp. 2576-2590.
76. Trappey, C.V., Trappey, A.J.C.*, Huang, C.-J., and Ku, C.C., 2009, "The design of a JADE-based autonomous workflow management system for collaborative SoC design," *Expert Systems with Applications*, Vol. 36, No. 2, Part 2, pp. 2659-2669.
77. Taghaboni-Dutta, F.*, Trappey, A.J.C., Trappey, C.V., and Wu, H.-Y., 2009, "An exploratory RFID patent analysis," *Management Research News*, Vol. 32, No.12, pp. 1163-1176.
78. Trappey, A.J.C.*, Trappey, C.V., Hsu, F.-C., and Hsiao, D.W., 2009, "A fuzzy ontological knowledge document clustering methodology," *IEEE Transactions on Systems, Man, Cybernetics: Part B*, Vol. 39, No. 3, June 2009, pp. 806-814.
79. Trappey, C.V., Trappey, A.J.C.*, Chang, A.-C., Huang, A.Y.L., 2009, "The analysis of customer service choices and promotion preferences using hierarchical clustering," *Journal of Chinese Institute of Industrial Engineers*, Vol. 26, No. 5 (September 2009), pp. 367-376.
80. Trappey, A.J.C., Trappey, C.V.*, Wu, C.-Y., 2009, "Automatic patent document summarization for collaborative knowledge systems and services," *Journal of Systems Science and Systems Engineering*, Vol. 18, No. 1, pp. 71-94.
81. Trappey, C.V., Trappey, A.J.C.*, and Wu, C.-Y. (Squall), 2010, "Clustering patents using non-exhaustive overlaps," *Journal of Systems Science and Systems Engineering*, Vol. 19, No. 2, pp. 162-181.
82. Trappey, A.J.C.*, and Trappey, C.V., 2010, "Advances in aligning knowledge systems, improving business logistics, driving innovation and adapting customer centric services," *Expert Systems with Applications*, Vol. 37 (2010), pp. 7297-7298.
83. Taghaboni-Dutta, F.*, Trappey, A.J.C., and Trappey, C.V., 2010, "An XML based supply chain integration hub for green product lifecycle management," *Expert Systems with Applications*, Vol. 37 (2010), pp. 7319-7328.
84. Trappey, A.J.C., Trappey, C.V.*, Wu, Chang-Ru, 2010, "Genetic algorithm dynamic performance evaluation for RFID reverse logistic management," *Expert Systems with Applications*, Vol. 37, pp. 7329–7335.
85. Trappey, C.V.*, Trappey, A.J.C., Chang, A.-C., Huang, A.Y.L, 2010, "Clustering analysis prioritization of automobile logistics services," *Industrial Management and Data System*, Vol. 110, No. 5, pp. 731-743.

86. Trappey, A.J.C.*, Hsiao, D.W., Ma, L., 2011, "Maintenance chain integration using petri-net enabled multiagent system modeling and implementation approach," *IEEE Trans on Systems, Man, and Cybernetics - Part C,* Vol. 41, No. 3, pp. 306-315.
87. Trappey, C.V., Wu, H.-Y., Taghaboni-Dutta, F.*, Trappey, A.J.C., 2011, "Using patent data for technology forecasting: China RFID patent analysis," *Advanced Engineering Informatics,* Vol. 25, pp. 53-64.
88. Trappey, A.J.C. and Wognum, P.M, 2011, "Special issue on RFID and sustainable value chains," *Advanced Engineering Informatics,* Vol. 25, pp. 2-3.
89. Trappey, C.V., Lin, G.Y.P., Trappey, A.J.C.*, Liu, C.S. and Lee, W.T., 2011, "Deriving industrial logistics hub reference models for manufacturing based economies," *Expert Systems with Applications,* Vol. 38, No. 2, pp. 1223-1232.
90. Trappey, A.J.C., Ou, Jerry J.R.*, Lin, G.Y.P., and Chen, M.-Y., 2011, "An eco- and inno-product design system applying integrated and intelligent LCA, QFDE, and TRIZ methodology," *Journal of Systems Science and Systems Engineering,* Vol. 20, No. 4, pp.443-459.
91. Trappey, A.J.C., Sun, Y.*, Trappey, C.V., and Ma, L., 2011, "Re-engineering transformer maintenance processes to improve customized service delivery," *Journal of Systems Science and Systems Engineering,* Vol. 20, No. 3, pp.323-345.
92. Trappey, A.J.C., Wognum, P.M, and Trappey, C.V., 2011, "Special issue editorial on mass customization and sustainable value systems," *Journal of Systems Science and Systems Engineering,* Vol. 20, No. 3, pp.257-259.
93. Chiang, T.-A., Wu, C.-Y., Trappey, C.V., Trappey, A.J.C.*, 2011, "An intelligent system for automated binary knowledge document classification and content analysis," *Journal of Universal Computer Science,* Vol. 17, No. 14 (2011), pp.1991-2008.
94. Trappey, A.J.C., Trappey, C.V.*, Wu, C.-Y., Lin, C.-W., 2012, "A patent quality analysis for innovative technology and product development," *Advanced Engineering Informatics* Vol. 26, No. 1, pp. 26-34.
95. Trappey, A.J.C., and Wognum, P.M., 2012, "Network and supply chain system integration for mass customization and sustainable behavior," *Advanced Engineering Informatics,* Vol. 26, No. 1, pp. 3-4.
96. Trappey, A.J.C.*, Trappey, C.V., Lin, G.Y.P. and Chang, Y.-S., 2012, "The analysis of renewable energy policies for the Taiwan Penghu island administrative region," *Renewable and Sustainable Energy Reviews,* Vol. 16, No. 1, pp. 958-965.
97. Trappey, A.J.C., Trappey, C., Hsiao, C.T., Ou, J.J.R., Li, S.J.*, Chen, K.W.P., 2012, "An evaluation model for low carbon island policy: The case of Taiwan's green transportation policy," *Energy Policy,* Vol. 45, pp. 510-515.
98. Trappey, A.J.C., Trappey, C.V.*, Hsiao, C.-T., Ou, Jerry J.-R., Chang, C.-T., 2012, "System dynamics modelling of product carbon footprint life cycles for collaborative green supply chains," *International Journal of Computer Integrated Manufacturing,* Vol. 25, No. 10, pp. 934-945.

99. Trappey, A.J.C., Trappey, C.V.*, Chang, A.-C., Lee, F.-L., Hsieh, H.-C. and Chao, M.-H., 2012, "Promoting and positioning entertainment artists using clustering and classification approaches," *International Journal of Electronic Business Management,* Vol. 10, No. 4, pp. 274-285 (EI/ABI INFORM Global).
100. Trappey, A.J.C.*, Trappey, C.V., Sun, Y., Ma, L., and Chen, K.-J., 2013, "An intelligent transformer maintenance system with real-time life assessment condition monitoring," *The Journal of the Chinese Society of Mechanical Engineers,* Vol. 34, No. 6, pp. 539-548.
101. Trappey, A.J.C.*, Trappey, C.V., Chiang, T.-A., Huang, Y.-H., 2013, "Ontology-based neural network for patent knowledge management in design collaboration," *International Journal of Production Research*, Vol. 51, No. 7, pp.1992–2005.
102. Trappey, C.V., Trappey, A.J.C.,*, Lin, G.Y.P., Lee, W.-T., Yang, T.-H., 2013, "SETZ logistics models and system framework for manufacturing and exporting large engineering assets," *Journal of Systems and Software*, Vol. 86, pp. 1725-1976.
103. Trappey, A.J.C., Trappey, C.V.*, and Ni, W.-C., 2013, "A multi-agent collaborative maintenance platform applying game theory negotiation strategies," *Journal of Intelligent Manufacturing,* Vol. 24, No. 3, pp. 613-623.
104. Trappey, A.J.C., 2013, "Advanced analyses of technology innovations, patents, and intellectual property," *International Journal of Automation and Smart Technology*, Vol. 3, No. 3, pp.137–138.
105. Trappey, A.J.C., Wang, Y-H, Trappey, C.V., Wu, C-Y *, Lin, T-H, 2013, "Ontology-based patent licensing and litigation strategic knowledge system for the light emitting diode industry," *International Journal of Automation and Smart Technology*, Vol. 3, No. 3, pp.155–167.
106. Trappey, A.J.C.*, Trappey, C.V., Liu, H.Y., Lin, L-C, Ou, Jerry J.-R., 2013, "A hierarchical cost learning model for developing wind energy infrastructures," *International Journal of Production Economics*, Vol. 146, No. 2, pp.386–391.
107. Trappey, A.J.C.*, Trappey, C.V., Wu, C-Y, Fan, C-Y, Lin, Y-L, 2013, "Intelligent patent recommendation system for innovative design collaboration," *Journal of Network and Computer Applications,* Vol. 36, No. 6, pp. 1441–1450.
108. Lu, T.-P., Trappey, A.J.C., Chen, Y.-K.*, Chang, Y.-D., 2013, "Collaborative design and analysis of supply chain network management key processes model," *Journal of Network and Computer Applications*, Vol. 36, No. 6, pp. 1503–1511.
109. Trappey, A.J.C., and Wognum, P.M., 2013, "Advanced knowledge engineering related to innovation, intellectual property and patent analysis," *Advanced Engineering Informatics,* Vol. 27, No. 3, pp. 315-316.
110. Trappey, C.V., Wang, T.-M.*, Hoang, S., Trappey, A.J.C., 2013, "Constructing a dental implant ontology for domain specific clustering and life span analysis," *Advanced Engineering Informatics*, Vol. 27, No. 3, pp. 346-357.

111. Trappey, A.J.C.*, Trappey, C.V., Liu, H.-Y. (Penny), 2013, “Using a small-island pilot plant approach to analyze low-carbon emission policies,” *Carbon Management*, Vol. 4, No. 3, pp. 257-260.
112. Lee, C-H, Wang, Y-H*, Trappey, A.J.C., Yang, S-H, 2014, “Applying geo-social networking and the theory of inventive problem-solving in service innovation and evaluation,” *Journal of Industrial and Production Engineering*, Vol. 31, No. 2, pp. 95-107.
113. 吳俊逸*、張瑞芬、方品軒、林啟瑞，2014，“以本體論專利探勘技術解析全球離岸風力發電關鍵技術之智財發展趨勢”，臺灣能源期刊，第一卷，第二期，第191-211頁 (in Chinese).
114. 蕭志同*、張瑞芬、鐘宛芩、張力元、歐嘉瑞、葉豐銘，2014，“溫室氣體排放與潛在環境成本效益評估模型：以TFT-LCD產業為例”，臺灣能源期刊，第一卷，第二期，第245-257頁(in Chinese).
115. Trappey, C.V., Trappey, A.J.C.*, Ma, L., Tsao, W-T., 2014, "Data driven modeling for power transformer lifespan evaluation," Journal of Systems Science and Systems Engineering, Vol. 23, No. 1, pp.80-93 (SCI).
116. Trappey, C.V., Trappey, A.J.C.*, Peng, H.-Y., Lin, L.-D., Wang, T.-M., 2014, "A knowledge centric methodology for dental implant technology assessment using ontology based patent analysis and clinical meta-analysis," Advanced Engineering Informatics, Vol. 28 (2014), pp. 153-165 (http://dx.doi.org/10.1016/j.aei.2014.03.001, SCI).
117. Wang, Y.-H.*, Trappey, A.J.C., Trappey, C.V., 2015, "Life cycle analysis of the optical disc industry market innovation and development," Innovation: Management, Policy & Practice, Vol. 17, No. 2, pp.196-216 (SSCI).
118. Yan, W.*, Trappey, A.J.C., Huang, Y.F. 2015, "Knowledge centric service engineering for value chain management and sustainable network development," Advanced Engineering Informatics, Vol. 29, pp. iii-iv (SCI).
119. Lee, C.-H., Wang, Y.-H.*, Trappey, A.J.C., 2015, "Service design for intelligent parking based on theory of inventive problem solving and service blueprint," Advanced Engineering Informatics, Vol. 29, pp.295-306 (SCI).
120. Lee, C.-H., Wang, Y.-H.*, Trappey, A.J.C., 2015, "Ontology-based reasoning for the intelligent handling of customer complaints," Computers & Industrial Engineering, Vol. 84, pp.144-155 (SCI).
121. Trappey, A.J.C.*, Trappey, C.V., Ma, L., Chang, J.C.M., 2015, "Intelligent engineering asset management system for power transformer maintenance decision supports under various operating conditions," Computers & Industrial Engineering, Vol. 84, pp.3-11 (SCI).
122. Trappey, A.J.C., Trappey, C.V., Wang, Y.-H.*, Tung, T.C., Lee, L.C., 2015, "Comparative analysis of SLA 3D printing technology using USPTO and TIPO patent informatics," The Journal of the Chinese Society of Mechanical Engineers (SCI, Accepted).

123. Trappey, A.J.C.*, Hou, J. L., Hiekata, K., 2015, "Collective intelligence modeling, analysis, and synthesis for innovative engineering decision making," Advanced Engineering Informatics, Vol. 29, pp.757-758 (SCI).
124. Trappey, C.V., Trappey, A.J.C.*, 2015, "Collective intelligence applied to legal e-discovery: A ten-year case study of Australia franchise and trademark litigation," Advanced Engineering Informatics, Vol. 29, pp.787-798 (SCI).
125. Trappey, A.J.C.*, Trappey, C.V., Wang, Y. C., Ou, J.R., Li, S.J., 2015, "An integrated self-organizing map and analytic hierarchy process modeling approach for evaluating renewable energy policies," International Journal of Electronic Business Management, Vol. 13, No. 1, pp.3-14 (EI/ABI INFORM Global).
126. Liao, C.S.*, Huang, H.Y., Trappey, A.J.C., 2015, "Evaluating the renewable energy industry using the hidden Markov model: A case study on wind power in Taiwan," International Journal of Electronic Business Management, Vol. 13, No. 1, pp.32-44 (EI/ABI INFORM Global).
127. Trappey, A.J.C.*, Trappey, C.V., Hsu, P.T., 2016, "Modeling technology roadmaps of e-commerce payment systems based on patent informatics," International Journal of Electronic Business Management, Vol. 14, No. 1, pp.24-34 (EI/ABI INFORM Global).
128. Trappey, C.V., Trappey, A.J.C.*, Mulaomerovic, E., 2016, "Improving the global competitiveness of retailers using a cultural analysis of in-store digital innovations," The International Journal of Technology Management, Vol. 70, No. 1, pp.25-43 (SCI/SSCI).
129. Trappey, A.J.C., Trappey, C.V., Tan, H.*, Liu, H.Y., Li, S.J., Lin, L.C., 2016, "The determinants of photovoltaic system costs: an evaluation using a hierarchical learning curve model," Journal of Cleaner Production, Vol. 112, pp. 1709-1716 (SCI).
130. Trappey, C.V., Trappey, A.J.C.*, Wang, Y.-H., 2016, "Are patent trade wars impeding innovation and development?" World Patent Information, Vol. 46, pp. 64-72 (doi:10.1016/j.wpi.2016.06.004).
131. Trappey, A.J.C.*, Trappey, C.V., Chang, S.W.C, Lee, W.T., and Hsu, T.N., 2016, "A one-stop logistic services framework supporting global supply chain collaboration," Journal of Systems Science and Systems Engineering, Vol. 25, No. 2, pp.229-253 (SCI).
132. Trappey, A.J.C.*, Shen, W.M., Cha, J.J.Z., 2016, "Special issue editorial on advances in collaborative systems engineering for product design, production and service network," Journal of Systems Science and Systems Engineering, Vol. 25, No. 2, pp.139-141 (SCI).
133. Jui, C.W.*, Trappey, A.J.C., Fu, C.C., 2016, "Method of claim-based technology analysis for strategic innovation management - Using TPP-related patents as case examples," Journal of Intellectual Property Rights, Vol 21, July 2016, pp 243-259.
134. Jui, C.W.*, Trappey, A.J.C., Fu, C.C., 2016, "Strategic analysis of innovative laser interference lithography technology using claim-based patent informatics cogent engineering," Cogent Engineering, Vol 3, 2016 (online published http://dx.doi.org/10.1080/23311916.2016.1240054).

135. Trappey, A.J.C.*, Trappey, C.V., Govindarajan, U.H., Sun, J.J., Chuang, A.C., 2016, "A review of technology standards and patent portfolios for enabling Cyber-Physical Systems (CPS) in advanced manufacturing," IEEE Access, Vol 4, pp 7356-7382 (SCI).
136. Wang, Y.-H.*, Trappey, A.J.C., Hwang, S.J., Chen, K.L., 2016, "Develop potential solution to the engineering conflicts of additive manufacturing by using the theory of solution of inventive problems (Triz) - The case of material jetting process," The Journal of the Chinese Society of Mechanical Engineers, Vol 37, No. 2, pp 85-93 (SCI).
137. Wang, Y.-H.*, Lee, C.-H., Trappey, A.J.C., 2017, "Service design blueprint approach incorporating TRIZ and service QFD for a meal ordering system: A case study" Computers & Industrial Engineering, Vol. 107, pp. 388-400 (SCI).
138. Trappey, A.J.C.*, Trappey, C.V., Chung, L.S., 2017, "IP portfolios and evolution of biomedical additive manufacturing applications," Scientometrics, Vol 111, No. 1, pp 139-157 (SCI).
139. Trappey, A.J.C.*, Trappey, C.V., Lee, K.L.C., 2017, "Tracing the evolution of biomedical 3D printing technology using ontology based patent concept analysis," Technology Analysis & Strategic Management, Vol 29, No. 4, pp 339-352 (SSCI).
140. Trappey, A.J.C.*, Trappey, C.V., Wang, T.M., Tang, M.Y.L., 2017, "Ontology-based technology function matrix for patent analysis of additive manufacturing in the dental industry," International Journal of Manufacturing Research, Vol. 12, No. 1, pp. 64-82.
141. Trappey, C.V., Trappey, A.J.C.*, Chen, L.W.L., 2017, "Computer-supported portfolio analysis and comparison using ontology-based patent classification mapping scheme: the case of mobile communication patent pools," Cluster Computing, Vol. 20, pp. 1661-1677 (SCI, https://link.springer.com/article/10.1007/s10586-016-0722-2).
142. Trappey, A.J.C. *, Trappey, C.V., Fan, C.-Y., Hsu, A.P.T., Li, X.K., Lee, I.J.Y., 2017, "IoT patent roadmap for smart logistic service provision in the context of Industry 4.0," Journal of the Chinese Institute of Engineers (JCIE), Vol 40, Issue 7, pp 593-602 (SCI, http://dx.doi.org/10.1080/02533839.2017.1362325).
143. Trappey, C.V., Trappey, A.J.C.*, 2017, "Exploring 4G patent and litigation informatics in the mobile telecommunications industry" World Patent Information, Vol 50, pp 38-51.
144. Trappey, A.J.C.*, Chang, Y.C., 2017, "A Power Transformer Fault Prognosis System Applying Integrated DGA Knowledge Base," The Journal of the Chinese Society of Mechanical Engineers, Vol 38, No. 2, pp 189-197 (SCI).
145. Trappey, A.J.C., Elgh, F., Hartmann, T., James, A., Stjepandic, J., Trappey, C.V., Wognum, N., 2017, "Advanced design, analysis, and implementation of pervasive and smart collaborative systems enabled with knowledge modelling and big data analytics" Advanced Engineering Informatics, Vol 33, pp 206-207 (SCI)
146. Trappey, A.J.C.*, Trappey, C.V., Govindarajan, U.H., Chuang, A.C., Sun, J.J., 2017, "A review of essential standards and patent landscapes for the Internet of Things: A key enabler for Industry 4.0," Advanced Engineering Informatics, Vol 33, pp 208-229 (SCI).

147. Wang, Y.-H.*, Lee, C.-H., Trappey, A.J.C., 2017, "Modularized design-oriented systematic inventive thinking approach supporting collaborative service innovations," Advanced Engineering Informatics, Vol 33, pp 300-313 (SCI).
148. Govindarajan, U.H., Trappey, A.J.C.*, Trappey, C.V., 2018, "Immersive technology for human-centric cyber physical systems in complex manufacturing processes: A comprehensive overview of the global patent profile using collective intelligence," Complexity, Vol. 2018, Article ID 4283634, https://doi.org/10.1155/2018/4283634 (SCI, Online published).
149. 樊晉源*、張瑞芬，2018，“智慧製造全球政策及智財解析暨台灣工業工程相關研發契機”，管理與系統，第廿五卷，第三期，第291-319頁
150. Jui, C.W.*, Trappey, A.J.C., Fu, C.C., 2018, “Patent review on laser interference lithography technique for producing periodic nanostructure,” *Recent Patents on Nanotechnology,* Vol 12, Issue 3, pp 231-242 (SCI).
151. Jui, C.W.*, Trappey, A.J.C., Fu, C.C., 2018, “Discover patent landscape of two-photon polymerization technology for the production of 3D nano-structure using claim-based approach,” *Recent Patents on Nanotechnology,* Vol 12, Issue 3, pp 218-230 (SCI).
152. Trappey, A.J.C., Trappey, C.V., Fan, C.-Y.*, Lee, J.Y., 2018, “Consumer driven product technology function deployment using social media and patent mining,” *Advanced Engineering Informatics,* Vol 36, pp 120-129 (SCI).
153. Trappey, A.J.C.*, Trappey, C.V., Govindarajan, U.H., Jhuang, C.C., 2018, “Construction and validation of an ontology-based technology function matrix: Technology mining of cyber physical system patent portfolios,” *World Patent Information,* Vol. 55, pp. 19-24.
154. Trappey, A.J.C., Trappey, C.V., Chang, A.C.*, Li, X.K., 2019, “Deriving competitive foresight using an ontology-based patent roadmap and valuation analysis,” *International Journal on Semantic Web and Information Systems (IJSWIS),* Vol 15, Issue 2, pp 68-91 (SCI).
155. Lee, C. H.*, Chen, C.-H., Trappey, A.J.C., 2019, “A structural service innovation approach for designing smart product service systems: Case study of smart beauty service,” *Advanced Engineering Informatics,* Vol 40, pp 154-167 (SCI).
156. Trappey, A.J.C., Chen, P.J., Trappey, C.V.*, Ma, L., 2019, “A machine learning approach for solar power technology review and patent evolution analysis,” *Applied Sciences,* Vol 9, No. 7, Article ID 1478, https://doi.org/ 10.3390/app9071478 (SCI, Online published).
157. Govindarajan, U.H., Trappey, A.J.C.*, Trappey, C.V., 2019, “Intelligent collaborative patent mining using excessive topic generation,” *Advanced Engineering Informatics,* Vol. 42, Article ID 100955, https:// doi.org/10.1016/j.aei.2019.100955 (SCI).
158. Yan, W., He, J.L.*, Trappey, A.J.C., 2019, “Risk-aware supply chain intelligence: AI-enabled supply chain and logistics management considering risk mitigation,” *Advanced Engineering Informatics,* Vol. 42, Article ID 100976, https:// doi.org/10.1016/j.aei.2019.100976 (SCI).
159. Trappey, A.J.C., Trappey, C.V., Wu, J.L.*, Wang, W.C., 2020, “Intelligent compilation of patent summaries using machine learning and natural language processing techniques,” *Advanced*

Engineering Informatics, Vol. 43, Article ID 101027, https://doi.org/10.1016/j.aei.2019.101027 (SCI).

160. Chang, A.C.*, Trappey, C.V., Trappey, A.J.C., Chen, W.L., 2020, "Web mining customer perceptions to define product positions and design preferences," *International Journal on Semantic Web and Information Systems*, Vol. 16, Issue 2, pp 42-58 (SCI).
161. Zheng, P.*, Xu, X., Trappey, A.J.C., Zhong, Y., 2020, "Editorial notes: design innovation of smart PSS," *Advanced Engineering Informatics*, Vol. 44, Article ID 101069, https://doi.org/ j.aei.2020.101069 (SCI).
162. Trappey, A.J.C.*, Trappey, C.V., Chang, C.M., Govindarajan, U.H., Shih, X.Y., Su, I-A., Gupta, N., 2020, "Behavioral therapy for phobias using immersive virtual reality technology," *The Journal of the Chinese Society of Mechanical Engineers*, Vol. 41, No. 2, pp 131-140 (SCI).
163. Trappey, C.V., Trappey, A.J.C.*, Lin, C.-C., 2020, "Intelligent trademark similarity analysis of image, spelling, and phonetic features using machine learning methodologies," *Advanced Engineering Informatics*, Vol. 45, Article ID 101120, https://doi.org/10.1016/j.aei.2020.101120 (SCI).
164. Trappey, C.V., Trappey, A.J.C.*, Liu, B.-H., 2020, "Identify trademark legal case precedents - Using machine learning to enable semantic analysis of judgments," *World Patent Information*, Vol. 62, https://doi.org/10.1016/j.wpi.2020.101980 (Online published September 2020).
165. Trappey, A.J.C.*, Lupu, M., Stjepandic, J., 2020, "Embrace artificial intelligence technologies for advanced analytics and management of intellectual properties," *World Patent Information*, Vol. 61, https://doi.org/10.1016/j.wpi.2020.101970 (Online published June 2020).
166. Trappey, A.J.C.*, Trappey, C.V., Chang, C.M., Kuo, RRT, Lin, A.P.C., Nieh, C.H., 2020, "Virtual reality exposure therapy for driving phobia disorder: System design and development," *Applied Sciences*, Vol. 10, No. 14, Article ID 4860, https://doi.org/10.3390/app10144860 (SCI).
167. Hartmann, T.*, Trappey, A.J.C., 2020, "Advanced Engineering Informatics – Philosophical and methodological foundations with examples from civil and construction engineering," *Developments in the Built Environment*, Vol. 4, https://doi.org/10.1016/j.dibe.2020.100020.
168. Trappey, A.J.C., Trappey, C.V., Chang, A.C.*, 2020, "Intelligent extraction of a knowledge ontology from global patents: The case of smart retailing technology mining," *International Journal on Semantic Web and Information Systems (IJSWIS)*, Vol. 16, Issue 4, pp 61-80 (SCI).
169. Trappey, C.V., Trappey, A.J.C.*, Luan, C.C., 2020, "The economic impact of smart retailing technologies in the US and China: An empirical study using patent economic analysis," *Asian Journal of Information and Communications (AJIC))*, Vol. 12, Issue 2, pp 1-22.
170. Trappey, C.V., Chang, A.C.*, Trappey, A.J.C., 2021, "Building an internet based knowledge ontology for trademark protection," *Journal of Global Information Management (JGIM)*, Vol. 29, No. 1, pp 123-144 (SSCI).
171. Trappey, A.J.C.*, Trappey, C.V., Hsieh, H.I., 2021, "An intelligent patent recommender adopting machine learning approach for natural language processing: A case study for smart

machinery technology mining," *Technological Forecasting & Social Change,* Vol. 164, https://doi.org/10.1016/j.techfore.2020.120511 (SSCI).

172. Trappey, A.J.C.*, Trappey, C.V., Chang, C.M., Tsai, M. C., Kuo, RRT, Lin, A.P.C., 2021, "Virtual reality exposure therapy for driving phobia disorder (2): System refinement and verification," *Applied Sciences,* Vol. 11, No. 1, Article ID 347, https://doi.org/10.3390/app11010347 (SCI).
173. Trappey, A.J.C.*, Trappey, C.V., Shih, X.Y., 2021, "An intelligent content-based image retrieval methodology using transfer learning for digital IP protection," *Advanced Engineering Informatics,* Vol. 48, Article ID 101291, https://doi.org/10.1016/j.aei.2021.101291 (SCI).
174. Chao, M.-H.*, Trappey, A.J.C., Wu, C.-T., 2021, "Emerging technologies of natural language-enabled chatbots: A review and trend forecast using intelligent ontology extraction and patent analytics," *Complexity,* Vol. 2021, Article ID 5511866, 26 pages, https://doi.org/10.1155/2021/5511866 (SCI).
175. Wang, C.-C.*, Chien, C.-H., Trappey, A.J.C., 2021, "On the application of ARIMA and LSTM to predict order demand based on short lead time and on-time delivery requirements," *Processes*, Vol. 9, No. 7, Article ID 1157, https://doi.org/10.3390/pr9071157 (SCI).
176. Trappey, A.J.C., Trappey, C.V., Govindarajan, U.H.*, Sun, J.J., 2021, "Patent value analysis using deep learning models—The case of IoT technology mining for the manufacturing industry," *IEEE Transactions on Engineering Management,* Vol. 68, No. 5, pp. 1334-1346, Oct. 2021, doi: 10.1109/TEM.2019.2957842 (SCI).
177. Trappey, A.J.C.*, Trappey, C.V., Liang, C.P., Lin, H.J., 2021, "IP analytics and machine learning applied to create process visualization graphs for chemical utility patents," *Processes,* Vol. 9, No. 8, Article ID 1342, https://doi.org/10.3390/pr9081342 (SCI).
178. Lin, A.P.C., Trappey, C.V., Luan, C.-C.*, Trappey, A.J.C., Tu, K.L.K., 2021, "A test platform for managing school stress using a virtual reality group chatbot counseling system," *Applied Sciences,* Vol. 11, No. 19, Article ID 9071, https://doi.org/10.3390/app11199071 (SCI).
179. Lee, C-H, Liu, C-L.*, Trappey, A.J.C., Mo, J.P.T., Desouza, K.C., 2021, "Understanding digital transformation in advanced manufacturing and engineering: A bibliometric analysis, topic modeling and research trend discovery," *Advanced Engineering Informatics,* Vol. 50, Article ID 101428, https://doi.org/10.1016/j.aei.2021.101428 (SCI).
180. Khan, M.M., Tse, P.W.*, Trappey, A.J.C., 2021, "Development of a novel methodology for remaining useful life prediction of industrial slurry pumps in the absence of run to failure data," *Sensors,* Vol. 21, No. 24, Article ID 8420, https://doi.org/10.3390/s21248420 (SCI).
181. Trappey, A.J.C.*, Trappey, C.V., Chao, M.-H., Hong, N.-J., Wu, C.-T., 2022, "A VR-enabled chatbot supporting design and manufacturing of large and complex power transformers," *Electronics,* Vol. 11, No. 1, Article ID 87, https://doi.org/10.3390/electronics11010087 (SCI).
182. Trappey, A.J.C.*, Trappey, C.V., Chao, M.-H., Wu, C.-T., 2022, "VR-enabled engineering consultation chatbot for integrated and intelligent manufacturing services," *Journal of Industrial Information Integration,* Vol. 26, Article ID 100331 (SCI).

183. Lee, C-H*, Trappey, A.J.C., Liu, C-L., Mo, J.P.T., Desouza, K.C., 2022, "Design and management of digital transformations for value creation," *Advanced Engineering Informatics,* Vol. 52, Article ID 101547, https:// doi.org/10.1016/j.aei.2022.101547 (SCI).
184. Li, G.-K.*, Trappey, C.V., Trappey, A.J.C., Li, A.S., 2022, "Ontology-based knowledge representation and semantic topic modeling for intelligent trademark legal precedents research," *World Patent Information*, Vol. 68, https://doi.org/10.1016/j.wpi.2022.102098.
185. Trappey, A.J.C.*, Trappey, C.V., Lin, E., 2022, "Intelligent trademark recognition and similarity analysis using a two-stage transfer learning approach," *Advanced Engineering Informatics,* Vol. 52, Article ID 101567, https://doi.org/10.1016/j.aei.2022.101567 (SCI).
186. Ghafoor, I., Tse, P.W.*, Munir, N., Trappey, A.J.C., 2022, "Non-contact detection of railhead defects and their classification by using convolutional neural network," *Optiks,* Vol. 253, Article ID 168607, https://doi.org/10.1016/j.ijleo.2022.168607 (SCI).
187. Chien, C.-H., Chen, P.-Y., Trappey, A.J.C.*, Trappey, C.V., 2022, "Intelligent supply chain management modules enabling advanced manufacturing for the electric-mechanical equipment industry," *Complexity*, Vol. 2022, Article ID 8221706, 20 pages, https://doi.org/10.1155/ 2022/8221706 (SCI).
188. Trappey, A.J.C.*, Lin, A.P.C., Hsu, K.Y.K., Trappey, C.V., Tu, K.L.K., 2022, "Development of an empathy-centric counseling chatbot system capable of sentimental dialogue analysis," *Processes,* Vol. 10, No. 5, Article ID 930, https://doi.org/10.3390/pr10050930 (SCI).
189. Li, F., Trappey, A.J.C., Lee, C.-H.*, Li, L., 2022, "Immersive technology-enabled digital transformation in transportation fields: A literature overview," *Expert Systems with Applications,* Vol. 202, Article ID 117459 (SCI).
190. Trappey, A.J.C., Chang, A.-C.*, Trappey, C.V., Chang Chien, Y.C., 2022, "Intelligent RFQ summarization using natural language processing, text mining, and machine learning techniques," *Journal of Global Information Management (JGIM),* Vol. 30, No. 1 (SSCI).
191. Trappey, A.J.C.*, Liang, C.-P., Lin, H.-J., 2022, "Using machine learning language models to generate innovation knowledge graphs for patent mining," *Applied Sciences, 12(19), 9818; https://doi.org/10.3390/app12199818* (SCI).
192. Trappey, A.J.C.*, Wei, A.Y.N., Chen, N.K.T., Li, K.-A., Hung, L.P., Trappey, C.V., 2023, "Patent landscape and key technology interaction roadmap using graph convolutional network – Case of mobile communication technologies beyond 5G," *Journal of Informetrics,* Vol. 17, No. 1, Article ID 101354, https://doi.org/10.1016/j.joi.2022.101354 (SCI).
193. Chao, M.-H.*, Trappey, A.J.C., 2022, "Class-activity-status model for object-oriented ontology construction supporting domain knowledge integration to achieve business-IT alignment," *Product: Management & Development,* Vol. 20, No. 2.
194. Trappey, A.J.C.*, Pa, R.J.S., Chen, N.K.T., Huang, A.Z.C., Li, K.-A., Hung, L.P., 2023, "Digital transformation of technological IP portfolio analysis for complex domain of satellite communication innovations," *Advanced Engineering Informatics,* Vol. 55, Article ID 101879, https://doi.org/10.1016/j.aei.2023.101879 (SCI).

195. 樊晉源、張瑞芬*、簡均樺、蘇怡安、巫胤璇、李旺蒼，2023，“探索智慧商業數位轉型之現況與趨勢-以智慧零售為例”，管理與系統，第三十卷，第二期，第197-227頁 (TSSCI).

196. Trappey, A.J.C., Lee, C-H*, Mo, J.P.T., 2023, “Innovations for interpretability, flexibility, and sustainability in intelligent machinery and Industry 4.0,” *Applied Sciences,* Vol. 13, No. 9, Article ID 5257, https://doi.org/10.3390/app13095257 (SCI).

197. Chien, C.-H. *, Trappey, A.J.C., Wang, C.-C., 2023, “ARIMA-AdaBoost hybrid approach for product quality prediction in advanced transformer manufacturing,” *Advanced Engineering Informatics*, Vol. 57, Article ID 102055, https://doi.org/10.1016/j.aei.2023.102055 (SCI).

198. Trappey, C.V.*, Trappey, A.J.C., Lin, H.-J., Chang, A.-C., 2023, “Comparative analysis of food related sustainable development goals in the North Asia Pacific region,” *Food Ethics* (Accepted).

199. Trappey, A.J.C.*, Lin, G.-B., Chen, H.-K., Chen, M.-C., 2023, “A comprehensive analysis of global patent landscape for recent R&D in agricultural drone technologies,” *World Patent Information*, Vol. 74, Article ID 102216, https://doi.org/10.1016/j.wpi.2023.102216.

200. Trappey, A.J.C, Li, Fan, Lee, C-H*, Mo, J.P.T., Stjepandic, J., Jiao, R., 2024, “How to manage and balance uncertainty by transdisciplinary engineering methods focusing on digital transformations of complex systems,” *Advanced Engineering Informatics*, Vol. 59, Article ID 102330, https://doi.org/10.1016/j.aei.2023.102330 (SCI).

201. Chao, M.-H.*, Trappey, A.J.C., 2024, “Design of product configuration systems supporting customised product cost estimation using object-oriented ontology framework,” *Journal of Engineering Design,* Vol. 35, No. 6, pp 709-742, https://doi.org/10.1080/09544828.2024.2335136 (SCI).

202. Trappey, A.J.C.*, 2024, “World Patent Information grows in-step with explosive increases of patent and IP data,” *World Patent Information*, Vol. 76, https://doi.org/10.1016/j.wpi.2024.102268.

203. Trappey, A.J.C. *, Shen, T.C., 2024, “A universal traffic sign detection system using a novel self-training neural network modeling approach,” *Advanced Engineering Informatics*, Vol. 62, Part B, Article ID 102674, https://doi.org/10.1016/j.aei.2024.102674 (SCI).

204. Trappey, A.J.C. *, Lin, G.-B., Hung, L.-P., 2024, “Intelligent text mining for ontological knowledge graph refinement and patent portfolio analysis—Case study of net-zero data center innovation management,” *Information*, Vol. 15, No. 7, Article ID 374, https://doi.org/10.3390/info15070374 (ESCI).

205. Lee, C.-H., Li, F.*, Chiu, M.-C., Trappey, A.J.C., Huang, E., Koomsap, P., 2024, “Connecting humans and machines: Deep integration of advanced HCI in intelligent engineering,” *Advanced Engineering Informatics,* Vol. 62, Part C, Article ID 102824, https://doi.org/10.1016/j.aei.2024.102824 (SCI).

206. Trappey, A.J.C.*, Trappey, C.V., Chen, C.H., Anggrahini, D., 2024, “Ontology-based patent analysis for bike-sharing services: Identifying competitive advantages of a product-service business,” *Asia Pacific Management Review,* Vol. 29, No. 4, pp 384-396 (ESCI).

207. Chien, C.H.*, Trappey, A.J.C., 2025, "Human-AI cooperative generative adversarial network (GAN) for quality predictions of small-batch product series," *Advanced Engineering Informatics*, Vol. 65, Part C, Article ID 103327, https://doi.org/10.1016/j.aei.2025.103327 (SCI).
208. Trappey, A.J.C.* Chou, S.-C., and Li, G.-K., 2025, "Patent litigation mining using a large language model—Taking unmanned aerial vehicle development as the case domain," *World Patent Information*, Vol. 80, https://doi.org/10.1016/j.wpi.2024.102332 (ESCI).
209. Trappey, A.J.C., Wu, C.-Y.*, Lee, Y.-C., Hung, L.-P., 2025, "Generative AI approach for inventive process visualisation – enhancing human-AI hybrid understanding and comparing of patents," *Journal of Engineering Design,* ISSN: 0954-4828 (Print), 1466-1837 (Online) https://doi.org/ 10.1080/09544828.2025.2518657, publication online June 19, 2025 (SCI).
210. Trappey, A.J.C., Lin, Y.C., Wu, C.-Y.*, 2025, "Generative AI-based intelligent patent summarization for intellectual property knowledge communication and cooperation," *World Patent Information*, Vol. 83, https://doi.org/10.1016/j.wpi.2025.102410 (ESCI).
211. Trappey, A.J.C., Lee, C.-H.*, Stjepandic, J., Mo, J., Zhang,Y., 2026, "Human-AI collaboration for engineering designs and services in the evolution of Industry 5.0 and beyond – A synthesis of the special issue portfolio," *Advanced Engineering Informatics,* Vol. 69, Part A, Article ID 103906, https://doi.org/10.1016/j.aei.2025.103906 (SCI).
212. Trappey, A.J.C., Lee, C.-H., Wang Z., Li, F.*, 2026, "Exploring advanced human-AI hybrid intelligence solutions now and beyond: a synthesis of the special issue portfolio," *Journal of Engineering Design,* https://doi.org/10.1080/09544828.2025.2610794, publication online Jan 11, 2026 (SCI).
213. Huang, Z. Y. , Trappey, A. J. C., Pudney, S. G., 2026, "An AI-generated request-for-quotation knowledge system for streamlining power transformer procurement procedure," *Engineering Asset Management Review (EAMR) on AI in Engineering Asset Management*, Springer(Accepted).
214. Huang, W.-Y., Trappey, A. J. C., 2026, "Use generative-AI approach to auto-create test manuals for advanced power transformer manufacturing inspection," *Engineering Asset Management Review (EAMR) on AI in Engineering Asset Management*, Springer(Accepted).
215. Trappey, A.J.C., Huang, W.-Y., Chien, C.-H.*, 2026, "A modular tool-driven RAG framework for engineering test documentation," *Journal of Engineering Design,* https://doi.org/10.1080/09544828.2026.2698389, publication online Aug 13, 2026 (SCI).
216. Huang, Z.-Y., Trappey A.J.C.*, Pudney, S.G.*, 2026, "A modular retrieval-augmented framework for agent-guided RFQ documentation in power transformer engineering," *Advanced Engineering Informatics* (SCI, submitted)
217. Kuo, C.E., Wu, C.-Y.*, Trappey, A.J.C., Hung, L.-P., 2026, "A technology-function-guided patent drafting framework incorporating eTFM and RAG-based large language models: Evidence from a sustainable energy storage case study," *World Patent Information*, Vol. 87, https://doi.org/10.1016/j.wpi.2026.102515 (ESCI).

VIII. BOOK PUBLICATIONS

1. 張瑞芬，侯建良，1998，製造工程實習，華泰文化事業公司出版 (ISBN 957-8474-938)。[**Trappey, A.J.C.** and Hou, J.L., 1998, Manufacturing Engineering with Practical Experiments, Hwa-Tai Publishing Co., Taipei, Taiwan (in Chinese), ISBN 957-8474-93-8]. Trappey, A.J.C., and Hou, J.L., 1998, *Manufacturing Engineering with Practical Experiments*, Hwa-Tai Publishing Co., Taipei, Taiwan (in Chinese), ISBN 957-8474-93-8.
2. **Trappey, A.J.C.** (張瑞芬 總編譯), 2000, *E-Commerce – Management and Technology (電子商務 -- 管理與技術)*, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 957-609-276-0.
3. 張瑞芬等十二位合著（張瑞芬 總編輯）, 2001, *產品資料管理* (*Product Data Management*, Chapter Book, in Chinese)，滄海書局，ISBN 957-2079-34-4.
4. **Trappey, A.J.C.,** Trappey, C.V., and Ouyang, C. (Editors), 2001, *The Impact of the Digital Economy and Electronic Commerce on APEC Small and Medium Enterprises*, Small and Medium Enterprise Administration, Ministry of Economic Affairs, Taipei, Taiwan (in English), GPN 1009002208.
5. **Trappey, A.J.C.** (張瑞芬 總編審), 2003（初版）, 顧客服務管理-*CRM實戰理論與實務*, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 957-609-486-0.
6. **Trappey, A.J.C.** (張瑞芬 總編譯), 2005 （三版）, *電子商務 -- 管理與技術*，Turban等著，張瑞芬等合譯, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 957-609-555-7.
7. **Trappey, A.J.C.** (張瑞芬 總編譯), 2005 （三版）, *電子商務 -- 管理與技術*（精簡版），Turban等著，張瑞芬等合譯, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 957-609-577-8.
8. **Trappey, A.J.C.** (張瑞芬 總編審), 2007（二版）, 顧客服務管理-*CRM實戰理論與實務*, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 978-957-609-680-8.
9. 張瑞芬、侯建良（主編）, 2007, 全球運籌管理，張瑞芬、侯建良等合著，國立清華大學出版社, Hsinchu, Taiwan (in Chinese), ISBN 978-986-81812-8-1.
10. **Trappey, A.J.C.** (張瑞芬 總編譯), 2008 （五版）, *電子商務 -- 管理與技術*，Turban等著，張瑞芬等合譯, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 978-957-609-717-1.
11. **Trappey, A.J.C.** (張瑞芬 總編譯), 2010 （二版）,電子商務概論，Turban等著，張瑞芬等合譯, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese), ISBN 978-957-609-793-5.
12. **Trappey, A.J.C.** (張瑞芬 總編譯), 2012 （三版）,電子商務概論，Turban等著，張瑞芬等合譯, Hwa-Tai Publishing Co. (華泰文化出版), Taipei, Taiwan (in Chinese) , ISBN 978-957-609-863-5.
13. 張瑞芬(總編審)、張力元、吳俊逸、樊晉源 (**Trappey, A.J.C.,** Trappey, C.V., Wu, C.-Y., Feng, C.Y.), 2012, 專利分析與智慧財產管理 - 以資訊技術與知識管理方法為手段 (Patent Analysis and Intellectual Property Management – Using Information and Knowledge Management Techniques), 華泰文化出版 (Hwa-Tai Publishing Co.), Taipei, Taiwan, ISBN 978-957-609-892-5 (1st Edition).
14. 張瑞芬(總編審)、張力元、吳俊逸、樊晉源 (**Trappey, A.J.C.,** Trappey, C.V., Wu, C.-Y., Feng, C.Y.), 2021, 專利分析與智慧財產管理 - 以資訊技術與知識管理方法為手段 (Patent Analysis and Intellectual Property Management – Using Information and Knowledge

Management Techniques), 華泰文化出版 (Hwa-Tai Publishing Co.), Taipei, Taiwan (2nd Edition 再版).
15. 張瑞芬，2015，工程領域創新研發智財動態觀測分析- 2014 年報，國立清華大學企業運籌與電子化中心出版，ISBN 978-986-04-6374-3。
16. 張瑞芬，2016，工程領域創新研發智財動態觀測分析- 2015 年報，國立清華大學企業運籌與電子化中心出版，ISBN 978-986-04-7789-4。
17. 張瑞芬，2017，工程領域創新研發智財動態觀測分析- 2016 年報，國立清華大學企業運籌與電子化中心出版，ISBN 978-986-05-1550-3。
18. Chen, C.H., **Trappey, A.J.C.,** Peruzzini, M., Stjepandić, J., Wognum, N. (Editors), 2017, *Transdisciplinary Engineering: A Paradigm Shift*, Proceedings of the 24th ISPE Inc. International Conference on Transdisciplinary Engineering (TE 2017), IOS Press BV, ISBN 978-1-61499-778-8 (print).
19. 張瑞芬，2018，工程領域創新研發智財動態觀測分析- 2017 年報，國立清華大學企業運籌與電子化中心出版，ISBN 978-986-05-4953-9。

IX. SHORT LIST OF National Science and Technology Council (NSTC) FUNDED RESEARCH PROJECTS (2006~Now)

Project Title	Role	Project Period
Ontology-Based Knowledge Document Categorization Approach for R&D Management	PI	2006~2009
A Ontology Based Approach for Automatic Patent Document Summarization	PI	2006~2008
Research Planning and Development for the Industrial Engineering and Management Program in National Science Council's Engineering Division	PI	2007~2010
Advanced Methodology and Techniques for Innovative Green Product Development and Product Life Cycle Assessment	PI	2008~2011
Integrated Patent Analysis Methodology for Technology Forecasting and Management - Using RFID as Case Example	Co-PI	2008~2011
A Negotiation Strategy Study of Collaborative Maintenance Chain and Its Multi-Agent Platform Design and Development	PI	2009~2012
Increase Taiwan IEM Visibility and Prestige in International Community by Participating in Societies' Key Positions, Fellowship, and SCI Journal Editorial Teams (2009~2010)	PI	2009~2010
Service Mechanisms of Collaboration between Academia and Industry for Product Innovative R&D and Patent Analysis Management	Co-PI	2008~2009

Increase Taiwan IEM Visibility and Prestige in International Community by Participating in Societies' Key Positions, Fellowship, and SCI Journal Editorial Teams (2011~2012)	PI	2011~2012
Using Ontology Engineering to Develop Patent Techniques Clustering and Patent Infringement Analysis	PI	2011~2014
Forecasting Technology Development and Investment Opportunities Using a Multi-path Patent Analysis Approach for Medical Equipment	Co-PI	2011~2013
Modularized GMDH and LG Transformer Lifespan Evaluation Models and Prognostic Maintenance Integration Platform	PI	2012~2015
Dynamic Patent Analysis and Observation Platform Supporting Key Technology Development and Sustainable Energy Policy for Offshore Wind Power	Co-PI	2013
A Method of Combining Patent Analysis with Clinical Trials to Determine Market Development Opportunities for Medical Devices: The Case of Dental Implants	Co-PI	2013~2016
Dynamic IP Monitoring and Analysis of Engineering Research Innovations and the Strategic Promotion of IP Commercialization	PI	2014
Evaluation of Green Energy and Sustainability Development Using a System Dynamics Approach	PI	2014~2017
Dynamic IP Monitoring and Analysis of Engineering Research Innovations and the Strategic Promotion of IP Commercialization (2015~2016)	PI	2015~2016
Cross-evolution E-discovery of Patent Infringement Litigations - Using Multi-level Formal Concept Analysis	PI	2015~2018
Technology Standards and IP E-discovery Platform for Intelligent Machinery and Industry 4.0 Related Innovations	PI	2017~2019
Patent Roadmap Analysis Integrating Business Process and Technology Innovations: E-discovery of Smart Logistic Service Innovations and Competitive Advantages	Co- PI	2017~2018
Using Unsupervised Machine Learning Approach to Develop Intelligent Patent Topic E-discovery	PI	2018~2019
A Trademark Infringement Ontology and Intelligent Case Recommendation System for Brand Protection and Digital Marketing	Co- PI	2018~2019

Methods and System of Multi-featured Trademark Similarity Confusion Analysis Using Deep Learning Capabilities	PI	2019~2022
A Trademark Infringement Case Analysis and Legal Precedence Recommendation System Using Machine Learning Approaches	Co- PI	2019~2021
Intelligent Engineering Document Analysis for Enabling Mass-customization of High-end Transformer Manufacturing (FE)	PI	2019~2020
Immersive Technologies Enabled Intelligent Engineering Consultation Chatbot Design and Development	PI	2021~2024
Intelligent Supply Chain Management Modules Enabling Advanced Manufacturing for Transformer Mass Customization cturing (FE)	PI	2021~2022
Construct Technology Ontology for Telecommunication and Related Industries – Development of Advanced AI Deep Learning Methodologies for Tech-mining (STPI)	PI	2022
Intelligent Internet Content Trademark Protection System Using Deep Transfer Learning and Dynamic Image Localization and Recognition	PI	2022~2025
Product quality prediction system for large-size highly-customized transformer smart manufacturing(FE)	PI	2023~2024
Using deep learning and social network analytic approaches to explore patent portfolio and trends of advanced net-zero carbon reduction technologies for information and communications industry(STPI)	PI	2023
Generative AI approach for automatic patent process flow construction and similarity analysis(STPI)	PI	2024
Intelligent multi-functional customer and maintenance consultation chatbot for EV charging systems(FE)	PI	2024~2025
Use NLP-based text mining and semantic network analysis to explore patent landscape and technological evolution roadmap	PI	2024~2027
Applying LLM and retrieval-augmented generation technology in automating engineering document generation for intelligent power transformer manufacturing industry	PI	2025~2026