

Sa'Ed M. Salhieh, Ph.D.

Associate Professor of Industrial Engineering
School of Engineering
Department of Industrial Engineering
The University of Jordan
Amman, Jordan

EDUCATION

WAYNE STATE UNIVERSITY
Detroit, Michigan

July, 2001

Ph.D. - Industrial Engineering

Dissertation Title: Collaboration Planning Framework to Support Distributed Product Development

THE UNIVERSITY OF MICHIGAN - DEARBORN
Dearborn, Michigan

August, 1998

MS. - Industrial and Systems Engineering

Thesis Title: Decomposition Methodology for Complex Product Development

JORDAN UNIVERSITY OF SCIENCE & TECHNOLOGY
Irbid, Jordan

June, 1995

B.Sc. - Mechanical Engineering (emphasis in Production Engineering)

PROFESSIONAL/ADMINISTRATIVE EXPERIENCE

Chair of Industrial & Mechanical Engineering Dept.
Alfaisal University, Saudi Arabia

Sep, 12 – June, 14

- Developed a graduate program in Engineering and Systems Management
- Revised Industrial Engineering curriculum
- Worked on the IE program accreditation
- Developed department and college laboratories
- Coordinated and participated in student recruitment
- Coordinated and participated in faculty recruitment

Director of the Center of Consultations
The University of Jordan

Feb, 10 – Aug, 10

- Developed and enhanced the marketing function
- Developed new professional training diplomas
- Coordinated the efforts with colleges and other university centers to develop new training programs
- Coordinated efforts to provide consultations to the local industry and government

***Assistant to the Administrative Deputy Manager &
Director of Training, Development, and Planning***

Jul, 08 – Jul 09

The University of Jordan Hospital

- Participated in the development of the strategic plan
- Developed a training center
- Conducted performance and cost analysis studies

Assistant Dean for Computer Affairs

Sep, 07 – Aug, 08

Faculty of Engineering and Technology

The University of Jordan

- Expanded the capacity of computer labs
- Coordinated maintenance support

Assistant Dean for International Program

Sep, 05 – Sep 06

Faculty of Graduate Studies

The University of Jordan

- Managed the graduate international program

TEACHING EXPERIENCE

1. Academic Full-time Appointments

Industrial Engineering Department

Sep, 02 – present

School of Engineering

The University of Jordan, Jordan

- Engineering Statistics (I & II)
- Engineering Economy
- Cost Accounting
- Production Planning and Control
- Product Development
- Marketing Engineering
- Computer Integrated Manufacturing (Graduate)
- Information Systems (Graduate)
- New Product Development (Graduate)
- Advanced Engineering Economy (Graduate)

Industrial Engineering Department

Sep, 11 – Jun, 17

Alfaisal University, Saudi Arabia

- Work Systems Analysis and Design
- Production Information Systems
- Network Analysis and Project Management
- Engineering Economy & Cost Analysis
- New Product Development
- Industrial Engineering Capstone Project

Industrial Engineering Department

Sep, 10 – Aug, 11

King Saud University, Saudi Arabia

- Industrial Operation Management (1)
- Industrial operation Management (2)
- Senior Project

Industrial and Manufacturing Systems Engineering Dep. *Aug, 01 – Jan, 02*
The University of Michigan – Dearborn
• Visiting Professor

II. Academic Part-time appointments

College of Business *Aug, 09 – Feb, 10*
The University of Jordan, Jordan
• Operation Management (Graduate)

Talal Abu Ghazaleh College of Business *Feb, 08 – Aug, 08*
German-Jordanian University, Jordan
• Operation Management (Graduate)
• Supply Chain Management (Graduate)

Faculty of Business Studies *Feb, 06 – June, 08*
Arab Open University – Jordan Branch
• Systems Thinking
• Managing Complexity

College of Business *Jun – Aug, 05*
Petra University, Jordan
• Information Systems
• Operation Management

RESEARCH ACTIVITIES

I. Funded Projects

1. **Using Advanced Manufacturing, Innovative Product Development and Decision Modeling Techniques for Developing Sustainable Supply Chains**, Alfaisal University, (2012 – 2014) (\$410,000)
2. **Product Design Modernization & Order Management**, Higher Education Development Program (Jordan), (2003-2006). (JD 100,000)
3. **A Methodology for Developing a Measure for Modular Products Manufacturability**, Deanship of Academic Research, The University of Jordan, (2004) (JD 3,000)
4. **Virtual Product Design and Development Architecture**, Sun Microsystems, 1999-2000. (USA) (\$50,000)
5. **A Features-Based Approach for Modular Facility Layout Design**, Advanced Manufacturing Technology Development, Ford Motor Company, 1998-99, (Phase I), (USA). (\$20,000)
6. **Process Optimization for Fused Deposition Modeling Process**, Center for Engineering Education and Practice, The University of Michigan-Dearborn, 1998. (USA) (\$10,000)
7. **Decomposition Analysis for Modular Design of Mechanical Parts**, Advanced Manufacturing Technology Development and Climate Control Division, Ford Motor Company, 1997-98. (USA) (\$25,000)
8. **A Methodology for Modular Product Design**, Center for Engineering Education and Practice, The University of Michigan-Dearborn, 1997-98. (USA) (\$10,000)

II. Research Experience

Rapid Prototyping Laboratory

Industrial Engineering Department
Alfaisal University, Riyadh, Saudi Arabia

March, 13 - present

Founder and Director

- A newly established laboratory with aim of providing support to local product developers

Product Design Laboratory

Industrial Engineering Department
The University of Jordan, Amman – Jordan

June, 05 – Aug, 10

Co-founder and Director

- Working on research related to product development
- Developing prototypes for the local industry

Rapid Prototyping Laboratory

Industrial & Systems Engineering Department
University of Michigan – Dearborn

Sep, 01 – Dec, 02

Research Fellow

- Worked on research related to design for modularity, feature-based design, and rapid tooling

Collaborative Manufacturing Laboratory

Industrial and Manufacturing Engineering Department
Wayne State University

Sep, 98 – Aug, 01

Research Assistant

- Developed a virtual product design and development architecture
- Developed a system for e-product development across the automotive supply chain
- Developed an E-learning class for product design and development

Rapid Prototyping Laboratory

Industrial & Systems Engineering Department
University of Michigan – Dearborn

Sep, 96 – Aug, 98

Research Assistant

- Helped in setting the laboratory for operations by installing the machines and software needed
- Conducted research dealing with process optimization for Fused Deposition Modeling process

III. Supervised Theses' Titles

1. Identification of product modules using logical functional modeling
2. Product customization through the development of manufacturing cores
3. A Fuzzy based approach for new product concept evaluation and selection
4. Investigating consumer requirements for shampoo formulation: factors affecting shampoo formulation
5. Using fuzzy regression to estimate market share of new products

6. Applying "TOPSIS" multi-criteria decision making method in the selection of candidates in an employee recruitment and selection process
7. Product development policy design
8. New product concept evaluation: a data envelopment analysis approach

PUBLICATIONS

Books

1. Kamrani, Ali and Salhieh, Sa'Ed, (2002) "**Product Design for Modularity**", 2nd Edition, Kluwer Academic Publishers.
2. Kamrani, Ali and Salhieh, Sa'Ed, (2000) "**Product Design for Modularity**", Kluwer Academic Publisher

Book Chapters

1. Smadi H., Kamrani A., and Salhieh S. (2010), "**Product Customization through the Development of Manufacturing Cores**", in "Systems Engineering Tools and Methods" Edited by Ali K. Kamrani and Maryam Azimi. CRC Press.
2. Salhieh. S. and Kamrani, A. (2008), "**Modular Design**" in "*Collaborative Engineering: Theory and Practice*", Edited by Ali Kamrani, and Emad Abouel Nasr, Springer.
3. Kamrani., A. and Salhieh., S. (2004), "**A Decomposition Methodology for Uncoupled Modular Product Design**", in "*Mass Customization: A Supply Chain Approach*" Edited by Chandra, C. and Kamrani, A. Springer.
4. Monplaisir, L and Salhieh, S (2002), "**Collaborative Product Design and Development: A case study integrating CSCW with QFD**", in "*Collaborative Engineering for Product Design and Development*" Edited by Monplaisir, L and Singh, N.

Journal Papers

1. Al-Dmour, H., Alshurideh, M., and Salhieh, S. (2014), "**A Study of Jordanians' Television Viewers Habits**". Life Science Journal. Vol. 11, No. 6, pp. 161-171.
2. Salhieh, S. and Al-Harris, M. (2014), "**New Product Concept Selection: An integrated approach using Data Envelopment Analysis (DEA) and Conjoint Analysis (CA)**", International Journal of Engineering and Technology, Vol. 3, No.1, pp. 44-55.
3. Kamal, A. and Salhieh, S. (2013), "**A Fuzzy Based Approach for New Product Concept Evaluation and Selection**", Industrial Engineering Letters. Vol. 3, No. 12, pp. 1-16.
4. Kamrani, A., Smadi, H., Salhieh, S. (2012), "**Two-phase methodology for customized product design and manufacturing**", Journal of Manufacturing Technology Management, Vol. 23, No. 3, pp. 370 – 401.
5. Smadi, H., Kamrani, A., Salhieh, S. (2012), "**A Two-Phase Methodology for Modular Product Customization**", European J. of Industrial Engineering, Vol. 6, No. 4.
6. Salhieh, Sa'Ed (2008) "**Developing Manufacturing Response Models to Predict the Manufacturability of New Modular Products**", International Journal of Advanced Manufacturing Technology. Volume 39, Numbers 5-6, pp. 599 – 611.
7. Salhieh, Sa'Ed (2007) "**A Methodology to Redesign Heterogeneous Product Portfolios as Homogeneous Product Families**", Computer Aided Design, Volume 39, pp. 1065 – 1074.

8. Salhieh, Sa'Ed (2007) "**A Systematic Approach for the Selection of Business Processes for E-Enablement**", International Journal of Information Technology and Decision Making, Volume 6, No. 4, pp. 649-669.
9. Santarisi, Nader, and Salhieh, Sa'Ed (2005), "**An Experimental Method for Solving the Problem of Course Scheduling: Department of Industrial Engineering at the University of Jordan as a Case Study**", Journal of King Abdulaziz University: Engineering Sciences, Vol. 16, No.1, pp. 31-44.
10. Salhieh, S and Monplaisir, L (2003), "**Collaboration Planning Framework (CPF) to Support Distributed Product Development**", Journal of Intelligent Manufacturing, Vol. 14, pp 581-597.
11. Salhieh, S., Monplaisir, L., and Singh N. (2002) "**A Planning Methodology to Support Global Product Development using CSCW Tools**", Global Journal of Flexible Management
12. Salhieh, S and Kamrani, A (1999), "**Macro Level Product Development Using Design for Modularity**", Robotics and Computer Integrated Manufacturing Journal, Vol. 15, pp. 319-329.

Conference Papers

1. Salhieh, S. and Cormier, G. (2015), "**Using the Analytical Hierarchy Process (AHP) to Assess Students Performance in Engineering Capstone Projects**", 9th International Technology, Education and Development Conference, Madrid, Spain.
2. Salhieh, S. and Cormier, G., (2014), "**A Methodology for Forming Effective Student Teams in Engineering Classes**", 8th International Technology, Education and Development Conference, Valencia, Spain.
3. Salhieh, Sa'Ed (2007), "**A Methodology for Developing a Measure for Modular Products Manufacturability**". Industrial Engineering Research Conference, Nashville, Tennessee, USA.
4. Kamal, Amjad, and Salhieh, Sa'Ed (2007), "**Collaborative Product Concept Evaluation and Selection Methodology: A Fuzzy Approach**", Industrial Engineering Research Conference, Nashville, Tennessee, USA.
5. Salhieh, S., (2006), "**Selecting Product Development Teams: A New Approach**", Industrial Engineering Research Conference, Orlando, Florida, USA.
6. Smadi, H., and Salhieh, S. (2006), "**Product Customization through the Development of Manufacturing Cores**", Industrial Engineering Research Conference, Orlando, Florida, USA.
7. Salhieh, S (June 2004), "**A Methodology to Modularize Products Based on Customer Needs**" International Symposium on Manufacturing and Automation - World Automation Congress, Seville, Spain.
8. Monplaisir, L and Salhieh, S (August, 2001), "**Product Development Process Analysis Methodology to Facilitate Planning for Collaborative Product Development**" The 5th International Conference on Engineering Design and Automation, Las Vegas, Nevada, USA.

9. Monplaisir, L and Salhieh, S (May, 2001), “**Planning for Collaborative Product Development Systems: Task Interactions Driven Approach**” 10th Annual Industrial Engineering Research Conference, Dallas, Texas, USA.
10. Monplaisir, L and Salhieh, S (2000), “**Integrated CSCW/QFD to Support Distributed Product Development**”, The 4th International Conference on Engineering Design and Automation, Orlando, Florida, USA.
11. Kamrani, A and Salhieh, S (2000), “**Design for Modularity: Product Design for Decomposition and Integration**”, the 4th International Conference on Engineering Design and Automation, Orlando, Florida, USA.
12. Monplaisir, L and Salhieh, S (2000), “**A Systematic Approach for Developing Internet Supported Collaborative Product Development Systems**”, 9th Annual Industrial Engineering Research Conference, Cleveland, Ohio. (presentation only), USA.
13. Kamrani, A. and Salhieh, S.(1999), “**A Features-Based Approach to Integrated Product and Facility Design**”, 8th Annual Industrial Engineering Research Conference.
14. Kamrani, A., Sengupta, S., Salhieh, S., and Wang, R., (1998), “**Product Design and Rapid Prototyping Concepts: A DOE Analysis**”, 8th Annual Industrial Engineering Research Conference.
15. Kamrani, A., Sengupta, S., Salhieh, S., and Wang, R., (1998), “**Prototyping and Rapid Prototyping Concepts**”, Industrial Engineering Research Conference, Banff, Canada.
16. Kamrani, A. and Salhieh, S. (1998), “**A Methodology for Parallel Sub-System Design Using Modular Approach**”, Industrial Engineering Research Conference, Banff, Canada.

PROFESSIONAL EXPERIENCE

Services

- **International Advisory Board**, International Conference of Education, Research and Innovation, Seville, Spain, 2014.
- **Associate Editor**, International Journal of Collaborative Enterprise, Inderscience Publishing.
- **Reviewer**, Project Management: Achieving Competitive Advantage 3rd Edition, by Jeffrey Pinto, Pearson, 2013.
- **Reviewer**, King Abdulaziz City for Science and Technology (KACST).
- **Steering Committees and Evaluator**. Faculty-For-Factory Program (A Jordanian National Program that allocates faculty members to industry)/
- **Expert Panel**, The workshop for writing the “Arab Knowledge Report” ,a joint Initiative of UNDP and Mohammed Bin Rashid Al Maktoum Foundation, 2012.
- **Juror**, Stars of Science TV Show (Season 2 & 3), Qatar Foundation, 2010 and 2011.
- **Organizing Committee**, the International Association for the Exchange of Students for Technical Experience Conference, Dead Sea, Jordan, 2007.

- **Organizing Committee**, International Symposium on Manufacturing Applications, World Automation Congress (WAC 2004), Spain, 2004.
- **Reviewer** for the following Journals:
 - Computer Aided Design
 - IEEE Transactions on Engineering Management
 - Computers & Industrial Engineering
 - International Journal of Advanced Manufacturing Technology
 - Robotics and Computer Integrated Manufacturing
 - Jordan Journal of Business Administration

Consultation Projects

Jordan Light Vehicle Manufacturing (JLVM) 2008
 Developed a systematic approach for integrating the supply chain of JLVM with local suppliers

Amman Chamber of Industry 2008
 Performed an industrial sector analysis and improvement study covering the sectors of Solar Collectors Industry, and Carpets & textiles Industry.

Nuqul Group 2007
 Assessing and enhancing the new product development process at Nuqul group.

Abdin Industrial Establishment 2006
 Prepared the technical component of the Diagnostic and Upgrading Plan for Abdin Industrial Establishment per the requirement of Jordan Upgrading and Modernization Program (JUMP).

Al-Hikma Pharmaceuticals 2005
 Studied the performance of the materials management system. The study evaluated the purchasing function, and developed a measure for the inventory management performance.

Khalifeh Group for Advanced Industries (Kalboard) 2004
 Studied the manual assembly process, and proposed methods for optimizing the process.

Jordan TV CABLE & Internet Services company (JCS) 2003
Part I: Conducted a market study to investigate the preferred TV channels by the Jordanian TV viewers in Amman
Part II: Studied the customer perception of the Cable TV Services at Jabal Al-Nasr.

ACADEMIC AWARDS

- Thomas C. Rumble University Graduate Fellowship (1998-1999) – Wayne State University

PROFESSIONAL SOCIETIES

- Institute of Industrial Engineers (IIE)
- Society of Manufacturing Engineers (SME)
- IEEE Engineering Management Society
- Jordan Engineers Association