

ARZUM AKKAŞ

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ACADEMIC POSITIONS

University of Massachusetts Amherst, Isenberg School of Management

Associate Professor (with tenure), Operations and Information Management Department, 2024-Present

Boston University, Questrom School of Business

Assistant Professor, Operations and Technology Management Department, 2015-2023

parental leave: 2019

without childcare due to Covid: Spring 2020, Fall 2020, Spring 2021 (1.5 years)

Faculty Fellow, Susilo Institute for Ethics in the Global Economy, 2022- 2023

Affiliate, Institute for Global Sustainability, 2016- 2023

EDUCATION

Massachusetts Institute of Technology

PhD in Engineering Systems - Institute for Data, Systems, and Society, 2015

Committee: David Simchi-Levi (MIT), Vishal Gaur (Cornell University), Roy Welsch (MIT)

Dissertation: Strategies to Reduce Product Waste in the Consumer Packaged Goods Industry

Master of Engineering in Supply Chain Management, 2004

Istanbul Technical University Istanbul, Turkey

Bachelor of Science in Industrial Engineering, 2000

Istanbul Atatürk High School of Science, Turkey, 1996

RESEARCH INTERESTS

Sustainable supply chains, food supply chains, food waste, reverse logistics, retailing, consumer packaged goods, operations/marketing interface, business analytics, empirical operations management.

INDUSTRY EXPERIENCE

Archstone Consulting

New York, NY

Associate (2008-2009)

- Management consultant focusing on operations management related client projects and research.
- Clients include a \$15B international metals and mining company and a \$1.6B global industrial packaging company.

Pepsi Bottling Group

Somers, NY

Senior Operations Manager, Go-To-Market Sales and Delivery Team (2007-2008)

- Business owner of the Handheld Suggested Order application that is used by over 5,000 Pepsi sales representatives to generate replenishment orders for over 200,000 retail stores.
- Enhanced the system by improving demand coverage, baseline demand forecast, regression models, forecasting levels, out-of-stock detection, and clustering.
- Managed the entire deployment process from testing and piloting to national rollout.

Operations Manager, Integrated Planning Team (2004-2007)

- Business owner of the Demand and Supply Planning systems that Pepsi uses to forecast demand and plan inventory for over 350 warehouses and 60 plants.
- Developed solutions that involve new business processes, software enhancements, designs of algorithms, and architecting changes in the database and data flow among multiple complex systems.
- Oversaw development and managed the entire deployment process from testing and piloting to national rollout.
- Trained North American users on new software releases at annual user meetings.
- Implemented the Demand Planning system at Pepsi's Russian and Turkish Business Units.

Bogazici Software

Istanbul, Turkey

Business Systems Consultant (1999-2002)

- Conducted Manugistics (now called Blue Yonder software) Compass Analysis to evaluate the current supply chain excellence of leading companies in Turkey ranging from Exel Logistics, Unilever to Beiersdorf.
- Demonstrated Manugistics Demand Management, Transportation Management, Fulfillment, and Production Scheduling modules to prospective clients.
- Implemented Manugistics Transportation Management module at a \$2.8B appliance company.
- Implemented the Adonix ERP system at 3M Turkey. Trained users on all functions of the logistics module, including materials requirements planning, master production scheduling, production planning, distribution requirements planning, and sales.

PUBLICATIONS

[1] **Akkas, A.**, Gaur, V. and Simchi-Levi, D., 2019. Drivers of Product Expiration in Consumer Packaged Goods Retailing. *Management Science*, 65(5), pp.2179-2195.

- Selected for 2014 Wharton Empirical Operations Management Workshop

[2] **Akkaş, A.**, 2019. Shelf Space Selection to Control Product Expiration. *Production and Operations Management*, 28(9), pp.2184-2201.

- Solo authored
- Nominated for the Skinner award for best published paper in 2019

[3] **Akkaş, A.** and Sahoo, N., 2020. Reducing Product Expiration by Aligning Salesforce Incentives: A Data-driven Approach. *Production and Operations Management*, 29(8), pp.1992-2009.

- Selected for 2017 Wharton Empirical Operations Management Workshop

[4] **Akkas, A.** and Honhon, D., 2021. Shipment Policies for Products with Fixed Shelf Lives: Impact on Profits and Waste. *Manufacturing and Service Operations Management*, 24(3), pp.1611-1629.

[5] **Akkas, A.** and Gaur, V., 2022. OM Forum - Reducing Food Waste: An Operations Management Research Agenda. *Manufacturing and Service Operations Management*, 24(3), pp.1261-1275.

- Interviewed by faculti.net about the paper:
<https://faculti.net/reducing-food-waste-an-operations-management-research-agenda/>

[6] **Akkas, A.** and Honhon, D., 2022. “Determining Maximum Shipping Age Requirements for Shelf Life and Food Waste Management”. *Production and Operations Management*. Forthcoming. Available at SSRN 4169298.

RESEARCH IN PROGRESS

[7] “Food surplus management: A global perspective”

[8] “Do markdowns as an exit strategy of food surplus hurt retail brand image?” with Remi Trudel

[9] “Order batching and food waste” with Erol Peköz

[10] “Passing the buck of food waste cost” with Alper Nakkas

[11] “Markdown optimization to control bakery waste” with Dorothee Honhon.

CASES AND TEACHING MATERIALS

[11] **Akkas, A.** and Gaur, V., 2021. Product Expiration at Health Cola Inc.

IN THE MEDIA

- Quoted in an article about supply planning in relation to Peloton’s financial failure: [“Peloton’s big whoops: The pandemic was the best thing that happened to Peloton until it was the worst.”](#), Vox, 2022
- Quoted in an article about toy shortages: [“Christmas season begins amid supply chain uncertainty”](#), WICKEDLOCAL.com, 2021

- Video interview about a research paper:
[“Reducing Food Waste: An Operations Management Research Agenda”](#), [faculti.net](#), 2021
- Q&A for an article about supply chain issues:
[“Why the Supply Chain Crisis Could Screw up Your Holiday Shopping”](#), BU Today, 2021
- Q&A about a research paper:
[“Reducing expiration waste in retail supply chains”](#), Arizona State University Operations Management Review, 2022
- Quoted in an article about food shortages during the pandemic:
[“Shoppers can expect meat shortages as processing plants shut down”](#), [wjla.com](#), 2020
- Video interview for a special report on automation in agriculture:
[“Farm Robotics and Automation to Reduce Risk”](#), American Society of Mechanical Engineers, 2020
- Interviewed for a radio program to discuss food waste during the pandemic:
[“Food Waste During the Coronavirus Crisis”](#), NPR’s Under the Radar radio program, 2020
- Q&A for an article about food shortages during the pandemic:
[“Will the Coronavirus Crisis Lead to Food Shortages?”](#), BU Today, 2020
- Q&A for an article about the use of big data in supply chain management:
[“Making Big Data Work”](#), Everett Magazine, 2019

FUNDING AND FELLOWSHIPS

- \$30,000 funding provided as a gift from ECR Retail Loss to support research on food surplus management, 2022
- \$80,000 funding provided as a gift from REMA (a supermarket chain in Norway) to support research on waste reduction, 2017
- UPS fellowship providing tuition and stipend coverage at MIT for a full academic year, 2012
- \$60,000 funding provided as a gift from a consumer packaged goods manufacturer to support dissertation research, 2011

INDUSTRY – ACADEMIA JOINT PROJECTS

At Boston University

ECR Retail Loss: “A Global Perspective on Food Surplus Management”, 2022

REMA1000, Norway: “Store Operations and Unsaleables”, 2017

A Canadian pharmacy chain: “Impact of Waste Reimbursement Contracts on Waste Performance”, 2017

An American food and beverage distributor: “Drivers of Employee Turnover in Sales Operations”, 2017

At Massachusetts Institute Of Technology

Accenture: “Predicting Invoice Payment Patterns Using Machine Learning”, 2014

SAP: “Demand Forecasting without POS Data using In-Memory Technology”, 2012

A consumer packaged goods manufacturer: “Strategies to Reduce Product Waste”, 2011

At Pepsi Bottling Group

MIT: “Improving the Consumer Demand Forecast to Enhance Suggested Replenishment Orders”, 2008

MIT: “Manufacturing Network Optimization”, 2006

MIT: “Inventory Optimization”, 2004

INVITED TALKS

Research Seminars:

University of Colorado Boulder Leeds School of Business, 2023

University of Massachusetts Amherst, 2023

University of South Carolina Darla Moore School of Business, 2023

UCLA Anderson School of Management, 2023

London Business School, 2022

University of Nebraska-Lincoln College of Business, 2022
Singapore Management University, 2021
Koç University College of Administrative Sciences and Economics, 2019
MIT Sloan School of Management, 2018
Northeastern University D'Amore-McKim School of Business, 2018
University of North Carolina Kenan-Flagler Business School (for the Retail Analytics Workshop), 2018
Boston College Carroll School of Management, 2017
INSEAD, 2016
Boston University School of Management, 2014

Other academic meetings:

Workshop on Food Waste Reduction, 2024 (scheduled)
Harvard Business School, Consortium for Operational Excellence in Retailing, 2024
Early Career Sustainable Operations Workshop, 2023
Harvard Business School, Consortium for Operational Excellence in Retailing, 2022
Beykent University, Sustainable Food Policies and Food Waste Conference, 2021
EURO Working Group (EWG) on Retail Operations, 2021 (delivered the **keynote talk** on food waste management)
Harvard Business School, Consortium for Operational Excellence in Retailing, 2018
Eindhoven University of Technology, EURO Working Group Meeting on Retail Operations, 2018
The Wharton School, Workshop on Empirical Research in Operations Management, 2017
Harvard Business School, Consortium for Operational Excellence in Retailing, 2017
Harvard Business School, Consortium for Operational Excellence in Retailing, 2014
The Wharton School, Workshop on Empirical Research in Operations Management, 2014

Conferences:

INFORMS Annual Meeting, 2024 (scheduled)
INFORMS Annual Meeting, 2022
POMS Annual Conference, 2022
INFORMS Annual Meeting, 2021
INFORMS Annual Meeting, 2019
POMS Annual Conference, 2018
MSOM Annual Conference, 2018
INFORMS Annual Meeting, 2017
POMS Annual Conference, 2017
INFORMS Annual Meeting, 2016
POMS Annual Conference, 2016
INFORMS Annual Meeting, 2015
POMS Annual Conference, 2015
INFORMS Annual Meeting, 2014
POMS Annual Conference, 2014
MSOM Annual Conference, 2013
MSOM Annual Conference, 2012
INFORMS Practice Conference, now called the INFORMS Analytics Conference, 2008 (participated as an industry speaker from Pepsi)

Non-Academic

“Retail maturity model for food surplus management”, ECR Retail Loss web meeting, 2023

“Food surplus management: A global perspective” ECR Retail Loss web meeting, 2023

“Tackling Food Waste for a Better Future” webinar organized by Roland Berger, 2022 (keynote talk)

“The Pandemic, The Supply Chain, and Shopping: When Will Things Return to Normal?” hosted by Brookline Public Schools Adult & Community Education, 2022 (special lecture)

ACADEMIC SERVICE

Reviewer:

- Reviewer for Management Science, MSOM, POM, Journal of Operations Management, European Journal of Operational Research, California Management Review, Transactions on Engineering Management
- Reviewer for Social Sciences and Humanities Research Council of Canada, 2023
- Reviewer for MSOM Sustainable Operations SIG Conference, 2024
- Reviewer for MSOM Conference, 2023
- Reviewer for MSOM Sustainable Operations Management SIG Conference, 2023
- Judge for INFORMS Public Sector Operations Research Best Paper Competition, 2022
- Judge for the poster competition at INFORMS annual meeting, 2022
- Reviewer for MSOM Supply Chain Management SIG Conference, 2022
- External reviewer for the Research Grants Council of Hong Kong, 2022
- Judge for the best student paper competition for MSOM (2024, 2021, 2020, 2019, 2018)
- Reviewer for MSOM Sustainable Operations SIG Conference, 2020
- Judge for the best student paper competition in Supply Chain Management for POMS, 2019
- Best thesis award committee member for Supply Chain Management Master's program at MIT, 2010

Co-organizer

Workshop on Food Waste Reduction, 2024, hosted by Technical University of Munich (scheduled)

Guest Associate Editor (for the special issue on Responsible Retail Operations, 2024):

Manufacturing and Service Operations Management (MSOM)

Guest Associate Editor (for the special issue on Omnichannel Retailing, 2022):

Journal of Operations Management

Editorial Review Board Member:

Production and Operations Management Society, 2015-present

Conference organizations:

- Track chair for "Agriculture and Food Supply Chains", POMS, 2023
- Cluster chair (put together 12 sessions) for "Environment and Sustainability", INFORMS, 2022
- Session chair for two sessions on sustainability, INFORMS, 2021
- Session chair for two sessions on food waste, INFORMS, 2020
- Track chair for "Supply Chain Management", POMS, 2018
- Session chair for "Waste Issues", INFORMS, 2018
- Session chair for "Topics in Sustainability", INFORMS, 2016
- Session chair for "Topics in Two-tier Supply Chains", POMS, 2016

Other:

- Dissertation committee member of Navid Mohamadi, Kühne Logistics University, 2023
- Media interview for the Online MBA program about innovation in sustainable supply chains, 2022
- Panelist for Questrom Honors Program research day, 2022
- Session moderator at Consortium for Operational Excellence in Retailing at Harvard Business School, 2020
- Webinar host for Questrom Insights series, 2020

<https://www.bu.edu/questrom/about/questrom-insights/>

- Moderator for Questrom Operations Management alumni panel, 2020

Service at Boston University:

- Course Coordinator for OM323, the core undergraduate level Operations Management course (2022-2023)
- Faculty Fellow at Susilo Institute for Ethics in the Global Economy (2022- Present)
- Member of the MBA Program Development Committee (2021-present)
- Social Impact Program Development Committee Member (2018 – 2022)
- Advisor to Boston University Consulting Club (2020)
- Qualifying exam committee member (2016, 2018)

- Speaker series co-organizer (2015 – 2021)

TEACHING EXPERIENCE

University of Massachusetts Amherst, Isenberg School of Management

Instructor, SCH-MGMT 670: Operations Management (core course for MBA students), 2024-present

- Developed the course with topics including quality management, inventory management, supply chain management, risk management, and sustainable operations

Boston University, Questrom School of Business

Instructor, OM851/OM451 Environmentally Sustainable Supply Chains (elective), 2021- 2022

- Developed the course with topics including environmental impact assessment, eco-efficiency initiatives, risk management, sustainable sourcing, green logistics, closed-loop supply chains, circular economy, green product design, food waste, eco-labeling, sustainable growth, and sustainable business models.

- Offered to both MBAs and undergraduates.

Instructor, OM323 Operations Management (Core undergraduate course), 2015- 2023

- Topics include new product development, supply chain management, logistics, inventory management, location selection, queuing analysis, process flow analysis, capacity and production planning, materials requirement planning, lean operations, and quality management.

Guest Speaker, SR801 Social Impact: Business, Society, and the Natural Environment, MBA elective course, 2021 and 2022

Talk title: Environmental Sustainability and Sustainability Issues in Food Supply Chains

Guest Speaker, CORE Innovation day, Undergraduate integrated course between, 2021 Spring and 2021 Fall

Talk title: Design for Environment (DfE)

Guest Speaker, OM440 Operations Strategy, Undergraduate elective course, 2020

Talk title: Business Case for Sustainability

Guest Speaker, OM845 Clean Technologies and Supply Chains, MBA elective course, 2017

Case discussion on the product expiration problem in the consumer packaged goods industry.

Massachusetts Institute of Technology

Guest Lecturer, ESD.763 Operations and Supply Chain Management, Graduate level course, 2013

Presented a lecture on forecasting and demand planning. Provided an overview of times series methods, regression analysis, forecasting and inventory management, forecasting levels, sales and operations planning, forecasting performance metrics, and forecasting organization.

Instructor, ESD.763 Operations and Supply Chain Management, Graduate level course, 2012

Presented lectures on process analysis, inventory management, supply contracts, bullwhip effect, procurement and sourcing, offshoring and outsourcing, production planning, supply chain design, and supply chain strategy.

Teaching Assistant, ESD.251 Supply Chain Finance, Graduate level course, 2011

Taught financial statements, financial ratios and other performance metrics at supplementary sessions.

Teaching Assistant, ESD.250 Analytical Methods, Graduate level course, 2011

Reviewed probability & statistics, linear & integer programming, and optimization at supplementary sessions.

Teaching Assistant, ESD.275 Systems Optimization, Graduate level course, 2010

Taught portfolio optimization and supply contracts at one session.

Istanbul Technical University

Guest Lecturer, Management Faculty, Continuing Education Center, 2002

Demonstrated supply chain planning capabilities of Manugistics software.

Guest Lecturer, Industrial Engineering Undergraduate Program, 2001

Demonstrated routing optimization capabilities of Manugistics' Transportation Management module.

Yeditepe University

Guest Lecturer, MBA Program, 2002

Spoke about Manugistics e-business applications.

PROFESSIONAL MEMBERSHIP

Institute for Operations Research and Management Science (INFORMS)

Manufacturing and Service Operations Management (MSOM)

Production and Operations Management Society (POMS)