

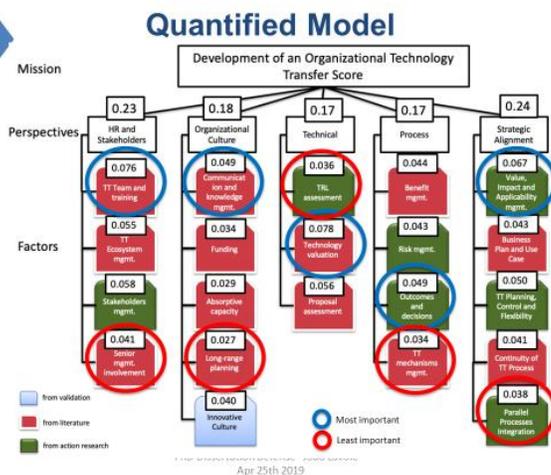
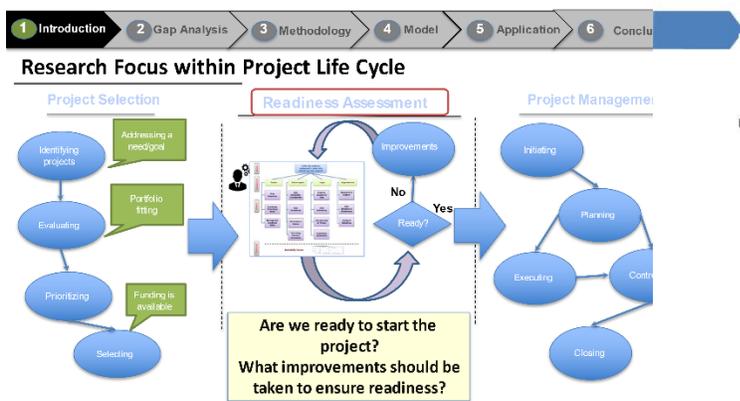
# Digital Transformation

Professor: Tugrul U Daim, PhD and Fulbright Scholar



This course introduces practical tools and applications for managing Digital Transformation. The class will be held in two weekends.

The first weekend will focus on evaluating technologies for digital transformation. Students will review cases from sectors transforming digitally including transportation, semiconductors, cloud computing and consumer goods.



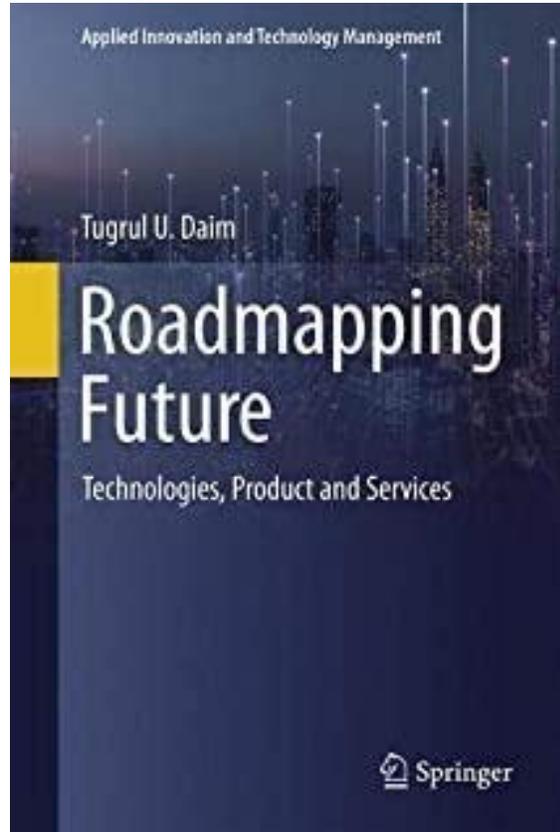
The second weekend will introduce roadmapping the digital journey through cases and a team exercise. Teams will review cases ranging from consumer goods to autonomous vehicles. There will also be a hands-on exercise to roadmap the digital transformation in the transportation business.



## CLASS MATERIAL

### Books<sup>1</sup>

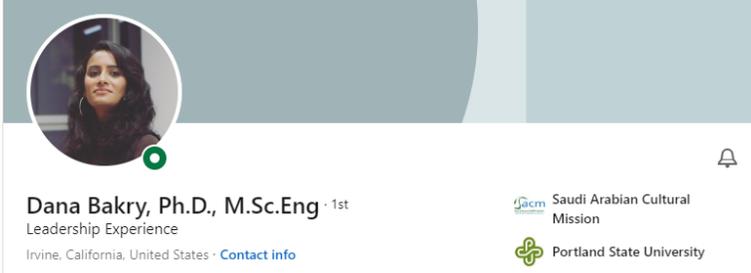
1. Daim T, Digital Transformation, World Scientific 2020
2. Daim T, Roadmapping Future, Springer Nature, 2021



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<sup>1</sup> Available on the google drive

## SCHEDULE

<b>Date</b>		
Jan 12	<p>Class Introduction</p> <p>Introduction to Technology Assessment</p> <p><a href="https://www.youtube.com/watch?v=VMR1kVi3y4I">https://www.youtube.com/watch?v=VMR1kVi3y4I</a></p>	<p>READ THE CHAPTERS ASSIGNED TO YOUR TEAM BEFORE COMING TO THE CLASS</p> <p>WATCH THE RECORDED LECTURES BEFORE THE CLASS</p>
Jan13	<p>Guest Lecture - Dr Dana Bakry</p> <p><b><i>An Evaluation of the Effectiveness of Innovation Ecosystems in Facilitating the Adoption of Sustainable Entrepreneurship</i></b></p> <div style="border: 1px solid #ccc; padding: 5px; margin-top: 10px;">  </div> <p>Case Study Presentations</p>	<p>Cases are from “<i>Digital Transformation</i>” Chapters 1, 3, 4, 8, 9</p> <p>TEAM 1 - CHP 1            TEAM 2 - CHP 3            TEAM 3 - CHP 4            TEAM 4 - CHP 8            TEAM 5 - CHP 9</p>

Jan 14

Guest Lecture - Dr Soheil Zarrin

***Maturity Model for Customer-Centric Approach in Enterprise: The Case of E-Commerce and Online Retail Industry***



Case Study Presentations

HDM Link

<http://research1.etm.pdx.edu/HDM2/>

Cases are from “*Digital Transformation*”  
Chapters 10, 12 14,  
and 16

TEAM 6 - CHP 10  
TEAM 7 - CHP 12  
TEAM 8 - CHP 14  
TEAM 9 - CHP 16

Jan 19

Introduction to Technology Roadmapping

Case Study Presentations

READ THE  
CHAPTERS  
ASSIGNED TO YOUR  
TEAM BEFORE  
COMING TO THE  
CLASS

WATCH THE  
RECORDED  
LECTURES BEFORE  
THE CLASS

Cases are from  
“*Roadmapping Future*”  
Chapters 1 - 9

TEAM 1 - CHP 1  
....  
TEAM 9 - CHP 9

Jan 20	Case Study Presentations - continue	
Jan 21	Team Exercise/Presentations Class Wrap Up	TEAMS 1 THRU 9



**Professor Tugrul U Daim** leads a research group on Technology Evaluations and Research Applications. His group has had 26 PhD graduates. His research group has been supported by National Science Foundation, Department of Defense/National Security Agency, National Cooperative Highway Research Program, Energy Trust of Oregon, US Dept of Energy, Bonneville Power Administration, Northwest Energy Efficiency Alliance, EPRI, Biotronik, Ford Motor Corporation, Intel Corporation, US Aid, Fullbright, Saudi Arabia Cultural Mission, Libyan Ministry of Education, CAPES Brazil, Maseeh Foundation, Oregon BEST, TUBITAK Turkey, Chinese Scholarship Council, FAPESP Brazil, Oregon Health and Science University, and University of Bremen.

Professor Daim has published over 200 refereed journal papers, more than 10 special issues and more than 20 books. He made more than 200 conference presentations. Professor Daim gave several keynote lectures at conferences, companies, universities and research centers around the world including Amot, Euromot, Samsung, Helmut Schmidt University, Kuhne Logistics University, Seoul National University, Bogazici University, Koc University, University of Gaziantep, Izmir Institute of Technology, University of Pretoria, Tampere University of Technology, STEPI, EPIC at UNCC, Cambridge University, National Taiwan University, Higher School of Economics in Moscow, Friedrich Alexander University, Chinese Academy of Engineering and Office of Naval Research. He has been frequently invited to be an external examiner for promotions of many colleagues and for dissertations of doctoral students in universities around the world. Professor Daim is the fifth Editor-in-Chief of IEEE Transactions on Engineering Management. Under his leadership, submissions to the journal more than doubled, the impact factor quadrupled, and the journal was ranked among the top journals in leading citation indices. Prior to that Professor Daim had led the International Journal of Innovation and Technology Management for a decade and made it a well-known journal in the field. In addition, he had served as an Associate Editor for other journals including Technological Forecasting and Social Change, Technology in Society, Engineering Management Journal and Foresight. He has been on the editorial boards of many leading journals in our field. He also has been a part of the leadership team for conferences including PICMET and IEEE TEMSCON.

Prior to joining PSU, Professor Daim worked at Intel Corporation for over a decade in varying management roles including the management of product and technology development. During his tenure at PSU, he had worked very closely with Bonneville Power Administration to develop a research and technology management framework run by technology roadmaps. He is a member of the R&D Advisory Board for TUPRAS, the largest industrial firm in Turkey. He also consulted to many other international, national and regional organizations including Elsevier, ETRI, Koc Holding, Arcelik, Tofas, Kirlangic, Siemens, Mark and Spencer, and Castrol. Professor Daim has been teaching in summers at the Northern Institute of Technology at Technical University of Hamburg, Harburg for over a decade.

He was given the Research Publication Award by the International Association of Management of Technology (IAMOT) and Fellow Award by the Portland International Center for Management of Engineering and Technology (PICMET) both in 2014. He was awarded Leading Research Fellowship at National Research University Higher School of Economics in Moscow in 2018 and Honorary Chair Professor title by Chao Yang University of Technology in 2019. At PSU he was given David E Wedge Award for Excellence in Teaching in 2017, Outstanding Engineering Researcher Award given by the Columbia-Willamette Chapter of Sigma Xi Research Honorary in 2011 and Distinguished Alumni Award by PSU College of Eng'g and Comp Sci in 2003. Dr. Daim was the President of Omega Rho, International Honor Society in Operations Research and Management Science (of INFORMS) between the years of 2014 and 2016. He founded the PSU Chapter of Omega Rho as the founding President and has been the Faculty Adviser for 20 years. Recently he was awarded a Fulbright grant to conduct research in Turkey. Several recent rankings put his group as a leading team in the field<sup>2</sup>. He was ranked in the top 2% of world scientists. (<https://data.mendeley.com/datasets/btchxktzyw/2>). A bibliometric review of 50 years of research published in Technological Forecasting and Social Change listed one of his papers as the fifth most influential paper and him as the third most influential author. A second paper identified his work at PSU as one of the roadmapping schools of thought next to Cambridge and others.

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<sup>2</sup> <https://www.sciencedirect.com/science/article/pii/S0040162520310362>, <https://www.sciencedirect.com/science/article/pii/S0040162519304901>, <https://www.sciencedirect.com/science/article/pii/S0040162519305220>, <https://www.sciencedirect.com/science/article/abs/pii/S0016328718303100>