Huseyn Mammadov

Italy, Urbino city h.mammadov@campus.uniurb.it / husmam.alum@us.es/huseyn.mammadov@unica.it (+39)351-885-6263

Education	***Saïd Business School, University of Oxford / Executive Education on AI and Digital Transformation in Government (95%/100%)*** Special Moduls: Foundations of Digital Transformation and AI, Data as a Public Asset, Designing Inclusive, People-Centric Services, Leading Digital Transformation in Government	Nov-25
	University of Seville , Spain / *Double Degree PhD Candidate in Economics and Business (Cum Laude)* Thesis Title: Adopting Digitalization: The Impact on SME perfomance in Evidence from Italy and Spain	*2022- 2025*
	University of Urbino , Italy / *Double Degree PhD Candidate in Global Studies (Economy, Business and Governance) (Cum Laude)* Thesis Title: Adopting Digitalization: The Impact on SME perfomance in Evidence from Italy and Spain	*2021- 2025*
	Norwegian School of Economics (NHH) / *Visiting PhD student* Mini PhD Course: Entrepreneurship and Strategy	Mar-Aug 2024
	Massachusetts Institute of Technology (MIT) , USA / *MicroMasters in Data, Economics and Development Science (85/100)* Special Subjects: Microeconomics, Designing and Running Randomized Evaluations, Data Analysis for Social Scientists, The Challenges of Global Poverty, Political Economy and Economic Development	*2020-21*
	Durham Business School (DBS) , UK / *Visiting Student in MBA (2:2)* Special Subjects: Strategy, Organisational Behaviour, Business Ethics	*2020-21*
	University of Siena , Italy / *MSc in Economics (78/110)* Special Subjects: Microeconomics I & II, Economic Growth, Macroeconomics, Game Theory, Risk Managament, Econometrics I & II, Public Economics, Industrial Organization, International Management	*2018-21*
	Baku Engineering University (BEU) , Azerbaijan / *BA in International Economics (81.23/100)* Special Subjects: Introduction to Economics, Micro and Macro Economics, Econometrics I & II, Public and Business Finance, World Economy, Audit, International Economics Institutions, Calculus I & II	*2014-18*
	Mirkayil Musfig High School (Distinction)	*2003-14*
Work Experience	**PostDoc (Research Fellow) / University of Cagliari, Department of Economics and Business Sciences, Cagliari, Italy** Project: Innovation and Sustainability for the Competitiveness of SMEs in Tourism	*Mar-Present 2025*
	Fellow, Digital SME Expert / Oxford Centre for Technology and Development, Oxford University, Oxford, UK (https://www.octd.co.uk/the-team) Director/Team Leader - Dr. Emre Eren Korkmaz Project: Climate Tech/ Data Scarcity	*Jun-Nov 2024*
	Summer Research Fellow / Indian Institute Of Technology Delhi (ITT), Depatment of Management Studies, Delhi, India. Mentor - Prof. P. Vigneswara Ilavarasan Project: Information and Communication Technologies & Development (ICTD) in SMEs	*May-July 2024*
	Research Assitant and Inclusion to the research group / Sevilla University, Faculty of Economics and Business Sciences, Spain Supervised by Prof. Isidoro Romero The project "DIGIPYME" "Business factor, digital ecosystems and digitization of SMEs" (PID2020-113384GB-I00) financed by the Ministry of Science and Innovation/State Research Agency (DOI 10.13039/501100011033) within the framework of the 2020 Call of the State Plan 2017-2020 Knowledge Generation – R&D Projects.	*Jun-Present 2022*
	Visiting Researcher / Sevilla University, Faculty of Economics and Business Sciences, Spain Research activities within the research group "SMEs and economic development" (SEJ128) of the Department of Applied Economics I of the University of Seville, collaborating, specifically, in the development of the project "DIGIPYME" "Business factor, digital ecosystems and digitization of SMEs" (PID2020-113384GB-I00) financed by the Ministry of Science and Innovation/State Research Agency (DOI 10.13039/501100011033) within the framework of the 2020 Call of the State Plan 2017-2020 Knowledge Generation	*Sep-Jun 2022*
	Research Assitant / Urbino University, Faculty of Economics / Supervised by Prof. Mara Del Baldo Assistaned in data collection, cleaning, and organization for multiple research projects • Conducted literature reviews and synthesized relevant research articles • Constructed econometric models and analyzed data using Stata to assess economic relationships • Prepared research reports, summaries, and presentations for faculty members • Collaborated with a team of researchers to develop research methodologies and refine research questions.	*Sep-Present 2021*
	Marketing Intern / *Google HQ, London, UK* Identifying strategic goals and north star metrics; gathering audience insights and needs; conducting research into competitor activities and opportunities; defining messaging red thread across all engagement. • Working with Production and Talent agencies to secure location, venues, speakers and artists to create "magic moments" for clients • Working with Sales leaders and Administrative Business Partners (ABPs) to carefully curate invite lists and ensure high attendance and engagement.	*Jun-Jul 2019*
	Risk Manager Intern / *Azer-Turk Bank OJSC, Baku, Azerbaijan* Implementing risk analyzing programs by providing risk analyzing services, including credit portfolio and diversification reports, employment processing, records management • Improving manager and employee performance by identifying and clarifying problems, evaluating potential solutions, implementing selected solution, carrying out vigorous analyses in variety of issues requiring considerable knowledge in Statistics, Finance and Math • Completing special projects by clarifying project objective, conducting research, developing and organising information • Preparing reports by collecting, analyzing, and summarizing data	*Feb-May 2018*
	Account Manager Intern / *SEBA Non-Government Credit and Insurance company, Baku, Azerbaijan* Implementing C1 program by providing account managing services, including credit portfolio reports. Gathered payroll data, credit and insurance accounts.	*Jan-Jul 2017*

Summer Schools	***Urbino Summer School: "Economic Growth and Development: Roots and New challenges" (Urbino, Italy)*** Topics: Key growth mechanisms, including different economic models like the Solow model and endogenous growth theory. The role of factors like savings, technical progress, education, and institutions in economic growth. New challenges, including the impact of innovation and technology, the potential for "leapfrogging" in developing nations, and the role of the state.	*Jul-25*
	Bucharest Summer University on Digital Transformation of New Business Models (Bucharest, Romania) Thesis Title: Adopting Digitalization: The Impact on SME perfomance in Evidence from Italy and Spain	*Aug-24*
	4th International Summer School on Digitalization and Sustainability Estonian Business School (Tallin, Estonia & Helsini, The summer school focuses on trends, uncertainties and complexities in intersections of digitalisation and sustainability on a global level. The course acknowledges nature of digitalisation and sustainability in national and international level. It summarise and communicate complex issues in the intersection of digitalisation and sustainability in an easily understandable way. The course improves decision-making and teamwork skills through capstone assignments.	*Aug-24*
	LUISS PhD Summer School on European industry, Innovation and Trade Policy in the Era of Strategic Automomy (Roma, Italy) Paper title: Adoption of Artificial Intelligence in Small and Medium-Sized Enterprises: The Role of Competencies and Skill**s**	*Jun-24*
	Ku Lueven (Belgium & Spain) / Data and Algorithms for Science, Technology & Innovation Studies (ST&I) The VIIth edition of the ST&I was an enlightening experience that delved into the world of (big) data, algorithms, and the transformative power of machine learning and artificial intelligence within the realm of Science, Technology, and Innovation (ST&I) / **Paper title: Analysing the determinats of digital transformation of small and medium enterprises as an innovation process.**	*Sep-23*
	International Centre for Migration Policy Development (Baku, Azerbaijan) / Migration Economics Training on topics ranging from economics, human rights, development, citizenship, and integration. The summer school's professors represented some of the world's leading universities, including the Universities of Oxford and Sussex, the Universities of Maastricht and Leiden.	*Sep-22*
	The Bucharest University of Economic Studies (Bucharest, Romania) / Fintech Special Subjects: FInTech and Stock Markets, Blockchain and cryptocurrencies, Banking sector challenges, Risk Management In the Fintech World (Case Studies), Financial inclusion and the digital currency, Central Bank - Reshaping the Banking and payments industry, and cooperation In case of shifting towards digital currency, Regulations of digital currency.	*Aug-22*
	Oxford University, OPHI (Jakarta, Indonesia) / Multidimensional Poverty Measurement(MPI) The OPHI Summer School 2022 is hosted by the Faculty of Economics and Business University of Indonesia, Depok, Indonesia, from 1 August 2022 to 12 August 2022. This program is organized by Oxford Poverty and Human Development Initiative, Department of International Development, University of Oxford, and University of Indonesia. This program is also integrated to the G20 T20 side event of G20 Indonesia 2022 of Multidimensional Poverty in the Midst of the Covid-19 Pandemic.	*Aug-22*
	Aoyama Gakuin University (Tokto, Japan) / International Development Youth Forum 1st place among 10 teams in International Development Youth Forum (IDYF2019) in Tokyo, Japan on the case of Developing Water Infrastructure in Kibera, Kenya as a representative of "Really Maji" project work	*Aug-19*
	Imperial College (London, UK) / Summer Research Program on Entrepreneurship 1st place among 12 teams in TrepCamp Entrepreneurial Competencies Model Competition as a Co-Founder of XSEnergy at Imperial College London	*Jun-19*
Volunteering Experience	***Organizer at the IAPH World Ports Conference , Baku, Azerbaijan*** Producing proposals for events and greeting foreign guests	*May-18*
	IV International Scientific Conference of Young Researchers Assisting and organising the event and handling the queries of participants	*Apr-16*
Publications	***Bibliographic Analysis of Digitalization in SMEs: A Comparative Study from Italy and Spain*** ITAIS 2024 Proceedings. 39. https://aisel.aisnet.org/itais2024/39	*Jun-25*
	Digital Transformation of Small and Medium-Sized Enterprises as an Innovation Process: A Holistic Study of its Determinants Journal of Knowledge Economy, Springer. doi.org/10.1007/s13132-024-02217-z	*Jul-24*
	Adoption of Artificial Intelligence in Small and Medium-Sized Enterprises in Spain: The Role of Competences and Skills Amfiteatru Economic Journal. doi.org/10.24818/EA/2024/67/848	*Jun-24*
	Digital Innovation International Encyclopedia of Business Management, Reference Module in Social Sciences, Elseveir, ISBN9780443157851. doi.org/10.1016/B978-0-443-13701-3.00067-0	*Mar-24*
	The Trend and Sustainability of SMEs: The Case of Azerbaijan Place Based Approaches to Sustainability Volume II. Palgrave Studies in Sustainable Business In Association with Future Earth. Palgrave Macmillan, Cham. doi.org/10.1007/978-3-031-41610-1_4	*Feb-24*
	Addressing challenges and catalysts for the adoption of e-commerce in SMEs Piccola Impresa Small Business, PISB, (3). doi.org/10.14596/pisb.3883	*Dec-23*
	Obstacles and Enablers of the Adoption of E-commerce in SMEs Conference: New Perspectives and interdisciplinary approaches to entrepreneurship : Proceedings 6th PISB WorkshopAt: Urbino, Italy. Volume: ISBN 978- 88-31205-32-0	*May-23*
	Car Price Prediction in the USA by using Liner Regression International Journal of Economic Behavior (IJEB) /ISSN 2069-5756, doi.org/10.14276/2285-0430.3049	*Dec-21*
	Competatitive Strategy of IKEA and Strategic Anylzes for Indian Market Baku Engineering University / V INTERNATIONAL SCIENTIFIC CONFERENCE OF YOUNG RESEARCHERS, Baku, Azerbaijan	*April-21*
	The Consequences of Brexit for the UK Trade and Its Long-Run Effects on the UK Economy Siena University / Masters Thesis, Siena, Italy	*Feb-21*
	An Econometric Analysis of the Effects of the Income Per Capita and Education to the Numbers of Crime in Azerbaijan International Journal of Social Science and Economic Research /ISSN: 2455-8834, DOI: 10.46609/IJSSER. 2020.v05i06.016	*Jun-20*

Trainings & Conferences	XXI Conference itAIS, Piacenza, Italy / Paper Title: **Bibliographic Analysis of Digitalization in SMEs: A Comparative Study from Italy and Spain**	*Oct-24*
	62nd ERSA Congress, Azores, Portugal / Paper title: **Urbanisation And Digital Transformation of Small and Medium-Sized Enterprises in Spain**	*Aug-24*
	PhD mini-course on Strategy and Entrepreneurship , Norwegian School of Economics, Bergen, Norway / Paper title: **Adoption of Artificial Intelligence in Small and Medium-Sized Enterprises: The Role of Competencies and Skills**	*Jun-24*
	CEES Doctoral Worskshop, University of Seville, Spain /Paper title: **Bibliographic Analysis of Digitalisation in SMEs: A Comparative Study from Italy and Spain.**	*Jun-24*
	Workshop on Economics of Science and Innovation, Bordeaux School of Economics, Bordeaux, France / Paper title: **Bibliographic Analysis of Digitalisation in SMEs: A Comparative Study from Italy and Spain.**	*Jun-24*
	XXIV Reunion de Economia Mundial, Universidad de Sevilla, Sevilla, Espana / Paper title: **Bibliographic Analysis of Digitalisation in SMEs: A Comparative Study from Italy and Spain.**	*May-24*
	Training Session for PhDs, Administracion de Empresas y Marketing, Universidad de Sevilla.	*Nov-23*
	World Open Innovation Conference (WOIC), 10th Edition: Bringing Together Stakeholders for Joint Value Creation, Bilbao, Spain / Paper title: **Analysing the determinats of digital transformation of small and medium enterprises as an innovation process.**	*Nov-23*
	Joint Research Centre of the European Commission, 9th European Conference on Corporate R&D and Innovation, CONCORDi 2023, Industrial innovation for Open Strategic Autonomy, Seville, Spain / **Paper title: Analysing the determinats of digital transformation of small and medium enterprises as an innovation process.**	*Oct-23*
	Seminar at Seville University / Paper title: **Addressing Challenges and Catalysts for E-Commerce Adoption in SMEs**.	*Sep-23*
	VI Seminar for New Academic Researchers (SNAR), Open University of Catalonia, Barcelona, Spain / Paper title: **Analysing the determinats of digital transformation of small and medium enterprises as an innovation process.**	*Sep-23*
	Spanish National Workshop of New Working Spaces , CA18214, Open University of Catalonia, Barcelona, Spain.	*Sep-23*
	R&D MANAGEMENT CONFERENCE 2023, Pablo de Olavide University, Seville, Spain / Paper title: **Analysing the determinats of digital transformation of small and medium enterprises as an innovation process.**	*Jun-23*
	R&D MANAGEMENT CONFERENCE DOCTORAL COLLOQUIUM, Pablo de Olavide University, Seville, Spain / Thesis title: **Adopting Digitalization: The Impact on SME performance in Evidence from Italy and Spain.**	*Jun-23*
	International Conference on Financial Fragility and Financial Education of Households and Firms organized by the Department of Economics, Society, Politics (DESP) of the University of Urbino Carlo Bo, Urbino, Italy.	*Jun-23*
	CEES Doctoral Worskshop, University of Seville, Spain /Paper title: **Obstacles and enablers of the adoption of E-commerce in SMEs**.	*Jun-23*
	34th Annual Conference of European Business Ethics Network, Doctoral Workshop, University of Bologna, Italy / Thesis title: **Adopting Digitalization: The Impact on SME performance in Evidence from Italy and Spain.**	*May-23*
	6th PISB (Picolla Impresa Small Business) conference, New Perspectives and Interdisciplinary Approaches to Entrepreneurship, Urbino, Italy / Paper title: **Obstacles and enablers of the adoption of E-commerce in SMEs.**	*May-23*
	34th Annual Conference of European Business Ethics Network, Doctoral Workshop, University of Bologna, Italy / Thesis title: **Adopting Digitalization: The Impact on SME performance in Evidence from Italy and Spain.**	*Oct-22*
	5th Seminar for New Academic Researchers, University of A Coruna, Spain / Paper title: **The Development Process through SMEs: E-business models.**	*Sep-22*
	8th International Centre for Migration Policy Development (ICMPD) Summer School, Migration Economics , Guba, Azerbaijan.	*Sep-22*
	G20 Delegation,G20 INDONESIA PRESIDENCY SECRETARIAT, T20 Side Event: Multidimensional Poverty in the Midst of the COVID-19 Pandemic: A Commitment to Reducing Poverty in All Its Forms, Jakarta, Indonesia.	*Aug-22*
	XX Workshop SOCIETÀ ITALIANA DI ECONOMIA E POLITICA INDUSTRIALE (SIEPI), Laquila, Italy / Paper title: The role of SMEs in Global Value Chains and the impact of their Involvement in their home-country.	*Jun-22*
	Advanced Course 2022, 17th Editcion:"Innovation, Growth and International Production Models and Data Analysis" Rome, Italy	*May-22*
	Annual European SPES Conference 2022: Place Based Sustainabilty,Ethics and Spritually Call for a New Economy Serving Life, Urbino, Italy /Paper title: **The Trend and Sustainability of SMEs: The Case of Azerbaijan.**	*May-22*
	SIENA INTERNATIONAL SCHOOL on Sustainable Development (SISSD) Phase I: Alignment of competences / Phase II: Challenges and Solutions of Decarbonization / Phase III: The future.	*Mar-22*
	Cambridge University Model United Nations (CAMUN), Delegate of Australia.	*Nov-19*
	Rome Model European Union (ROMEU2019) Spazio Europa & Regione Lazio, Rome, Italy.	*May-19*
	Panelist in World Youth Form (WYF2018), The Role of Entrepreneurs and Start-ups in Global Economic Growth committee, Egypt/Sharm El-Sheik.	*Oct-18*
	1st place in Azerbaijan Business Case Competition (ABCC2017). In the competition, 55 teams had been assigned to work on the cases of prospective branches of globally recognized firms in various regions of our country and to present a report on the analysis of financial risks and profitability that the projects would incur. Baku, Azerbaijan.	*Dec-17*
	World International Model United Nations (WIMUN), Headquarter of UN in New York/USA as a delegation of Indonesia	*Feb-17*
	5th Jubilee National Selection Conference of European Youth Parliament in Economical and Financial committee. Baku, Azerbaijan.	*Nov-16*
	Business Tour program with Young Business Factory in Tbilisi, Georgia. Visited places: Public Service Hall, Parliament of Georgia, Pasha Bank Tbilisi branch, Bank of Georgia.	*Feb-16*
	Balance of Payments and Analysis of Analytic Balance of Central Bank of Azerbaijan trainings in Baku, Azerbaijan.	*Dec-15*
	European Computer Driving Licence (ECDL) 1st level.	*Dec-15*

Online Courses	Oxford Climate Society: School of Climate Change Course	*Mar-25*
	Harvard University: CS50's Understanding Technology	*Oct-23*
	University of Oxford: OXBSG01x :From Poverty to Prosperity:Understanding Economic Development	*Sep-23*
	Harvard University: LBTechX1 :Technology Entrepreneurship: Lab toMarket	*Sep-23*
	University of Cambridge: 2021EDX005 :Digital Platforms in Performance	*Sep-23*
	Duke University: Data Science Math Skills	*Sep-23*
	IMFAHE´s Online Quarter Course on Professional Development	*Jan-23*
	McKinsey Forward Program	*Dec-22*
	Oxford University, OPHI & UNDP: Desining a Multidimensional Povery Index	*Jun-22*
	IBM: Data Science Orientation, 1st level	*May-20*
	IBM New Collar: Customer Engagement Specialist (CES)	*May-20*
	Asian Development Bank (ADB): Energy Economics, Environment, and Policy	*Apr-20*
	King College London: Business Management	*Apr-20*
	Illinois University: Firm Level Economics: Consumer and Producer Behavior	*Apr-20*
	Yale University: Financial Markets (Honors)	*Apr-20*
	Massachusetts Institute of Technology (MIT)/ Boston, USA: AP® Microeconomics	*Apr-20*
	Google Analytics Academy: Advanced Google Analytics	*Apr-20*
	Imperial College London (ICL)/ London, UK: Creative Thinking: Techniques and Tools for Success	*Apr-20*
	University of London/ London, UK: Managing the Company of the Future	*Apr-20*
	University of California, Davis: The Strategy of Content Marketing	*Apr-20*
	University of Toronto: Communication Strategies for a Virtual Age	*Apr-20*
	Duke University: Data Science Math Skills	*Apr-20*
	University of Virginia: Marketing Analytics	*Apr-20*
	International Monetary Fund (IMF): Macroeconomic Diagnostics	*Apr-20*
	Harvard University/ Boston, USA: Data Science; R Basics (Distinction)	*Nov-18*
	Oxford Royal Academy: WW1 Politics, Society, Poetry (89%)	*Jun-21*
	Delft University, Delft/Netherlands: An Introduction to Credit Risk Management	*Jun-21*
	Stanford University, California State/USA: Statistical Learning	*Jun-21*
	Udemy/Oxford Learning Lab: Behavioral Sales	*Apr-17*
	Oxford University, Oxford, UK: From Poverty to Prosperity-Understanding Economic Development	*Feb-17*
	Diploma in Business Management& Entrepreneurship from Alison: Subjects include corporate management, operations management, accounting, human resources, financial accounting and project management.	*Dec-16*
	ISO 9001:2015 Fundamental Concepts: ISO 9001 is an international standard which provides a framework for organizations to maintain Quality Management System	*Sep-16*
Awards	R&D MANAGEMENT CONFERENCE DOCTORAL COLLOQUIUM, **BEST POSTER AWARD WINNER**, Pablo de Olavide University, Seville, Spain / Thesis title: Adopting Digitalization: The Impact on SME performance in Evidence from Italy and Spain	
	8th ICMPD Summer School Full Scholarship (5000 EUR)	
	Bucharest Summer School (BSU) Full Scholarship (590 EUR)	
	Oxford University Summer School, OPHI (Oxford Poverty and Human Development Initiative) fee waiver (£2000)	
	Urbino University Doctoral Scholarship (15300 EUR yearly)	
	Full Scholarship for IDYF, Summer Research Program (400000YEN~3800USD) in Tokyo, Japan	
	75% and 50% scholarships(5000USD) for tuition and dormitory respectively Summer Research Program by Imperial College	
	Full Scholarship(3800USD) for World Youth Form in Sharm-El-Sheik, Egypt	
	Full Scholarship(8000USD) for the master's degree by DSU Toscana in Siena, Italy	
	6000AZN~5500USD, 1st place grant of Azerbaijan Business Case Competition (ABCC2017)	
	Travel Grant (300 $ and 5 days housing) for the Brown International Advanced Research Institute 2017 Workshop,	
Languages	Azerbaijan - Native / English - C2 / Turkish - C2 / Russian - B1 / Italian - B1 / Spanish - B1	
Programs	Rstudio, Stata, Microsoft Office, Anaconda(Python)	
Interests	Travelling, Football, Judo, Ping-pong	
Referees	Aviable Upon Request	

UNIVERSITA' DEGLI STUDI DI URBINO CARLO BO

Allegato n. 1 al Verbale della riunione della Commissione giudicatrice per il conferimento del titolo di Dottore di Ricerca in GLOBAL STUDIES. ECONOMY, SOCIETY AND LAW

Dottorato in co-tutela di tesi con l'Universidad de Sevilla (SPAGNA)

Seduta del 10/06/2025 Composizione Commissione

- Presidente Prof. Francesco VENTURINI (Università degli Studi di Urbino Carlo Bo)
- Segretario Prof.ssa Carmen GUZMÁN-ALFONSO (Università di Siviglia - Spagna)
- Componenti Prof.ssa Laura BROCCARDO (Università degli Studi di Torino), Prof. Giulio PEDRINI (Università Kore di Enna), Prof. Jon Mikel ZABALA-ITURRIAGAGOITIA (Università di Deusto - Spagna)

VALUTAZIONE CANDIDATO (EVALUATION OF THE CANDIDATE)

- Dottorando (Ph.D. Candidate): HUSEYN MAMMADOV, nato a (born in) BAKU (AZERBAIGIAN) il (on) 21/09/1997
- Corso di Dottorato di Ricerca (Ph.D. Programme): GLOBAL STUDIES. ECONOMY, SOCIETY AND LAW
- Titolo della tesi di dottorato (Title of the Ph.D. Thesis): Adopting Digitalisation: The Impact on SME Performance in Evidence from Italy and Spain.
- SSD (Academic Discipline): SECS-P/06 (ECON-04/A)

La tesi è stata valutata da (the Ph.D. Thesis has been evaluated by): Prof. Augusto BARGONI - Università degli Studi di Torino, Prof. Dario GUARASCIO - Università di Roma "La Sapienza"

La tesi è stata scritta in inglese ed è stata discussa in inglese (the Ph.D. Thesis is written in English and has been discussed in English).

Supervisori (Supervisors): Prof.ssa Mara DEL BALDO (Università degli Studi di Urbino Carlo Bo); Professor Isidoro ROMERO LUNA (Università di Siviglia)

Co-supervisore Prof. (Co-Supervisor Professor) Giovanni MARIN (Università degli Studi di Urbino Carlo Bo)

La Commissione ha deliberato di approvare la tesi, redigendo la seguente relazione:

GIUDIZIO ANALITICO:

Le ricerche oggetto della tesi sono molto originali.

Le metodologie appaiono molto appropriate

I risultati sono interessanti ed analizzati con eccellente senso critico.

Nel colloquio il candidato dimostra una eccellente conoscenza delle tematiche trattate.

GIUDIZIO SINTETICO: con lode

The Evaluation Committee resolved to approve the Ph.D. Thesis, drawing up the following report:

ANALYTICAL JUDGMENT:

The research of the dissertation is very original.

The methodologies used appear very sound

The results are interesting and analysed with excellent critical sense.

In the interview the candidate demonstrates an excellent knowledge of the topics covered.

SYNTHETIC JUDGMENT: with honours

Urbino 10/06/2025

Presidente della Commissione

Prof. Francesco VENTURINI

UNIVERSIDAD D SEVILLA

D. MIGUEL ÁNGEL CASTRO ARROYO, RECTOR MAGNÍFICO DE LA UNIVERSIDAD DE SEVILLA

CERTIFICA:

Que Don **HUSEYN MAMMADOV**, nacido el 21 de septiembre de 1997 en Azerbaiyán, de nacionalidad azerbaiyana y con Pasaporte nº C02786694, ha superado en esta Universidad los estudios conducentes al Título Universitario Oficial de Doctor por la Universidad de Sevilla "Cum Laude", con carácter oficial y validez en todo el territorio nacional y Número de Registro Nacional 2025236921, el 10 de junio de 2025, dentro del Programa "Ciencias Económicas, Empresariales y Sociales", y ha abonado los derechos de expedición del Título el 23 de junio de 2025.

Y para que surta los mismos efectos del Título, con carácter provisional hasta que éste se edite, expido la presente certificación, a solicitud del interesado, en Sevilla a fecha de la firma.

EL RECTOR,
Fdo.: Miguel Ángel Castro Arroyo.

Este Certificado tendrá una validez de un año a partir de la fecha de expedición del mismo.

Código Seguro De Verificación	1QpHNZSLlEi2ynTctkpwAQ==	Fecha	28/08/2025
Firmado Por	MIGUEL ANGEL CASTRO ARROYO		
Url De Verificación	https://pfirma.us.es/verifirma/code/1QpHNZSLlEi2ynTctkpwAQ%3D%3D	Página	1/1

Grades for Huseyn Mammadov

Print Grades (javascript:window.print())

Arrange by

Assignment group | Apply

Name	Due	Submitted	Status	Score
Orientation Module Learning Material				-
Module 1: Learning Resource Learning Material		18 Nov at 20:12	✓	
Module 2: Learning Resource Learning Material		18 Nov at 20:30	✓	
Module 3: Learning Resource Learning Material		19 Nov at 7:19	✓	
Module 4: Learning Resource Learning Material		19 Nov at 7:32	✓	
Module 5: Learning Resource Learning Material		19 Nov at 7:51	✓	

Name	Due	Submitted	Status	Score	
Module 6: Learning Resource Learning Material		19 Nov at 8:09		✓	
Conclusion Learning Material		19 Nov at 8:25		✓	
Module 1 - Summative Quiz Summative Quiz		18 Nov at 19:43		10 / 10	
Module 2 - Summative Quiz Summative Quiz		18 Nov at 20:36		10 / 10	
Module 3 - Summative Quiz Summative Quiz		19 Nov at 7:24		10 / 10	
Module 4 - Summative Quiz Summative Quiz		19 Nov at 7:35		10 / 10	
Module 5 - Summative Quiz Summative Quiz		19 Nov at 8:33		10 / 10	
Module 6 - Summative Quiz Summative Quiz		19 Nov at 8:24		10 / 10	
End-of-Course Quiz End of Course		19 Nov at 8:45		23 / 24	

Name	Due	Submitted	Status	Score	
Learning Material				100%	7.00 / 7.00
Summative Quiz				100%	60.00 / 60.00
End of Course				95.83%	23.00 / 24.00
Total				95.83%	



THIS IS TO CERTIFY THAT

Huseyn Mammadov

HAS COMPLETED

AI and Digital Transformation in Government

Issued on: 19 November 2025

CAROLINE WILLIAMS
EXECUTIVE DIRECTOR, OXFORD SAID ONLINE

GUILHERME CANELA
DIRECTOR FOR DIGITAL POLICIES, UNESCO

Developed by Saïd Business School
University of Oxford

Cover Letter

My research focuses on the study of emerging technologies as socio-technical systems and on understanding how their adoption affects organisations, the economy, and society. I hold a double doctoral degree in Global Studies (Economy, Business, and Law) and in Economics and Business, which has provided me with a foundation to examine digitalisation, innovation processes, and technology-driven organisational change, particularly in Small and Medium Enterprises (SMEs). My doctoral thesis, Adopting Digitalisation: The Impact on SME Performance: Evidence from Italy and Spain, investigates digitalisation not merely as a technical process but as one shaped by organisational capabilities, skills, institutional environments, and stakeholder perceptions. The thesis consists of five core studies addressing digital transformation, e-commerce adoption, artificial intelligence adoption, and innovation processes in SMEs. Across these studies, I analyse the determinants of technology adoption, including competencies, perceived benefits and risks, and organisational readiness, and their impact on firm performance. Currently, as a postdoctoral research fellow at the University of Cagliari, I study the factors driving digitalisation in museums and cultural institutions within the framework of the national PNRR program. This research extends my focus to public and cultural organisations, allowing me to examine how institutional constraints, governance structures, and societal expectations influence this process.

My motivation for applying for this bootcamp is closely connected to the development of my research trajectory and to my interest in contributing to an academic environment that critically examines technological acceptance and change.

In my future research, I plan to examine digital inequalities among firms/organisations, focusing on how disparities in access, skills, and usage of digital technologies shape organisational performance and competitiveness. While digital technologies offer significant opportunities for innovation, uneven adoption risks reinforcing structural economic inequalities across firms, sectors, and regions. This research will investigate first-level (access) and second-level (skills and usage) digital divides using original firm-level survey data. The analysis will be guided possibly by the Resources and Technology Integration (RTI) framework, which integrates resource endowments, organisational heterogeneity, strategic positioning, and institutional conditions. This approach allows for a systematic examination of how socio-technical factors interact to shape unequal digital outcomes. Overall, it is well aligned with European and national funding priorities related to digital transformation, inclusive innovation, and competitiveness.

08/02/2026 Dr Huseyn Mammadov

Bridging the Firm-Level Digital Divide: Evidence from Spain on Access, Skills, and Usage Gaps

Executive Summary

Digital technologies represent both a powerful driver of innovation and competitiveness and a source of inequality among firms. On the one hand, they allow businesses to transform operations, create new business models, and achieve performance gains (Trischler & Li-Ying, 2023). On the other hand, disparities in access, skills, and usage of digital tools generate a digital divide that risks reinforcing pre-existing structural inequalities in the economy (Norris, 2001; van Dijk, 2020). These divides are especially salient in Spain, where firms exhibit strong heterogeneity across sectors, regions, and sizes, with northern regions, finance, and tourism adopting digital technologies more intensively, while southern regions, manufacturing, and retail sectors lag behind (Pérez-Amaral et al., 2021b). Most studies stop at individuals, leaving us blind to how the digital divide plays out across Spanish firms, sectors, and regions. This project changes that building the first firm-level indices of access, skills, and usage, and turning them into actionable insights for closing Spain's digital gaps by conducting a specific survey unlike the previous studies. In this regard, it examines the digital divide among Spanish firms through the lens of the Resources and Technology Integration (RTI) theory, an adaptation of Van Dijk's Resources and Appropriation Theory (2005). Unlike traditional models of technology adoption (DOI, TAM, TOE), RTI explicitly integrates the role of resource inequalities, firm heterogeneities, strategic positioning, regulatory factors, and the characteristics of digital technologies in shaping disparities. By focusing on the first-level divide (access to infrastructure) and second-level divide (skills and usage), this project will provide the first systematic, firm-level assessment of how digital inequalities emerge and persist in Spain. Expected contributions include new composite indices of firm-level divides, empirical evidence on sectoral, regional, and size-based disparities, and policy recommendations to ensure that SMEs and laggard firms are not left behind in Spain's digital transformation. In doing so, the project addresses priorities under the EU's Digital Decade, Horizon Europe's mission of fostering inclusive innovation, and contributes to the SDGs (particularly SDG 9 on industry, innovation, and infrastructure, and SDG 10 on reduced inequalities).

Objectives

The project is designed to move beyond descriptive accounts of firm digitalisation and generate actionable insights into the mechanisms, variations, and policy implications of the digital divide in Spanish firms. Four interconnected objectives will guide the research:

A. Map and track digital divides in Spanish firms: Develop composite indices to measure first-level divides (access to infrastructure, connectivity) and second-level divides (skills, adoption, and usage) using firm-level data.

KPI: Two validated indices capturing access and usage disparities, disaggregated by firm size, sector, and region.

B. Assess the role of resource allocation and integration mechanisms: Test the explanatory power of the Resources and Technology Integration (RTI) theory by examining how incentives, access, skills, and usage interact to shape firm-level divides.

KPI: Explanatory power of RTI constructs (measured through regression and structural modelling).

C. Analyse heterogeneity across firms and regions: Examine how divides vary systematically across firm sizes (SMEs vs. large firms), sectors (manufacturing, finance, retail, tourism), and Spanish regions (north vs. south / east vs west).

KPI: Share of variation explained by firm and region-specific factors.

D. Translate findings into policy interventions: Formulate targeted, evidence-based policy recommendations for bridging the digital divide, engaging key stakeholders (regional policymakers, chambers of commerce, SME associations).

KPI: At least three policy briefs produced, and two workshops organised.

State of the Art

The digital divide was initially conceptualised to highlight disparities in access to digital technologies among individuals, households, and demographic groups, focusing on computing technologies and connectivity, known as the first level (Norris, 2001; van Dijk & Hacker, 2003; van Dijk, 2020). As the understanding of the digital divide evolved, scholars recognised it also encompassed disparities in digital skills and technology usage, expanding the concept to include proficiency and frequency of use as the second level (Hargittai, 2002; van Dijk, 2005; van Deursen & van Dijk, 2011). More recently, a third level has been introduced, which examines the unequal outcomes resulting from differences in access, skills, and usage (Wei et al., 2011; Ragnedda, 2017; Scheerder et al., 2017; van Deursen & Helsper, 2018).

Initial research on the digital divide has shown that digital inequalities among individuals often intersect with and exacerbate other socioeconomic disparities, such as income, gender, race, and education (van Dijk, 2006; Lengsfeld, 2011; Ragnedda & Muschert, 2013). This phenomenon, whereby digital divides augment pre-existing inequalities, is likely to be mirrored at the firm level. Firms may not only encounter barriers to accessing digital technologies, but also risk a widening gap due to internal disparities in productivity, size, and wage structures, as demonstrated by Loecker et al. (2022) in their comparative study of the US and UK economies. Translating these insights to Spain, the firm-level digital divide may therefore not simply reflect a technological gap, but rather the outcome of multiple interacting factors including firm-specific heterogeneities, contextual strategic positioning, regulatory measures, unequal access to resources, and the characteristics of digital technologies. These interdependencies underline the complex nature of the digital divide, which is shaped not only by technological factors but also by broader socioeconomic and cultural dynamics, such as organisational practices and regional attitudes toward digital adoption (Serrano-Cinca et al., 2018; Gómez, 2019; Ure-De-Oliveira & Bonilla-Algovia, 2025).

While the digital divide has been studied extensively at the individual and household levels, far less attention has been devoted to organisations and firms, despite their central role in shaping economic performance and innovation. At the firm level, the divide extends beyond access to digital infrastructure and includes disparities in digital skills, technology integration, and capacity for innovation (Bach et al., 2013; Shakina et al., 2021; Lythreatis et al., 2022). In Spain, these disparities are particularly pronounced due to the structural characteristics of the economy: a high share of small and medium-sized enterprises (SMEs), strong regional differences, and uneven adoption across sectors. For instance, according to the European Investment Bank (EIB), sectors like finance and tourism exhibit relatively high digital adoption but still lag behind EU leaders such as Germany and France, while manufacturing and retail remain particularly under-digitalised. Regional disparities further exacerbate this divide, with northern regions demonstrating stronger digital integration than southern regions, which face significant infrastructural and skills-based challenges (Pérez-Amaral et al., 2021b; Hidalgo et al., 2019). This dualism aligns with broader patterns of "neo-dualism" in Europe, where a small group of high-performing firms coexists with a large base of lagging firms (Dosi et al., 2018).

At the macro level, research on digital divides has shown that socioeconomic factors such as income, education, and employment contribute to persistent regional inequalities (Vicente & López, 2011; Billon et al., 2009). At the micro level, firm-specific heterogeneities play a crucial role in shaping technology adoption and digital integration, often reinforcing broader inequalities. Although fields like digital transformation and technology adoption have developed strong theoretical frameworks such as the Diffusion of Innovations (DOI), Technology-Organization-Environment (TOE), and Technology Acceptance Model (TAM), these largely focus on performance and innovation rather than unpacking the mechanisms of digital disparities (Rogers, 1995; Tornatzky et al., 1990; Venkatesh et al., 2003). This gap motivates the adoption of the Resources and Technology Integration (RTI) theory, an adaptation of van Dijk's Resources and Appropriation Theory (RAT). RTI extends the analysis to the firm level, emphasising how structural factors (firm heterogeneities, sectoral positioning, regulatory environments, and characteristics of digital technologies) interact with resource allocation to shape disparities in access, skills, and usage. By linking these dimensions, RTI provides a more nuanced framework than existing models and is particularly suited to studying the Spanish case, where firm-level disparities intersect with regional and sectoral dualism.

B1.2 *Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices)*

The project is designed to move beyond descriptive correlations and provide systematic evidence on the first- and second-level digital divides among Spanish firms. The core strategy relies on a repeated cross-sectional (RCS) design, leveraging the ICT usage in enterprises survey conducted by INE (Instituto Nacional de Estadística) between period. This design enables the analysis of trends across time while ensuring comparability in digital adoption patterns across firms of different sizes, sectors, and regions. Although RCS data do not allow tracking individual firms longitudinally, they are a well-established approach for identifying structural disparities and temporal shifts in adoption behaviour (Doering et al., 2019; Butler et al., 2022).

To achieve this, the project will combine three high-quality data sources:

- INE's ICT usage in enterprises survey (period), which provides consistent, anonymised data on firms' access to digital technologies, digital skills, and patterns of usage. These variables will operationalise the constructs of access, skills, and usage central to the Resources and Technology Integration (RTI) theory.
- Regional socio-economic indicators from Eurostat and INE, including productivity, wage structures, and skill endowments, which are expected to moderate digital adoption benefits.
- Conducting a spesfic survey (as suggested by Pérez-Amaral et al., 2021b)

This is an interdisciplinary project, integrating:

- Economics and management (firm heterogeneity, incentives for adoption),
- Information systems (technology integration and digital skills),
- Sociology (how divides mirror wider inequalities),
- Regional studies (spatial disparities between northern and southern Spain, and urban-rural contrasts).

The analysis will incorporate gender and diversity dimensions by disaggregating results where possible for instance, comparing adoption patterns in women-led enterprises versus male-led,

and considering workforce composition in terms of education and age. This ensures that the findings do not only measure firm-level divides in aggregate, but also reveal whether digital adoption policies benefit all groups equally or exacerbate inequalities. Furthermore, open science practices will be applied throughout the project. The analytical strategy will be pre-registered on the Open Science Framework, publications will be made openly available through Open Research Europe. These practices enhance transparency and reproducibility in organisational digitalisation research. Finally, the project will assess environmental sustainability impacts. By linking increases in digital adoption (e.g., e-invoicing, digital payments, online client interactions) to reductions in paper consumption, travel requirements, and administrative inefficiencies, the study will estimate potential CO_2 savings. This aligns with the EU Green Charter and contributes to understanding the wider co-benefits of bridging the digital divide in Spain.

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