



UNIVERSITATEA  
LUCIAN BLAGA  
— DIN SIBIU —

**TEZĂ DE ABILITARE**

**Rezumat**

**Smart knowledge production management  
strategies and processes**

**Domeniul fundamental: Economie**

**Domeniul de abilitare: Management**

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Teză elaborată în vederea obținerii atestatului de abilitare în scopul conducerii lucrărilor de doctorat în domeniul *Management*.

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## *Rezumat*

Această teză de abilitare prezintă o sinteză a activităților mele științifice realizate în managementul producției de cunoștințe inteligente după obținerea titlului de doctor. Am inclus capitole reflectând contribuția mea specifică îndeosebi în reviste core economics SSCI/SCIE WoS. Unele articole au constituit rezultatul activității mele, cu afilierea aferentă inclusă, la instituții de cercetare din străinătate prestigioase, precum Curtin University, Perth, Australia (Faculty of Science & Engineering) – managementul inteligenței artificiale în metaversul industrial, Cardiff Metropolitan University (The Creative Computing Research Centre) – creative computing management, and Toronto Metropolitan University (The Intelligent Communications and Computing Lab) – Industrial Internet of Things management. Unele au fost premiate de către UEFISCDI. Capitolele incluse aici reflectă și experiența mea de participant cu prezentări la 45+ conferințe internaționale organizate de Harvard University, University of Cambridge, Western Michigan University, University of Glasgow, Queen’s University Belfast, Paris-Sorbonne University, Philipps University of Marburg, Wuhan University etc. De asemenea, a contat în acest sens calitatea mea de cercetător în managementul educației (2016–2021) la University of Waikato, Centre for Global Studies in Education, Hamilton, New Zealand, și de membru al Comisiei departamentale de studii doctorale în economie și management al Faculty of Operation and Economics of Transport and Communications, University of Žilina, Slovacia (din 2023), unde am activat ca cercetător în management tehnologic (2022–2023). M-a ajutat și colaborarea prin realizarea în coautorat a unui număr mare de articole WoS cu personalități științifice de la the University of London, the University of Illinois, the University of Birmingham, the University of Aberdeen, the University of Newcastle, the University of Auckland, Lancaster University etc. Mi-a folosit și calitatea de expert pentru organisme de cercetare precum the Netherlands Organisation for Scientific Research, the Slovak Research and Development Agency, the Department of Science and Higher Education, Poland, și Qatar National Research Fund.

Activitatea mea de cercetare s-a concentrat pe variate direcții proeminente: economia inteligenței artificiale generative, managementul metaversul industrial imersiv bazat pe gemeni digitali, algoritmi geospațiali pentru managementul volumelor mari de date, managementul rețelelor de producție ciber-fizice, sisteme de manufacturare bazate pe Industry 4.0, internetul

industrial al lucrurilor, manufacturarea cognitivă bazată pe volume mari de date, sisteme sustenabile de management ciber-fizic, algoritmi de management în producție, managementul planificării proceselor inteligente asistate de învățarea profundă și internetul lucrurilor manufacturate.

În componenta finală a tezei de abilitare, specific direcțiile viitoare de cercetare, începând cu ceea ce am publicat până acum și subliniind perspectivele mele de predare. Activitatea mea de cercetare se intersectează cu cea de predare la programele de licență și masterat pentru care organizez cursurile de psihosociologie managerială, comunicarea în leadership-ul organizațional, managementul motivației muncii și metode de dezvoltare personală și profesională. Pentru cursurile predate, examinez gândirea analitică a studenților prin interacțiune continuă și prezentări substanțiate de exemple factuale. La seminar, analizăm articole din literatura științifică actuală, iar studenții realizează proiecte pe anumite subiecte pentru a înțelege cum unele ipoteze pot fi (in)validate sau testându-le cu ajutorul datelor statistice. De asemenea, rezolvăm probleme concrete în care analizăm modul în care rezultatele sunt interpretate, soluțiile alternative sunt investigate, și identificăm consecințele probabile. În lucrările de licență și masterat supervizate am valorizat contribuțiile personale bazate pe date replicabile.

## *Abstract*

This habilitation thesis presents a synthesis of my scientific activities performed in the area of smart knowledge production management after having obtained the Ph.D. title. I have included chapters reflecting my specific contribution mainly in SSCI/SCIE core economics journals indexed in WoS. Some of the papers were the result of my activity, and I am listed accordingly on them, at Curtin University, Perth, Australia (Faculty of Science & Engineering), Cardiff Metropolitan University (The Creative Computing Research Centre), and Toronto Metropolitan University (The Intelligent Communications and Computing Lab). Some of them have received UEFISCDI prizes. The chapters included here also reflect my experience as a result of presenting 45+ international conferences organized by Harvard University, University of Cambridge, Western Michigan University, University of Glasgow, Queen's University Belfast, Paris-Sorbonne University, Philipps University of Marburg, Wuhan University, etc.; as a result of my having been a research fellow (2016–2021) at the University of Waikato, Centre for Global Studies in Education, Hamilton, New Zealand (educational management), and a member of the Departmental commission of doctoral studies in the study field of economics and management of the Faculty of Operation and Economics of Transport and Communications, University of Žilina, Slovakia (since 2023), where I was also a research fellow (2022–2023) in technological management; as a result of my co-authorship on WoS articles with outstanding scholars affiliated with the University of London, the University of Illinois, the University of Birmingham, the University of Aberdeen, the University of Newcastle, the University of Auckland, Lancaster University, etc.; and as a result of being an expert for the Netherlands Organisation for Scientific Research, the Slovak Research and Development Agency, the Department of Science and Higher Education, Poland, and for Qatar National Research Fund.

My research activity has focused on various prominent directions: generative artificial intelligence economics, the management of immersive digital twin industrial metaverse, geospatial big data management algorithms, the management of cyber-physical production networks, Industry 4.0-based manufacturing systems, Industrial Internet of Things, big data-driven cognitive manufacturing, sustainable cyber-physical management systems, production management

algorithms, the management of deep learning-assisted smart process planning, and Internet of Manufacturing Things.

In the final component of my habilitation thesis, I specify my subsequent research directions, beginning with what I have published so far and drawing attention to my teaching perspectives. My research activity intersects my teaching activity which I organize for the BA and MA courses of psychosociology of management, communication in organizational leadership, management of work motivation, and methods of personal and professional development. For the taught courses, I examine the analytic thinking of the learners by incessant interaction and presentations substantiated by factual examples. Throughout the seminars, we inspect papers from actual scientific literature and students have to write projects on particular topics in which we attempt to grasp how some hypotheses may be (in)validated or by testing them by use of statistical data. We also solve concrete problems in which we analyze the way in which the outcomes are construed, the investigations of alternative solutions, and likely consequences. In the supervised BA and MA works I have valued personal contributions based on replicable data.