

2024 ICOPEV^{6th}

INTERNATIONAL CONFERENCE ON PRODUCTION
ECONOMICS AND PROJECT EVALUATION

PROGRAM

NOVEMBER 14-15, 2024



Universidade do Minho
Escola de Engenharia
Departamento de Produção e Sistemas



Welcome Message from the Conference Chair

We welcome you to attend the 6th International Conference on Production Economics and Project Evaluation, in Guimarães, Portugal.

The conference is being organized by ALGORITMI Research Centre, through its research group on Industrial Engineering and Management, and the Department of Production and Systems, School of Engineering of University of Minho. It will take place in Azurém Campus, in Guimarães, on the 14th and 15th of November 2024.

Our main goal is to join together in this event academics and practitioners from a variety of fields with interest on the issue of production economics and project evaluation and management, under several relevant fields, ranging from Business Intelligence & Analytics, to Industry 4.0 - 5.0, Innovation, Technology & Entrepreneurship, Management Accounting, Project & Risk Management, Strategic Management, among others. We expect to provide a forum of debate for researchers and practitioners, contributing to support the sharing of experiences, to promote cross-knowledge and strengthen the academic-industry relationship.

We hope that you will be able to use the opportunity to visit Guimarães, a magnificent city of medieval origin known for being the cradle of the Portuguese nation. You may then admire the remarkably well preserved Historical Quarter of Guimarães classified by UNESCO as World Heritage site since 2001, recognition that was recently extended to the surrounding Leather District, in 2023. Other attractions are the popular traditions and the famous gastronomy of the Minho region, to name a few.

We are looking forward to meeting you in Guimarães in November 2024!

Madalena Araújo
Conference Chair



DAY 1, THURSDAY, NOVEMBER 14TH

8h30-12h30 and 14h00-16h30	REGISTRATION & HELPDESK		
	Session A Industry 4.0 transition to 5.0 Building 2, Noble auditorium Chair: José António Oliveira	Session B Management Accounting & Control Building 2, Room 0.33 Chair: Paulo Afonso	Session C Energy & Environment Building 2, Room 0.35 Chair: Alaize Dall-Orsoletta
9h15-10h45	<p>23 – ENHANCING VERTICAL LIFT MODULE EFFICIENCY THROUGH INTELLIGENT HEURISTICS. José António Oliveira, António Vieira, Manuel Figueiredo</p> <p>26 – DDMRP IN A TWO-STAGE PRODUCTION SYSTEM: A SIMULATION STUDY OF THE EXECUTION RULE. Nuno O. Fernandes, Sílvio Carmo-Silva</p> <p>38 – MAXIMIZING PICKING THROUGHPUT IN A SUPERMARKET SYSTEM WITH TWO VERTICAL LIFT MODULES: PRODUCT ASSIGNMENT OPTIMIZATION. José António Oliveira, António Vieira, Manuel Figueiredo</p> <p>94 – IMPACT OF THE METAVERSE ON HUMANS: PHYSICAL EXERTION AND PERCEPTION SHIFTS. Alberto Martínez-Gutiérrez, Javier Díez-González, Rubén Ferrero Guillén, George Arampatzis, Madalena Araújo</p> <p>193 – WASTE IDENTIFICATION DIAGRAMS WITH OEE DATA: A STUDY ON EFFECTIVENESS IN BRAZILIAN INDUSTRIAL SETTINGS. Levi Guimarães, José Dinis-Carvalho, Rosa Elisa Vieira, Larrisa Thomaz, Kelliane Guerreiro</p>	<p>61 – INFORMATION ON DEFICIENCY OF CONTROLS AS HIDDEN COSTS IN THE CONTEXT OF BRAZILIAN COMPANIES. Isabella Christina Dantas Valentim, António André Cunha Callado</p> <p>63 – SUNK COSTS AND THEIR RELATIONSHIP WITH DECISION-MAKING IN FAMILY BUSINESSES: A CASE STUDY. Amanda Paulino Soares, Kaline Di Pace Nunes, António André Cunha Callado</p> <p>105 – HOW A MULTICLASS BANKRUPTCY PREDICTION MODEL CAN BE A LIFESAVER FOR A SAMPLE OF PORTUGUESE FIRMS? Ana Sousa, Ana Braga, Jorge Cunha</p> <p>242 – COST AND PROFITABILITY OPTIMIZATION USING ACTIVITY-BASED COSTING EQUATION SYSTEMS. Alex Santana, Paulo Afonso, Samuel Silva</p>	<p>135 – WIND & SOLAR POWER: AN OVERVIEW OF NON-MARKET EXTERNALITIES AND METRICS. Fátima Lima, Edimar Ramalho, Tiago Miguel, Mara Madaleno, Marta Ferreira Dias, Mónica Meireles, Margarita Robaina</p> <p>212 – DESIGN OF A WASTE HEAT RECOVERY SYSTEM BASED ON ORGANIC RANKINE CYCLE FROM A HEAT TREATMENT FURNACE. Márcio Santos, José Mota, Bernardo Almeida, Joel Morgado, José Ribeiro</p> <p>260 – EVALUATING INDUSTRIAL SYMBIOSIS FOR SOLAR PHOTOVOLTAIC WASTE IN PORTUGAL. Marcela Jorio, António Amaral, Paula Ferreira</p> <p>290 – ASSESSING SUPPRESSED DEMAND ELECTRICITY IN ANGOLA'S RESIDENTIAL SECTOR. Budareld Mbumba, Géremi Gilson Dranka, Paula Ferreira</p> <p>300 – ASSESSMENT OF HYDROPOWER EXTERNALITIES: THE CASE OF THE BELO MONTE PLANT. Rodrigo Pimentel, Lúgia M. Costa Pinto, Paula Ferreira</p> <p>301 – TRIPLE-LAYERED BUSINESS MODEL CANVAS FOR INNOVATIVE HOUSEHOLD ELECTRICITY MARKET. Sara Golmaryami, Paula Ferreira, Manuel Lopes Nunes</p>



10h45-11h15	COFFEE BREAK	
11h15-11h45	WELCOME SESSION Room: Noble auditorium	Dr^a Adelina Pinto - Vice President Guimarães City Council Prof Raul Figueiro - Vice President Presidency of Engineering School Prof Paula Fernandes - Director ALGORITMI Research Centre Prof Nelson Costa - Deputy Director of the Production and Systems Department Prof Madalena Araújo - ICOPEV 2024 Chair
11h50-12h30	KEYNOTE SPEAKER Room: Noble auditorium	Benny Tjahjono - Coventry University, UK
12h30-14h00	LUNCH BREAK	
14h00-14h40	WORKSHOP Room: Noble auditorium	Adriana Leiras - Pontifical Catholic University of Rio de Janeiro, Brazil
	Session D Project & Risk Management Building 2, Noble auditorium Chair: Wellington Alves	Session E Strategic Management & Business Modelling Building 2, Room 0.33 Chair: Ana Cristina Ferreira
14h45-16h00	71 – A MACHINE LEARNING FOUR-LAYERED APPROACH TO PROJECT RISK PREDICTION. Pedro Ferreira, Wellington Alves 117 – ASSESSMENT OF SMALL DEVELOPMENT PROJECTS: AN INNOVATIVE APPROACH FOR EVALUATING AND STRUCTURING SMALL-SCALE PROJECTS IN VITICULTURE. Thomaz Fagá, Jorge Cunha 140 – ENHANCING PROJECT PORTFOLIO SELECTION BY CONSIDERING ROBUSTNESS MEASURES: A LITERATURE REVIEW. Camilo Gómez, Juan Holguín, Camilo Micán 208 – FACTORS INFLUENCING EFFECTIVE MANAGEMENT OF STAKEHOLDERS IN IT 4IR PROJECTS IN SOUTH AFRICA. Stanley Fore, Irshaad Desai 218 – ADDRESSING THE CHALLENGES OF INTEGRATING ARTIFICIAL INTELLIGENCE IN PROJECT MANAGEMENT. Pedro Almeida, Filipa Freitas, Gabriela Fernandes, José M. R. C. A. Santos, Samuel Moniz	87 – THE CONCEPT OF STRATEGY: A BIRD’S-EYE VIEW. Fernando Barbosa, Fernando Romero 216 – IMPLEMENTATION OF AGILE PROJECT MANAGEMENT APPROACHES IN THE REGIONAL INDUSTRY OF VALE DO AVE: EXPLORING PRACTICES, CHALLENGES AND BENEFITS. Vítor Granjo, Bruna Ramos, Nelson Rodrigues, Ana Cristina Ferreira 273 – PROCUREMENT MANAGEMENT: HOW PORTUGUESE SMES HANDLE THE RELATIONSHIP WITH THEIR SUPPLIERS. Ana Cristina Ferreira, Senhorinha Teixeira, Ângela Silva 280 – AN OVERVIEW OF THE CRITICAL SUCCESS FACTORS IN THE SHIPBUILDING SECTOR. Josério da Silva, Jorge Cunha, Paula Ferreira 138 – ANALYSING THE IMPACT OF HOTEL INVESTMENTS ON CUSTOMER SATISFACTION. Nuno Moutinho, Elaine Scalabrini



16h00-16h20	COFFEE BREAK	
	Session F Business Intelligence & Analytics Building 2, Room 0.33 Chair: Manuel Figueiredo	Session G Innovation, Technology & Entrepreneurship Building 2, Noble auditorium Chair: Zhelyu Vladimirov
16h20-17h30	<p>122 – A DATA ANALYSIS APPROACH TO EVALUATE THE PERFORMANCE OF PREDICTIVE MODELS. Adriana Pinho, Ana Maria A. C. Rocha, José Oliveira, Manuel Figueiredo</p> <p>159 – NON-DESTRUCTIVE EVALUATION (NDE) OF FUNCTIONAL CHARACTERISTICS OF ELECTRONIC DEVICES FOR THE AUTOMOTIVE INDUSTRY: THE QUALITY OF DATA. Eduardo Santos, Samuel Silva, Eusébio Nunes, Cristina S. Rodrigues</p> <p>A2 – ECONOMIC ANALYSIS OF CLIMATE NEUTRALITY IN MARITIME TRANSPORT IN THE CANARY ISLANDS. Pablo Yáñez-Rosalesa, B. del Río-Gameroa, Julieta Schallenberg-Rodrígueza</p> <p>31 – EFFECT OF BLOCKCHAIN TECHNOLOGY ON THE DISCLOSURE OF SUSTAINABLE REPORTING: A SYSTEMATIC REVIEW. Isabella Christina Dantas Valentim, Wellington Laurentino Bezerra, Kaline Di Pace Nunes, Renata Paes de Barros Câmara</p>	<p>20 – SMES DIGITALISATION – THE SIGNIFICANCE OF COMPANY SIZE AND MANAGER EDUCATION. Zhelyu Vladimirov, Olya Harizanova</p> <p>21 – THE ROLE OF MANAGEMENT SUPPORT, ORGANISATIONAL CULTURE AND STRUCTURE IN ADVANCING DIGITAL TRANSFORMATION IN SMES IN BULGARIA. Irena Mladenova</p> <p>91 – AN EXPLORATORY STUDY ON THE VENTURE CAPITAL INVESTMENT PROCESS IN PORTUGAL. Renato Moreira, Jorge Cunha</p> <p>185 – EXPLORING SUSTAINABILITY IMPACTS IN CONSTRUCTION UNDER A SROI METHODOLOGY PERSPECTIVE. Filipe Machado, António Amaral, Nelson Duarte, Madalena Araújo</p> <p>86 – AN EXPLORATORY LOOK AT OPEN INNOVATION IN THE PUBLIC SECTOR. Letícia Brilhante, Fernando Romero</p>
20h00	CONFERENCE DINNER Hotel de Guimarães Rua Eduardo Manuel de Almeida, 202, 4810-440, Guimarães	



DAY 2, FRIDAY, NOVEMBER 15TH

9h00-12h30 and 14h00-15h00	REGISTRATION & HELPDESK	
	Session H Sustainability & Impact Studies Building 2, Noble auditorium Chair: Kathryn Cormican	Session I Knowledge & Technology Transfer / New Product Development & Industrial Marketing Building 2, Room 0.33 Chair: Budareld Mbumba
9h15-10h45	<p>164 – MODELLING VIRAL MARKETING CAMPAIGNS - INSIGHTS FROM TWO CASE STUDIES. Vasco Mota, João N.C. Gonçalves, Teresa Monteiro</p> <p>102 – SUSTAINABLE STEPS: DESIGNING AN ESG REPORTING FRAMEWORK FOR SMES. Suzana Sampaio, Despoina (Sheila) Sfountouri, Alexandros Antonaras, Kathryn Cormican</p> <p>142 – THE MANAGEMENT OF A COMPANY'S E-COMMERCE INTERNATIONALISATION PROJECT. Matilde Quintas, Sara Martins</p> <p>256 – EVALUATING THE IMPACT OF ELECTRIC VEHICLES ON EMPLOYMENT: THE PORTUGUESE CASE. Alaize Dall-Orsoletta, Rudolph Oosthuizen, Nalini Pillay, Géremi Dranka, Paula Ferreira</p> <p>A1 – PERCEPTION OF SUSTAINABLE FINANCE. DESIGN AND VALIDATION OF A QUESTIONNAIRE. Carmen González-Velasco, Isabel Feito-Ruiz, Pilar Sierra-Fernández, Francisco-José Sáez Trujillo, Irene Martín-Rubio, Fiorela-Anaí Fernández-Otoya</p>	<p>150 – PERSPECTIVES FOR RETIRED LIBS: RECYCLING VERSUS REUSE. Anna Luiza Souza Vieira Santos, Wellington Alves, Paula Ferreira</p> <p>1 – KNOWLEDGE MANAGEMENT AND USE OF DIGITAL PLATFORMS IN THE PUBLIC SECTOR: THE CASE STUDY OF THE ELECTRONIC INFORMATION SYSTEM IN THE BRAZILIAN PUBLIC ADMINISTRATION. Nuno Ribeiro e Silva, Thais Machado</p> <p>119 – QUEUEING THEORY AND SIMULATION: A TUTORIAL FOR BEGINNERS. Emerson J. Paiva, Ana Maria A. C. Rocha</p> <p>139 – REQUIREMENTS AND QUALITY GATES IN ENGINEERING PROJECTS MANAGEMENT. Cristiana Andrade, Samuel Silva, Eusébio Nunes, Cristina S. Rodrigues</p> <p>202 – DEVELOPMENT OF A CHANGE MANAGEMENT TOOL FOR A NEW PRODUCT DEVELOPMENT PROJECT. Joana Fraga, Anabela Tereso</p>
10h45-11h05	COFFEE BREAK	



11h05-12h30	ROUND TABLE Room: Noble auditorium	Gabriela Fernandes – University of Coimbra, Portugal Marco Bravo – University of Texas, USA Richard Keegan – Trinity Business School, Ireland
12h30-14h00	LUNCH BREAK	
	Session J Decision Support Systems Building 2, Room 0.33 Chair: Maria João Santos	Session K Innovation, Technology & Entrepreneurship Building 2, Noble auditorium Chair: António Amaral
14h00-15h30	115 – SOLVING A LOCATION PROBLEM IN THE INSECT-BASED SUPPLY CHAIN. João Silva, Sara Martins, Maria João Santos 120 – MEASURING CUSTOMER SATISFACTION IN THE B2B CONTEXT: A CASE STUDY IN THE AUTOMOTIVE SECTOR. José Pinto, Eusébio Nunes, Cristina S. Rodrigues, Sérgio Sousa 206 – A DECISION SUPPORT SYSTEM FOR ROUTE PLANNING WITH ENVIRONMENTAL CONCERNS. Ana Cláudia Pereira, Miguel Vieira, and Telmo Pinto 210 – BARRIERS TO IMPLEMENTING DATA-DRIVEN APPROACHES IN SUPPLY CHAIN MANAGEMENT. Hermenegildo Baptista, Maria do Sameiro Carvalho, João Gonçalves 214 – MODELING THE WEIGHTS OF COMPETITIVENESS CRITERIA OF SOYBEAN ROUTES IN MATO GROSSO USING AHP-TOPSIS. Maisa Tobias, Alessandro Corrêa, Paulo Afonso, Carlos Machado-Santos, Nelio Figueiredo	126 – ADDRESSING THE RESEARCH VOID: FUTURE RESEARCH AGENDA ON EXIT AND POST-INCUBATION CHALLENGES FOR START-UPS. Diogo Costa Almeida, Ana Maria Soares, Luís Pinto Ferreira, Paulo Afonso 160 – IMPROVING A COSTING SYSTEM: A CASE STUDY IN THE FURNITURE INDUSTRY. Bruno Borges, Jorge Oliveira, Filipa D. Vieira 121 – INCENTIVE SYSTEM FOR INNOVATION IN PORTUGAL: THE DETERMINANTS OF THE APPROVED INCENTIVE VALUE. Ana Paula Silva, Cristina S. Rodrigues, Filipa D. Vieira, Iolanda R. Vieira 162 – ENTREPRENEURSHIP AND FINANCIAL LITERACY: AN EXPLORATORY STUDY WITH ENGINEERING STUDENTS. Ana Flavia Bertachini, Filipa D. Vieira, Cristina S. Rodrigues, Iolanda R. Vieira 204 – FACTORS AFFECTING ENTREPRENEURIAL INTENTION OF GENERATION Z. Ricardo Baptista, Filipa D. Vieira, Cristina S. Rodrigues, Jorge Oliveira, Iolanda R. Vieira 310 – EVALUATING THE METHODOLOGIES APPLIED IN THE MANAGEMENT OF SOCIAL DEVELOPMENT PROJECTS: A COMPARISON BETWEEN PORTUGAL AND ECUADOR. Francis Abigail Guerrero Vera, Carina Cristiana Ribeiro da Silva, Wellington Alves

