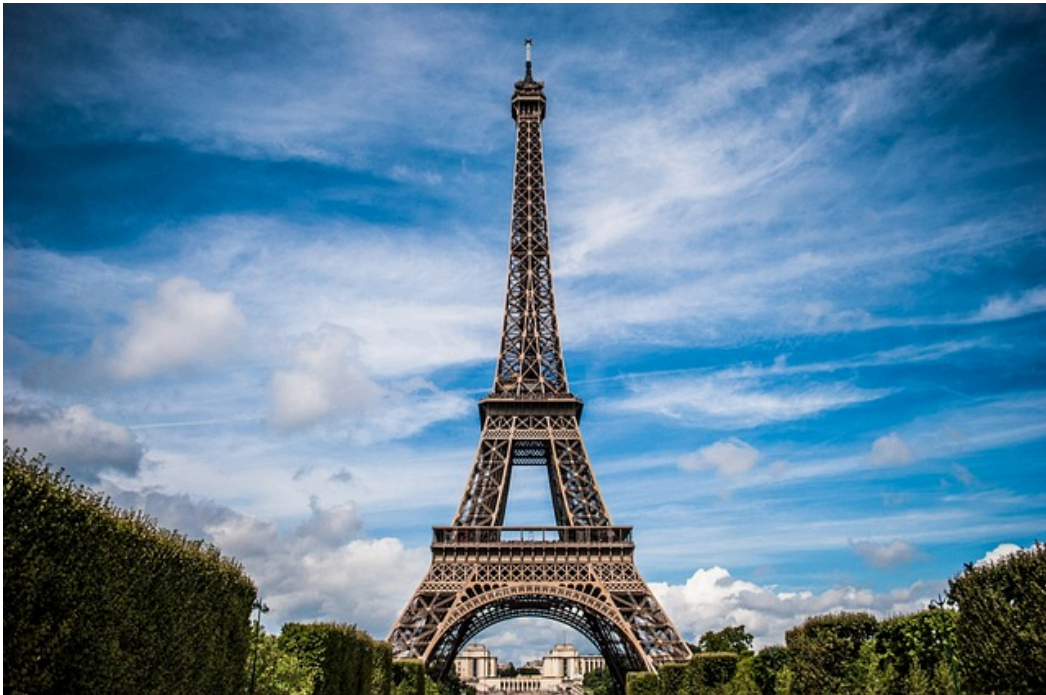


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Proceedings of the
19th European Conference on
Innovation and Entrepreneurship
Hosted by CESI, Paris-Nanterre,
France
26-27 September 2024



Stephanie Buisine and
Muriel Davies

A conference managed by ACI, UK

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**Abstracts of the
19th European Conference on
Innovation and Entrepreneurship
ECIE 2024
26-27 September 2024**

**Hosted By
CESI, Paris-Nanterre, France**

**Edited by
Dr Stéphanie Buisine**

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Review Process

Papers submitted to this conference have been double-blind peer reviewed before final acceptance to the conference. Initially, abstracts were reviewed for relevance and accessibility and successful authors were invited to submit full papers. Many thanks to the reviewers who helped ensure the quality of all the submissions.

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E-Book ISBN: 978-1-917204-15-6

E-Book ISSN: 2049-1069

Print version ISBN: 978-1-917204-14-9

Print Version ISSN: 2049-1050

Published by Academic Conferences International Limited

Reading, UK

+44 (0) 118 324 6938

www.academic-conferences.org

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About the 19th European Conference on Innovation and Entrepreneurship, 2024

The European Conference on Innovation and Entrepreneurship (ECIE) is a prominent academic conference that has been held annually for 19 years. The conference serves as a vital forum for scholars, researchers, entrepreneurs, and practitioners to explore the latest trends, research findings, and practical applications in the fields of innovation and entrepreneurship. ECIE is committed to advancing the understanding of how innovation and entrepreneurship drive economic growth, competitiveness, and societal progress.

ECIE is recognized for its rigorous peer-reviewed conference proceedings, which ensure that the research presented is of high academic quality and practical relevance. The Proceedings of the 19th ECIE, 2024 includes academic research papers, PhD research papers and Master's research papers as well as work-in-progress papers, which have been presented and discussed at the conference. The proceedings are of an academic level appropriate to a research audience including graduates, post-graduates, doctoral and post-doctoral researchers. All papers have been double-blind peer reviewed by members of the Review Committee.

Aims and Scope

The primary aim of ECIE is to foster a comprehensive understanding of innovation and entrepreneurship by bringing together, from around the world, diverse perspectives from academia, industry, and policy-making. The conference seeks to bridge the gap between theory and practice, offering insights into the processes that fuel innovation and entrepreneurial ventures. ECIE encourages the exploration of new ideas, the development of innovative business models, and the identification of best practices that can be applied across different sectors and regions.

The scope of the conference is broad and interdisciplinary, encompassing a wide range of topics related to innovation management, entrepreneurial ecosystems, and the role of technology in driving business growth. ECIE also emphasises the importance of education and training in fostering entrepreneurial skills and mindsets, as well as the role of policy and government in supporting innovation and entrepreneurship.

Topics Covered

ECIE covers a diverse array of topics that reflect the dynamic and evolving nature of innovation and entrepreneurship. The call for papers asked for contributions that considered the following topics. In addition, the committee welcomed papers on a number of specialist mini-tracks which can be seen at the end of this list.

Innovation Management:

- Innovation Processes and Models
- Managing R&D and Product Development
- Innovation in SMEs and Large Enterprises.

Entrepreneurial Ecosystems:

- Startup Ecosystems and Incubators
- Social Entrepreneurship
- Corporate Entrepreneurship and Intrapreneurship

Technology and Digital Innovation:

- Digital Transformation
- Emerging Technologies
- Innovation in the Digital Economy

Entrepreneurship Education and Training:

- Entrepreneurial Mindset Development
- Curriculum Design and Pedagogy
- Experiential Learning

Innovation and Entrepreneurship Policy:

- Government Policies and Support Programs
- Regional and National Innovation Systems
- Public-Private Partnerships

Sustainable Innovation and Entrepreneurship:

- Sustainability and Green Innovation
- Circular Economy
- Impact of Innovation on Society

Global Perspectives on Innovation and Entrepreneurship:

- International Entrepreneurship
- Innovation in Emerging Markets
- Cross-Cultural Entrepreneurship

Research Methods in Innovation and Entrepreneurship:

- Quantitative and Qualitative Approaches
- Action Research and Participatory Methods
- Innovation Metrics and Impact Assessment.

Mini Tracks

Experts in the field proposed mini tracks on the following topics. Papers accepted on these topics after the double-blind peer review process were presented as mini tracks at the conference and are also published in these proceedings.

- Entrepreneurship Education and Learning
- Twin Green and Digital Innovation
- Management and Enterprise Development

The programme from the 2024 conference can be downloaded from here and full details about the conference can be seen from the conference website: <https://www.academic-conferences.org/conferences/ecie/>

ECIE Preface

These proceedings represent the work of contributors to the 19th European Conference on Innovation and Entrepreneurship (ECIE 2024), hosted by CESI, Paris-Nanterre, France on 26-27 September 2024. The Conference and Programme Chairs were Stephanie Buisine and Muriel Davies both from CESI Paris, France

ECIE is a well-established event on the academic research calendar and now in its 19th year the key aim remains the opportunity for participants from around the world to share ideas and meet the people who hold them. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research. ECIE is recognised for its rigorous peer-reviewed conference proceedings, which ensures that the research presented is of high academic quality and practical relevance. The conference serves as a key venue for the dissemination of cutting-edge research, the exchange of best practices, and the development of new ideas that can drive innovation and entrepreneurship in a rapidly changing global economy.

The opening keynote presentation was given by Stephanie Buisine, CESI, Paris-Nanterre, France who spoke on *“Meaningful Innovation”*. The second day of the conference opened with an address from Olivier Hamant, INRAE, Ecole Normale Supérieure, Lyon, France on the topic of *“Suboptimality: The Inefficient Truth”*.

With an initial submission of 245 abstracts, after the double blind, peer review process there are 122 Academic research papers, 8 PhD research papers, 3 Masters Research papers, and 6 work-in-progress papers published in these Conference Proceedings. These papers represent research from Australia, Belgium, Brazil, Bulgaria, Cambodia, Croatia, Cyprus, Czech Republic, Egypt, Estonia, Finland, France, Germany, Greece, INDIA, Iran, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Malaysia, Netherlands, Nigeria, Norway, Oman, Pakistan, Perú, Philippines, Poland, Portugal, Saudi Arabia, Serbia, Slovakia, South Africa, Switzerland, Thailand, Tunisia, Türkiye, UK, USA, Vietnam, and Zimbabwe.

We would like to thank everyone who participated in this event.

Dr Stéphanie Buisine

CESI
Nanterre
France

September 2024

Biographies of Chairs and Keynote Speakers

Conference and Programme Chairs



Stéphanie Buisine is Research Director at CESI, Paris, France and leads innovation research at LINEACT laboratory. Her career has taken her from technological innovation issues (ex: Human-Computer Interaction) to the methodological and strategic dimensions of innovation (ex: Creativity, Prospective on future needs), up to organizational innovation. Through innovation, her research aims to support self-determination of users, designers and collaborators.



Muriel Davies first studied engineering and management and then started a career working for 14 years in the textile industry on several plants as both a supply chain and quality manager. She then joined CESI, Paris, France in 2009 as a pedagogical manager, and then LINEACT CESI 8 years ago as a researcher. Today she conducts research on culture and organizational innovation with the current socio-environmental challenges as structural framework.

Keynote Speakers



Olivier Hamant is a biologist and a Director of Research at INRAE (the French institute for research on agriculture, food and environment) at Ecole Normale Supérieure in Lyon. He is also a Director of the Michel Serres Institute where he contributes to several projects in the fields of art, science and education around the existential issues of the Anthropocene. He has published approximately 100 scientific articles on biophysics and plant development. His research topic has also shed a new light on the question of the robustness of living organisms. In 2022, he published “La Troisième Voie du Vivant” (“The Third Way of Life”, Ed. Odile Jacob) soon to be translated into English.

Mini Track Chairs



Nasser Abouzakhar is an entrepreneur and the director of Anzar Property Investment Limited, which was founded in 2017. He is the author of the book Real Estate Investment: In the Pursuit of Building Income producing Assets to Grow Your Wealth. Nasser is a TEDx speaker, award-winning author, and a regular guest on the BBC TV channel for over 100 live TV interviews, including the Homes Under the Hammer TV show. Between 2004 and 2019, he worked at different universities in the UK as an academic, teaching and researching different technology-related subjects.



Dr Nikolaos Apostolopoulos, PhD, is an Assistant Professor in European Policies in Sustainability and Entrepreneurship at the University of Peloponnese, Greece. He also acts as scientific advisor at the Labour Institute of General Confederation of Labour (INE/GSEE) in Greece. He is co-editor of the edited volumes entitled: “Universities and Entrepreneurship: Meeting the Educational and Social Challenges”, “Entrepreneurship and the Sustainable Development Goals and Entrepreneurship”, “Institutional Framework and Support Mechanisms in the EU”.



Slava Baranovskiy is a serial tech entrepreneur, international speaker, startup mentor, guest lecturer and researcher. He is a founder of the Eligent Club (community of tech startup founders in the UK/EU), founder and programme director of Eligent Accelerator (online 6-month programme for socially-driven tech startups). Currently, he is a PhD candidate at the University of Liverpool (UK), and his research interests are socially driven startups, virtual accelerators, and entrepreneurial ecosystems.



Antonia Hoffmann is a doctoral student at the Chair of Management Accounting at the School of Management of the Technical University of Munich, Germany. Her research focuses on sustainability management in SMEs. In particular, she is dedicated to the circular economy in SMEs, focusing on craft enterprises. She focuses on the role of strategic orientation, cooperation and digitalization.



Dr. Alexandros Kakouris, PhD, is an Assistant Professor in entrepreneurial learning and education at the Department of Management Science and Technology of the University of Peloponnese, Greece and at the Hellenic Open University, Greece. He holds a PhD in Physics, a PhD in Entrepreneurship and a MSc in Adult Education. His special interests concern fostering entrepreneurship and innovation to science graduates, context-aware entrepreneurship, support of youth entrepreneurship through teaching and counselling as well as nascent entrepreneurship, transformative and experiential learning. He is on the editorial board of International Journal of Management Education.



Marco Lamas holds a Post-Doc in Education (Entrepreneurship), PhD in Education (Entrepreneurship) and Bsc in International Relations. He is a Senior Professor at ISLA – Polytechnic Institute of Management and Technology, Portugal where he Leads the Business and Innovation LAB (BIL). Marco is also a Researcher, member of CEI and CEOS.PP, both from ISCAP -P. Porto, Portugal and also member of the Research Centre of ISLA-IPGT. He is a Founder member of SHINE - Scaling Higher Education Innovation for Europe.



Dr. Matti Muhos is the Professor of Growth Management, Renewing Business and Digitalization and the Director of the University of Oulu Kerttu Saalasti Institute, Finland. He holds the title of Docent in Technology Business, with a special focus on innovative start-ups and growing businesses in the IT industry, at the University of Jyväskylä, Finland. His research is focused on growth management, industrial engineering and management, technology business and international business. He participates in the editorial processes of several international journals as an editor, associate editor, guest editor and on both editorial and advisory boards.



Carlos Miguel Oliveira has a Ph.D. in Management and is a Coordinating Professor and Director of the School of Management at ISLA – Instituto Politécnico de Gestão e Tecnologia, Portugal. He is editor-in-chief of the Management in Review Journal and a collaborating member of CEOS.PP – Centre for Organisational and Social Studies. In recent years, he has published several articles in journals and conferences. He is a reviewer in some journals in the management area.



Dr. Martti Saarela serves as the Development Manager at the Micro-Entrepreneurship Centre of Excellence (MicroENTRE) at the Kerttu Saalasti Institute of the University of Oulu, Finland. He holds a doctorate in industrial engineering and management (Ph.D. in Tech) and also possesses a Master of Laws and a Master of Science in Economics. His primary research interests include the development of micro-enterprises, public

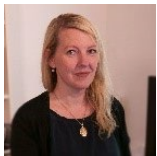
business services, start-ups, eHealth business, public procurement, and regional development. In recent years, he has been involved in numerous projects focusing on digital development in SMEs.



Prof. Dr. Augustinus van der Krogt is Professor in social business and digital transformation management at the Amsterdam University of Applied Sciences, Netherlands. In addition to lecturing he undertakes research on entrepreneurship, internationalisation, fintech, machine learning and digital business strategies. He currently focuses on research on the impact and challenges of Twin Green and Digital innovation by SMEs.



Dr Andreas Walmsley, PhD, is Associate Professor in Business at Plymouth Marjon University, UK. He conducts research in entrepreneurship, especially entrepreneurship education, graduate entrepreneurship and responsible entrepreneurship. He is on the editorial boards of the journals *Entrepreneurship Education and Pedagogy* and the *International Journal of Entrepreneurial Behaviour and Research*.



Dr Birgitte Wraae, PhD, is an Associate Professor in Entrepreneurship at the Department of Finance and Administration, Faculty at UCL University College, Odense, Denmark. Her research interests are in entrepreneurship, especially entrepreneurship education: identity formation, emancipation, and employability. She excels in doing research in connection with the entrepreneurial learning space. She has recently published a book on the entrepreneurial learning journey.

ECIE Review Committee

ECIE is fortunate to have a significant number of international experts in the field willing to review papers. Care is taken to ensure that a fully double-blind peer review process is followed, and reviewers are not selected if they have any research or organisational connection to the author/s.

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Small and Medium Enterprise in Oman: Key Driver to Sustainable Business Performance (Risk-Taking)

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Abstract: The Sultanate of Oman is one of the Arab Gulf states, which is looking to diversify sources of income following the fluctuation of oil prices and the negative impact of this on the Sultanate's economy. In one of its initiatives, the Sultanate focuses on supporting small and medium-sized companies by encouraging Omani to start their own businesses and providing all forms of support. This study is part of a wider study that sheds light on the factors that impact the performance of small and medium enterprises in Oman. The scope of this research paper will be on the impact of Risk-Taking on the performance of small and medium-sized companies in the Sultanate of Oman. This research employed the quantitative approach in gathering and analysing data using a self-administered questionnaire distributed to owners and business managers of SMEs in Oman. The findings of this study concluded that Risk-Taking is positively and significantly related to the business performance of SMEs in Oman.

Keywords: Entrepreneurship, Entrepreneurial orientation, SMEs, Risk-Taking

A Revealed Innovation Strategy as a Response to National Constraints

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Abstract: While the prevailing national innovation ecosystem may impose severe constraints of innovation advance, the objective of this paper is to detect an original response strategy, based on the Israeli experience and data from the Global Innovation Index (GII). We use time series from selected GII indicators to estimate trends of change in the last decade in Israel in order to capture relationships between external conditions and the formation of an innovation strategy. In comparison with world levels as measured by GII, the relative worsening in the last decade of fundamental ecosystem factors such as support to education in Israel, the declining ranking of ICT access, the worsening relative quality of universities (QS indicator), together with the small market size of Israel impose heavy constraints on innovation activity. Contradicting prevailing perceptions, an analysis of the last decade reveals the evolution of an interesting innovation strategy, decreasing the weight of education as a major leader. The innovation strategy in Israel is gradually more oriented towards knowledge creation and less towards practical implementation. The insufficient national support to all educational and research levels is balanced by increasing reliance on business R&D, collaboration with foreign actors and joint venture deals. While the innovation strategy is mainly focused on knowledge creation, the implementation of innovation, mostly thru high-tech manufacturing takes a lower priority. The efficiency of this strategy is reflected by a growing effectiveness indicator as shown by an increasing output/input rate by the GII.

Keywords: Innovation ecosystem, Global Innovation Index, Knowledge creation, Innovation strategy

Innovative Solutions Through Action Research: An Entrepreneurial Consultancy Project

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Abstract: The "Innovative Solutions through Action Research: An Entrepreneurial Consultancy Project" is a cornerstone of the MSc Business Analytics and Consultancy Programme, designed to merge advanced analytics knowledge with practical, entrepreneurial problem-solving. Students are guided to identify and engage with a local business client, applying their expertise to tackle complex challenges and develop innovative solutions. This module employs an action research framework, where students iteratively plan, act, observe, and reflect on their consultancy projects, enhancing their skills in real-time. This innovative approach involves submitting work in stages via a digital blog format, reflecting the dynamic process of action research. This method not only fosters digital proficiency and professional branding but also emphasises the importance of communication and stakeholder engagement in entrepreneurship. By integrating cutting-edge technologies and maintaining strong industry connections, the client research project ensures relevance to contemporary business needs. The client research project equips students with vital skills for success in a rapidly evolving business environment, blending technical knowledge with strategic thinking and effective communication. Through hands-on experience and collaboration with industry partners, students emerge as agile professionals, ready to navigate the complexities of modern business challenges with innovative and entrepreneurial mindsets.

Keywords: Entrepreneurship, Enterprise, Client project, Action research, Digital proficiency

More Than Money. Family Businesses as a Source of Social Capital

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Abstract: The field of Family business research has been growing for decades and is attracting the attention of researchers of practitioners due to the significant effect family businesses have on global economy and social environment. Family businesses stand for over 60% of the world businesses and generate 50-75% of GDP in each country. However, family businesses are more commonly small and medium-sized enterprises, often even microenterprises. In the small business segment, family businesses occupy key positions and can be considered the foundation of the economy, accounting for over 80% of all enterprises in free-market countries and contribute 70-90% of the world's GDP. According to forecasts by the consulting firm McKinsey, by 2025, the number of family businesses worldwide with revenues exceeding \$1 billion will increase from 8,000 to 15,000. The role of family businesses in building social security is particularly evident in times of crisis when their commitment to local communities and intangible values become as important as the company's financial goals. For public policies and researchers, it is crucial to develop more nuanced tools and indicators allowing us to measure the impact these businesses have on social security. This will allow for better understanding and ultimately, utilisation of their society-stabilising potential. Family businesses are characterised by long-term goals that often transcending purely economic calculations in favour of socio-emotional wealth (SEW). SEW plays a fundamental role in shaping the strategies and practices of family enterprises, influencing their sustainable development and potential to create social security. This article focuses on the role and significance of socio-emotional wealth in family businesses, analysing how they influence the creation of social security. The aim of the following analysis is to identify specific indicators of social security built by family businesses as a result of the combination of socio-emotional wealth (SEW) of family businesses and their key success factors. Such a combination translates into a unique management approach conducive to building social and economic stability as well as sustainable regional development.

Keywords: Family business, Social economies, Socio-emotional wealth

Complementarity Between Product and Process Innovation Strategies in Firms in Transition Countries

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Abstract: This paper aimed to explore the effect of the combined use of process and product innovation on firm performance. Specifically, we test whether the two types of innovation are interrelated and whether their joint adoption will generate superadditive firm performance effects. To this end, we use data taken from the World Bank Enterprise Surveys (wave 2018-2020) for transition countries. The empirical strategy is based on a two-stage procedure that allows us to instrument innovation combinations through access to external credit to mitigate the endogeneity bias. The results show that in transition countries (especially those that are not EU members), product innovation can stimulate higher performance; instead, process innovation alone does not exhibit a significant impact. At the same time, we observe that implementing both technological innovations together creates more value than considering them separately. To bridge the technological gap in these countries, product and process innovation activities should be developed concurrently, primarily through training programs, research and development activities, and by assimilating more external knowledge.

Keywords: Complementarity, Transition countries, Technological innovation, Firms' performance

Mimetic Theory and Machine Learning Forecast 3D Printing Adoption Trends in Manufacturing

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Abstract: This research explores the integration of mimetic theory with machine learning to enhance predictive models concerning technology adoption and competitive dynamics in the 3D printing industry within manufacturing contexts. Mimetic theory, which posits that desires are imitative and social actors influence each other's preferences and actions, provides a novel lens through which to analyse and predict technological trends in the rapidly evolving additive manufacturing landscape. The study examines how mimetic behaviours in 3D printing adoption create ripple effects that accelerate or hinder innovation diffusion across various manufacturing sectors. By analysing equipment purchases, material development trends, and implementation case studies, the research aims to uncover how mimetic desires shape the 3D printing ecosystem and influence manufacturing strategies. The outcomes are expected to yield predictive models that can guide manufacturers, 3D printing technology providers, and investors in strategic decision-making, facilitating more efficient technology development, implementation strategies, and investment decisions. The research also explores how companies can strategically position themselves to benefit from or counteract mimetic behaviours in their adoption of 3D printing technologies.

Keywords: Mimetic theory, 3D printing, Additive manufacturing, Technology adoption, Predictive modelling

Incorporating the Entrepreneurial Experience in Adult Learning and Education

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Abstract: Experiential education is the cornerstone of teaching in a virtual or in-person environment. The notion of teaching straight from a textbook is not equipping our students at HBCUs with the relevant skills necessary to succeed once they graduate. In my session, we will explore how to incorporate entrepreneurial case studies, speaker series, and increase participation with students. For the past 5 years, I have been using this methodology to equip students in a flipped classroom

setting, where they are in the driver's seat of learning about entrepreneurship first-hand. I will also discuss ways to leverage your network to create opportunities for exposure to your students. The session will be a mix of open dialogue and breakout sessions, where the participants will need to work in groups on prompts and questions about the experiential learning process.

Keywords: DEI, Entrepreneurship, Adult learning, Adult education

SETsquared Student Enterprise Practice Group: Amplifying Success Through Collaboration

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Abstract: SETsquared is a strategic partnership of 6 research-intensive UK universities. Each institution delivers its own distinct entrepreneurship programmes to nurture student ventures. We also share best practise and collaborate as a partnership, through our SETsquared Student Enterprise Practise group. One example is that by leveraging collective resources and connections, our collaboration has enabled us to address the critical transition student ventures face at the point of gradation, where graduates often encounter uncertainty regarding their next steps and access to support or investment opportunities. The GradInvest initiative, launched in 2019, aims to transform the post-graduation uncertainty into an opportunity by providing graduating entrepreneurs with the necessary resources, guidance, and connections to navigate the startup landscape effectively. It does this by offering specialised investor-readiness training programs and by facilitating introductions to potential investors, accelerators, and other strategic partners & networks, crucial for these budding ventures at a high-profile one-day event in London.

Keywords: Collaboration, Student startups, Investment showcase, Partnerships, Sustainable entrepreneurship

Identification of Knowledge Workers and the Role of their Competencies for Modern Enterprises

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Abstract: The article is a continuation of the 2017 research process on identifying key employees in companies. The research conducted at that time clearly showed how important the competencies of this group are for building the competitive advantage of their companies. This time, the author's main goal is to try to weave criteria to identify knowledge workers in modern companies. In addition, the author will try to describe the competencies of this group of employees. During the research process, the author also managed to isolate the actions taken by enterprises to optimally manage this group of people. Such defined objectives determined the research - the author used the following set of research methods: analysis of the literature on the subject, comparison of defined concepts and interview with the management of the surveyed companies. The survey was conducted in 2021 in 100 randomly selected large companies based in the Baltic Sea Region (BSR) - 261 people took part in the study. Unfortunately, such a small number of subjects does not allow generalizing the obtained results of the study - we should treat it as a pilot study. Despite this, the author managed to conclude that the degree of utilization of the potential of knowledge workers is at different levels - there is a distance between developing countries and the richest and most developed countries. The author was very surprised, as it turned out that company managers are aware of the importance of this capital for the future of their organizations. They also saw what barriers they would have to overcome to better manage this group of employees. Therefore, according to the author of the article, it is necessary to remove all barriers that prevent the optimal use of the potential of knowledge workers' competencies.

Keywords: Knowledge workers, Key competence, Human capital management

Impact of Digital Capital Saturation on Business Internationalization in Case of the Czech Republic

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Abstract: Digitalization has become a prominent phenomenon within the European Union. This concept resonates significantly in the realm of science, and its transformative potential for intense economic growth is substantial. Digital capital, comprising fundamental digital assets, sophisticated digital systems, online communication platforms, social networks, and artificial intelligence integration, plays a pivotal role in driving business digitalization. In the Czech Republic, characterized as a typical representative of transitional economics, there exists a wealth of highly qualified IT professionals. The industry continues to expand both domestically and internationally. Notably, small and medium-sized organizations in the Czech Republic exhibit remarkable flexibility and openness to innovation. The critical question lies in their awareness of the importance of digitalization in relation to the potential for success in foreign markets. Furthermore, exploring whether the incorporation of digital capital positively influences an organization's acceptance in international markets remains an intriguing inquiry. The research sample contains 398 valid records, obtained through online questionnaire surveys conducted with organizations in the Czech Republic. To explore relationships, statistical tools such as linear regression and large sample tests with confidence intervals for proportions were employed, along with the t-test for means. It has been observed that the increasing saturation of digital capital within organizations correlates with their success in foreign markets (internationalization). Statistically, this relationship exhibits a fairly robust regression. From the results, we can infer that higher digital capital saturation positively impacts organizational internationalization. Managers, armed with this insight, are more likely to recognize the critical importance of digital capital and exhibit a stronger inclination toward enhancing digitalization within their firms. The concept of digital capital has gained prominence recently. Given the diverse levels of digitalization across companies, it is reasonable to assume a certain relationship with market success. However, the originality of this research lies in linking digital capital to revenue growth for domestic firms in the export domain. The Czech economy, characterized by openness, particularly in sustaining pro-export focus, is significantly influenced by the saturation of digital capital.

Keywords: Digital capital, Internationalization, Revenue growth, The Czech Republic SMEs, Transitional economy

Entrepreneurship Education and Strategic Intentions for a University

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Abstract: In its Vision 2030, Central University of Technology, Free State in South Africa aspires to a lead university of technology in Africa by the 2030. This is confirmed by the university's strategic goal set which places the university as one of the entrepreneurial universities in Africa, South Africa specifically. The strategic decision is supported by the university's leadership thus by pledging their financial resources on information, communication, and technology infrastructure. This strategic goal places emphasis on new approaches to entrepreneurial leadership, pedagogical approaches, including promotion of curriculum reform agenda within the university. Entrepreneurial education plays a pivotal role of a university of technology in South Africa to ensure constructive re-alignment in teaching and learning approaches. This paper seeks to unpack and discuss the challenges faced by the university in their efforts to promote entrepreneurial education and integration of entrepreneurship education in the curriculum design and development with a particular focus of articulation of the university of technology curricula and Technical, Vocational Education and Training (TVET) colleges vocational education and training in South Africa. Therefore, to explore the entrepreneurial education, CUT will be used a case study among six Universities of Technology and in-depth interviews, document reviews and focus group discussions would be used as key apparatus in this study. Major challenges and obstacles towards achieving the university 'set goal becoming a lead university of technology which promote entrepreneurship education would form a core of the study. Various factors impeding the successful achievement of university's vision would be discussed and alternatives would be explored in this study/paper. Impact of entrepreneurial education and training in changing the status quo, perceptions and intentions would be explored and used to draw conclusions to the study.

Keywords: Entrepreneurship education, Entrepreneurial and strategic leadership, Articulation and vocational education and training

Generation Z (GenZ) Growth Management Priorities: Perspectives From the Danish Digital Startups

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Abstract: The most recent generations of entrepreneurs drive the development of the digital technologies of the future. This study aims to open the perceptions related to growth among the GenZ digital startup entrepreneurs in Denmark. Denmark is highly ranked in various global indexes including e.g. Global Competitiveness Index (GCI), Sustainable Development Report (including the SDG Index), Global Innovation Index (GII), Social Progress Index (SPI), Environmental Performance Index (EPI), Global Green Economy Index (GGEI), and World Happiness Report. This study intends to better understand the perceptions related to growth among Iceland GenZ entrepreneurs contributing to ambitious development towards a more sustainable future. This multiple case study provides a window to our digital future by exploring the perception of the Danish GenZ digital startup entrepreneurs related to growth and their contribution to human-technology development towards a more sustainable future. The data, consisting of 8 semi-structured interviews, was collected on-site in Iceland between June and July 2023. By explorative analysis of these cases, this study seeks to better understand how the most recent generation of digital entrepreneurs utilize their digital skills and capabilities to scale a more human-driven, sustainable future. This study is a step in the series of studies of opening the contextual aspect of growth the Nordic countries Iceland, Denmark, Norway, Sweden, and Finland. The preliminary results presented in this study show how Nordic GenZ digital startup entrepreneurs, building their businesses within in the context thriving in global sustainable development indexes, are using their digital skills to take the next steps towards more sustainable future.

Keywords: Generation Z, Startup, Entrepreneurship, Growth management, Denmark

Exploring Gender Dynamics in Digital Health Entrepreneurship: A Mixed-Methods Analysis

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Abstract: This study provides an exploration of gender dynamics in the digital health entrepreneurship landscape in North Rhine-Westphalia. A mixed-methods approach was used to investigate the factors that influence women's participation in founding companies in this sector. The research methodology involved conducting an online survey with 40 participants, including 10 women, to gather quantitative data on the challenges and opportunities encountered by digital health entrepreneurs. Qualitative interviews were also conducted with a panel of 13 entrepreneurs, of which 5 were women, providing rich insights into their entrepreneurial experiences. The study's findings offers a contribution to the understanding of the factors that influence women's involvement in digital health entrepreneurship. Our quantitative analysis reveals patterns related to resource access, networking, and perceived gender-related challenges. Additionally, our qualitative interviews provide deeper insights into individual experiences, coping mechanisms, and strategies for overcoming obstacles. Our research contributes to a more comprehensive understanding of the complex dynamics at play in digital health entrepreneurship by integrating quantitative and qualitative approaches. The insights gained from this research offer practical implications for policymakers, industry stakeholders, and aspiring entrepreneurs who seek to promote diversity and inclusivity within the entrepreneurial ecosystem. This study highlights the significance of recognising and tackling the distinct obstacles encountered by female entrepreneurs in digital health. By promoting an atmosphere that encourages diversity and inclusivity, we can utilise the complete potential of healthcare innovation, ultimately benefiting society as a whole.

Keywords: Digital health, Entrepreneurship, Female entrepreneurship, Mixed methods

Enhancing Innovation and Entrepreneurship in Biomedical Academia: Addressing the Anticommons Challenge

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Abstract: The reluctance to share patented research materials, driven by commercial incentives, hinders innovation and entrepreneurship in academic biomedical research, as described by Michael Heller's "tragedy of the anticommons" theory. This project examines the sharing practices of principal investigators (PIs) in public universities, focusing on how these practices impact research innovation and entrepreneurial outcomes. Survey data reveal that while PIs frequently share non-patented materials and services within their institutions, sharing with external researchers is notably less common. Approximately 30% of biomedical patents restrict access to critical resources, leading to delays, project modifications, or abandonment. Notably, 16% of tangible research materials expire without use, representing a global loss of \$16-20 billion annually due to inadequate sharing practices. Key barriers to resource sharing include lack of information, scientific competition, and complex material transfer agreements. To address these issues, the study proposes enhanced reallocation of unused resources, improved sharing mechanisms, and better information dissemination, which could significantly boost innovation and entrepreneurship in academic biomedical research.

Keywords: Theory of anticommons, Biomedical innovation, Resource sharing in academia

Regional Perspective Matters? Needs Analysis of Entrepreneurial Support Organisations for Moral-Legitimacy

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Abstract: This study investigates the scale-up stage of growth startups, emphasizing the distinct needs for entrepreneurial support organizations (ESOs) in fostering venture legitimacy through broad and functional resources. At this stage, startups pursue funding, business expansion, corporate valuation, and initial public offerings, driven by performance and long-term vision within entrepreneurial ecosystems (Cusumano, 2013). ESOs contribute significantly by providing essential resources such as funding, mentoring, education, networking, space, and ecosystem connections (Amezcuca et al., 2013; Ssossé et al., 2021). Despite the critical role of these resources, there is limited practical research due to challenges in obtaining relevant case studies (Duruffl et al., 2016). This study highlights the importance of prioritizing both functional and broad resources within ESOs to enhance the legitimacy-based entrepreneurial capabilities of startups at the scale-up stage. In the context of local entrepreneurial ecosystems, growth startups increasingly rely on regional resources beyond institutional support, necessitating a comprehensive understanding of how ESOs influence startup development (Carniel & Dalle, 2020; Khokhawala & Iyer, 2021). This study proposes using the case of Korean ESOs, which are uniquely specialized in supporting scale-up startups with a broad array of resources, including funding, mentoring, and infrastructure. The Korean government has established ESOs across major cities nationwide, allowing for a regional perspective on the impact of these support organizations. The systematic regional deployment of Korean ESOs provides valuable insights into public-led entrepreneurial ecosystems and offers practical implications for similar European countries seeking to enhance their support structures for scale-up startups. The study aims to determine the essential resources from ESOs for scale-ups, analyse the relationship between ESOs and entrepreneurial ecosystem competencies, and explore regional variations in startup needs. Employing a positivist and interpretivist epistemological approach, the research uses the Borich needs analysis model and the Locus for Focus method to analyse survey data from Korean ESOs. The findings offer implications for optimizing ESO resources and regional competencies to support the moral legitimacy-based capabilities of growth startups and provide meaningful lessons for public-led entrepreneurial ecosystems in Europe.

Keywords: Entrepreneurial support organisations, Moral legitimacy, Entrepreneurial capabilities, Entrepreneurial ecosystems, Regional needs

A Clusters Service Portfolio as a Driver for Robotics in Public Spaces

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Abstract: Objectives: Society keeps a highly ambivalent image of robots, characterized by fears of substitution. Interactions between humans and robots are diverse and often unpredictable, harbouring safety risks associated with unclear legal frameworks, impeding the economic success of commercialization. The project “rokit”, a competence cluster, started in 2022, aims for promoting and advancing mobile assistance robotics in public spaces by interdisciplinary solutions for given challenges. This empirical study develops a stakeholder-based service portfolio for the “rokit” cluster in the field of robotics in public spaces, supporting users and manufacturers for facing these challenges and promoting the sustainable success of public robotic solutions in the market. Methodology: A qualitative semi-structured interview study was conducted with public robot manufacturers and users to analyse needs to a service portfolio for a cluster in the field of robotics in public spaces. A qualitative content analysis extracted the needs from the interview transcripts and a focus group concluded its core requirements to clearly structure the service portfolio of the cluster. The needs identified were categorized into the three business areas “Think Tank”, “Living Lab”, and “Consulting”, pre-defined by the “rokit” cluster, to develop services according to stakeholder needs. The assignment of the needs to the expectedly affected sections of the value chain helped to identify the target group. Results: The qualitative content analysis of the semi-structured interviews conducted with 6 users and 3 manufacturers resulted in 28 needs, which were clustered into 7 core requirements defined as functional safety, human-robot interaction, technology ethics, research methodology, feasibility studies, regulations, and certification. The analysis clarified that most of the identified needs could be categorized in the business area “Think Tank” followed by “Consulting” and “Living Lab”. The value chain assignment showed that the users addressed rather the sections “Operations” and “Human Resources” while the manufacturers addressed rather “Marketing & Sales” and “Technology Development”. Conclusion: Based on this analysis we conclude a strong need for interdisciplinary support to increase acceptance for robots in public spaces. The impact on the value chain implies support needs in different areas of a company with one specific focus on “Operations”, depending on stakeholders.

Keywords: Public robots, Competence cluster, Stakeholder requirements, Qualitative interviews, Value chain

How Does International M&A Influence the Effectiveness of R&D Cooperation? Using Patents as the R&D Output

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Abstract: Mergers and Acquisitions (M&A) is a favourite top-level managerial strategy of MNEs in the changing global market landscape. Most target firms in the host country can benefit from M&A. Acquired firms get access to specialised, high-value knowledge assets from parent companies and other subsidiaries in the group through international M&A. Therefore, this research focus on the benefits from the R&D aspect. To explore the change in firms’ incentive to conduct innovative efforts and innovation performance after international M&A, we provide empirical evidence on the causal effect of international M&A on the organisation of the firms’ R&D cooperation strategy and R&D output with DiD model applied, and then estimate the moderating effect of R&D cooperation strategy on R&D output using DDD model. In this context, the contribution of this paper is twofold. First, studies on the causality between R&D and international M&A are not so numerous. Second, we give empirical evidence on the moderating effect of R&D cooperation strategies on R&D effectiveness at the firm level. To examine the causal effect of international M&A on R&D cooperation and R&D output of target firms, we use the event study methodology to compare the difference in the engagement in R&D cooperation, their R&D outputs and their interaction of Belgian firms before and after international M&A, then a difference-in-difference estimator and a difference-in-difference in-difference estimator are applied to discuss the causality between international M&A, R&D cooperation, and R&D output. The estimation is based on a firm-level bi-annual survey dataset of R&D-active firms from Belgium over the period 2001–2017. From the results of empirical estimation, we can find that engagement in R&D cooperation and R&D output of target

firms could be improved after international M&As, and the firms which engage in R&D cooperation get more facilitation of international M&As on R&D output (grant patents).

Keywords: International M&A, R&D cooperation, R&D output, Moderating effect, Difference in difference in difference (DDD)
