HHL LEIPZIG GRADUATE SCHOOL OF MANAGEMENT

Stiftungsfonds Deutsche Bank Chair of Innovation Management and Entrepreneurship

Chairholder: **Prof. Dr. Dr. Kelvin W. Willoughby**

Chair Profile **2025/ 2026**

PREFACE

"You never change things by fighting the existing reality. To change something, build a new model that makes the existing model obsolete."

Buckminster Fuller

"Development does not start with goods; it starts with people and their education, organization, and discipline. Without these three, all resources remain latent, untapped potential."

Ernst Friedrich Schumacher

"The inventor is a man who looks around upon the world and is not contented with things as they are. He wants to improve whatever he sees, he wants to benefit the world; he is haunted by an idea. The spirit of invention possesses him, seeking materialization."

Alexander Graham Bell

CONTENT

1. PHILOSOPHY

"Innovation" has become the leitmotif of success for start-ups, established corporations and, increasingly, for policy makers in the public sector. Both established corporations and entrepreneurial companies are important vehicles for technological innovation, but belief in the power of innovation and entrepreneurship, and the quest for creativity and fulfillment in work, has inspired millions of people worldwide to pursue their dreams by creating a new venture rather than by following an orthodox corporate career. Progress in science and technology is lauded by leaders in government and industry as a key to solving economic, environmental and social problems, and technology venturing is now widely celebrated as the key to wealth generation and personal advancement. These trends evoke some important challenges that are the focus for research and teaching in this Chair:

- How can established corporations renew their competitive advantage through artfully managing the innovation process?
- What knowledge and skill do individuals need to overcome the obstacles to success when launching a technology start-up?
- How can local communities harness the potential of technological innovation to stimulate local economic development and employment generation?
- How can the direction of technological change be managed to maximize social benefit and minimize harmful human and environmental impact?
- What can us as individual human beings personally do to make the world a better place through leadership in the business of technology?
- How can the strategic management of intellectual property facilitate the generation of value through the process of technological innovation?
- What intellectual property strategies are especially appropriate for entrepreneurial ventures?

Our work addresses innovation management in both new ventures and established companies, as well as the transfer of created knowledge between academia and business. We are especially interested in strategy for enterprises and projects based on the development and commercialization of new technology, and in how intellectual property may be managed to support innovative enterprises, both locally and internationally.

Under the leadership of Prof. Willoughby, the driving philosophy of teaching in the Chair is reflected in the phrase "student-centered learning." Student-centered learning is a dynamic approach to education based on the belief that, rather than just impart knowledge to students, the teacher has a responsibility to facilitate the acquisition and generation of knowledge by the students themselves. In his teaching, Prof. Willoughby also emphasizes the interplay between theory and practice. Teaching should be informed by the analysis of practical problems and real-life management should be enlivened by theory.

Our Chair, the *Stiftungsfonds Deutsche Bank Chair of Innovation Management and Entrepreneurship*, aims to provide students with knowledge, analytical tools, ideas and inspiration to not only understand the nature of the technological innovation, but to cultivate skills and leadership capacity to engage effectively in the practical art of innovation.

Embracing Technological Innovations – Bonutrim Consulting (6 September 2024)

2. TEAM

2.1. Chairholder

Prof. Dr. Dr. Kelvin W. Willoughby

Professor Willoughby's expertise lies in the strategic management of intellectual property, technology-based entrepreneurship, innovation management and strategic planning for technology-based industry development. He has conducted a variety of studies, and produced numerous publications, in the above fields in North America, Europe, Asia, Australia and Russia. In addition to his academic work, Professor Willoughby has been active as an international consultant and advisor to industry and government, and a founding member of a digital media technology company in the United States.

Current Academic Affiliation

- Professor & Chairholder, Stiftungsfonds Deutsche Bank Chair of Innovation Management and Entrepreneurship, HHL Leipzig Graduate School of Management, Leipzig, Germany (since August 2021)

Previous Academic Affiliation

- Professor, Innovation and Intellectual Property, Skolkovo Institute of Science and Technology (Skoltech), Moscow, Russia. Also: Director, Innovation and Intellectual Property Laboratory & Associate Dean of Education, Skoltech
- Professor of Entrepreneurship and Intellectual Property, Graduate School of Business and Faculty of Science and Engineering, Curtin University, Perth, Australia. Also: MBA Program Director
- Gastprofessor & Wissenschaftlicher Mitarbeiter, Lehrstuhl für Wirtschaftsrecht und Geistiges Eigentum, Fakultät für Wirtschaftswissenschaften, Technische Universität München (TUM), Munich, Germany
- Professor of Management, College of Management & Faculty of Science, Mahidol University, Bangkok, Thailand. Also: Director, Entrepreneurship Management Program
- Professor and Honeywell / W. R. Sweatt Chair in the Management of Technology, The University of Minnesota, Minneapolis, Minnesota, United States. Also: Program Director, Master of Science in Management of Technology
- Associate Professor, College of Engineering and Applied Sciences, State University of New York at Stony Brook, Long Island, New York, United States. Also: Program Director, Master of Science in Management of Technology

Academic Qualifications

- LL.M (Master of Laws) in Intellectual Property, University of Augsburg, Germany. Munich Intellectual Property Law Center. 2008
- Ph.D. (Doctor of Philosophy) in Strategic Management and Technology Management, the University of Western Australia, Perth, Australia. 1999
- Fulbright Postdoctoral Fellowship, the University of California at Berkeley, Berkeley, California, United States. 1987-1990
- Ph. D. (Doctor of Philosophy) in Technology Studies, Murdoch University, Perth, Australia. 1987

2.2. Research Associates

Dr. Dmitry Smirnov

Position: Wissenschaftlicher Assistant (Post Doctoral Researcher).
Research Focus: *University-based Technological Innovation and Technology Transfer with a focus on Energy Transition*

Academic Qualifications:

- Ph.D. (Doctor of Philosophy) in University-based development and management of energy transition technologies, Skolkovo Institute of Science and Technology (Skoltech, founded in partnership with Massachusetts Institute of Technology (MIT), Russia
- M.Sc (Master of Science) in Research and Innovation in Energy Technologies, Skoltech and MIT, Russia and USA
- B.Sc (Bachelor of Science - Diplom / Specialist degree) in Industrial Power Systems Design, St. Petersburg State Polytechnic University, Russia
- Intern at MIT (USA) and Visiting graduate student at ETH Zurich (Switzerland)

Profile: Dmitry is a published academic researcher with interest in technological innovation and commercialization of science-intensive technologies. After his Ph.D., he completed a four-year industry practice (2020-2023) leading technology transfer projects for French, Swiss, and Bulgarian manufacturing companies. He is the HHL Program Manager for the EU Horizon SAFELOOP project in the Chair.

Omolade Zainab Adeyemi

Position: Wissenschaftlicher Mitarbeiterin (Doctoral Candidate).
Research Focus: *Incentivizing the Creation of Intellectual Property Assets by Employees: Comparison of Academic Institutions and Business Enterprises*

Academic Qualifications:

- M.A. (Master of Arts) in Entrepreneurship & Digital Transformation, Strascheg Center for Entrepreneurship - Hochschule München, Germany
- LL.M (Master of Laws) in Intellectual Property & Competition Law, Munich Intellectual Property Law Center (MIPLC), Germany
- State Law Qualification I & II, Council of Legal Education, Nigerian Law School
- LL.B. (Bachelor of Laws) in Common Law, University of Lagos, Nigeria

Profile: Omolade/Zainab is a qualified solicitor and barrister of the Supreme Court of Nigeria with practice experience in litigation, encompassing oil & gas, election petitions, and corporate/commercial practice in banking and crowfunding. She is the 2018 West African DAAD/EPOS scholarship recipient to the MIPLC, where she obtained her specialization in intellectual property and competition law.Since then, she has gained industry experience in intellectual property law practice and management that influenced her decision to combine her legal education and training with her business insights for a doctoral research. In her current capacity in the Chair, she is part of the team that successfully initiated and launched the MIPLM Part-time program at HHL with the University of Strasbourg's CEIPI, France.

2.3. Associated Researchers

Siyang An

Ms. An is a researcher and practitioner. She combines her research with teachings in Management of Technology and Design Strategy with specialization in incorporating human factors into the design process. She is an expert in the design of mobile information technology services for older adults, especially through the gamification of IT-based services.

Research Focus: *Strategies for Improving the Adoption of Technology by Older Adults: The Role of Gamified Servitization in Gerontechnology Design*.
Primary Affiliation:

- Doctoral Researcher, Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hong Kong, China S.A.R.

Academic Qualifications:

- M.Sc. (Master of Science) in Technology Management, University College, London, U.K.
- B.A. Hons 1st Class (Bachelor of Arts) in Business Management, University of Liverpool, Liverpool, U.K. & XJTLU, Suzhou, China

Zeki Can Seskir

Mr. Seksir is a physicist by training. He is active in the international QTEdu Quantum Technology Education program in Europe, and a member of QWORLD, the global organization for researchers and other professionals active in quantum technology. He specializes in research about the emerging field of quantum technology, drawing upon scientific expertise in quantum physics as well as interdisciplinary analysis of technological innovation in the broader domain of quantum technology and the emerging quantum technology industry.

Research Focus: *Global innovation strategy in quantum technology.*

Primary Affiliation:

- Doctoral Researcher, Institute for Technology Assessment and Systems Analysis Karlsruhe Institute of Technology, Karlsruhe, Germany

Academic Qualifications:

- M.Sc (Master of Science), Department of Science and Technology Policy Studies, Middle East Technical University, Ankara, Turkey
- M.Sc (Master of Science), Department of Physics, Middle East Technical University, Ankara, Turkey
- B.Sc (Bachelor of Science), Department of Physics, Middle East Technical University, Ankara, Turkey

Dr. Punyapat Saksupapchon

Dr. Saksupapchon has extensive experience in both academia and business in Thailand, the United States, Korea, Russia, France, Britain, Germany and South East Asia. She is an Assistant Professor in Management at Bangkok University with primary focus in the field of strategic innovation and intellectual property management especially in innovation project management, patent search, patent data analysis, and negotiating IP terms, licensing agreements, and benefit sharing in research collaboration. She teaches Strategic Innovation and Intellectual Property She is also a registered patent agent in Thailand based on her engineering background in aerospace, materials, health care, software, energy and manufacturing.

Research Focus: *The Strategic Management of New Products in Complex Technological Organizations: Insights from Dynamic Capabilities Theory and Systems Theory*.

Primary Affiliation:

_ Assistant Professor, Institute for Knowledge and Innovation – South-East Asia (IKI-SEA), Bangkok University.

Previous Affiliation:

_ Innovation & Intellectual Property Manager, Chanwanich Co. Ltd., Thailand.

Academic Qualifications:

_ Dr.rer.oec (Doctor of Economics and Business Administration) at the Chair of Innovation Management & Entrepreneurship, HHL Leipzig Graduate School of Management, Germany

_ M.Sc. (Master of Science) in Space Science and Technology, Skolkovo Institute of Science and Technology, Russia

_ B.Eng. Hons. 1st Class (Bachelor of Engineering) in Information and Communication Engineering, Chulalongkorn University, Thailand

_ Certificate of Completion, Program in Computer Science and Information Technology, Daejon University, Korea

_ Special Graduate Student in Department of Aeronautics and Astronautics, Massachusetts Institute of Technology (MIT), USA

Dr. Aparna Sharma

Dr. Sharma has twelve (12) years of experience in research, advocacy, public policy, project implementation, primary surveys, and consulting. Her professional journey includes roles at prestigious institutions such as IIT Indore, IIM Lucknow, CUTS International Jaipur, and India Development Foundation in India. Her interdisciplinary academic background spans economics of innovation, patent policy, R&D internationalization, technology transfer, and international trade. She has conducted extensive fieldwork identifying cross-border trade facilitation issues along the borders of North East India, including Bhutan, Nepal, Bangladesh, and Myanmar. She is an accomplished publisher with numerous articles and policy papers on international trade issues, gender dimensions in trade, and regional connectivity in South Asia. Her research on technology diffusion and cross-country patenting impacts is featured in esteemed international journals. She founded the Centre for Innovation and Trade Economy to explore the intersection of innovation economy and international trade. She is also the recipient of prestigious scholarships from ICSSR and the Government of Taiwan, along with a project grant from the Department of Science and Technology, India.

Research Focus: *Exploring the Economics of Innovation, IPRs, Innovation Management, and International Trade through Data-Driven Policy Research*

Primary Affiliation:

- India Technology Policy Fellow in the Indo-Pacific region at Pacific Forum, USA - contributing to the promotion of trade and supply chain security in the semiconductor industry of the Indo-Pacific region

Academic Qualifications:

- Ph.D. (Doctor of Philosophy) in Economics, Indian Institute of Technology, Indore, India
- M.A. (Master of Arts) in Economics, University of Rajasthan, Jaipur, India
- B.A. Hons. (Bachelor of Arts) in Economics, University Maharani's College, University of Rajasthan, Jaipur, India

2.4. Doctoral Researchers

Felix Heitdke

Position: External Doctoral Student
Research Focus: *Strategic Patent Exploitation under Regulatory Pressure: Intellectual Property Management and Innovation Bottlenecks in EU Medical Technologies*

Academic Qualifications:

- M.Eng. (Master of Engineering), Fresenius University, Germany: Industrial Engineering
- B.A. (Bachelor of Arts), University of Economics and Law, Berlin, Germany: International Business Administration

Profile: Felix has substantial experience in market access for medical technologies in the DACH region. In his role as the head of market access and public affairs, DACH markets for Novocure – a medical device company in oncology treatment – he oversees all market access activities ranging from negotiation, consultation for label and contract extensions, and launch preparation of products to onboarding and management of direct reports.

David Waweru

Position: External Doctoral Student
Research Focus: *Strategies for the Appropriation of Economic Value by the Creators of Artistic Works: Cultivating Skill in Obtaining, Managing and Exploiting Intellectual Property Rights by Musicians in Africa*

Academic Qualifications:

- M.B.A. (Master of Business Administration), with Distinction, Curtin Graduate School of Business, Curtin University, Perth, Australia
- Graduate Certificte of Business, with Distinction, Curtin Graduate School of Business, Curtin University, Perth, Australia

Profile: David is a Nairobi, Kenya-based entrepreneur, with a varied background in the publishing industry. Having founded and successfully managed his own publishing company for many years, David is an active trainer and consultant in the cultural and creative industries in Kenya and other African countries. He also works as a UNESCO-EU policy expert on copyright and other issues in the creative and cultural industries in Eastern Africa. He has an interest in the way that the digitalization of the music industry affects the livelihood of musicians.

Nadezhda Mullina

Position: External Doctoral Student
Research Focus: *Intellectual Property and International Pathways for Appropriating Value from Endogenous Technological Innovation*

Academic Qualifications:
- M.Eng. (Master of Engineering / Magister), Moscow State Technical University (Bauman University), Russia: High-technology Production and Logistics Systems
- B. Eng. (Bachelor of Engineering - Diplom / Specialist degree), Moscow State Technical University (Bauman University): Innovation Management

Profile: Nadezhda specialises in technology entrepreneurship, with specificity in the information technology sphere. She is experienced in conducting market analysis, business modeling, financial modeling, and lean start-up methodology. She also has university-level experience in pedagogy and mentoring.

Manisha Mozumder

Position: External Doctoral Student
Research Focus: *Intellectual Property Rights Practices in Startups*

Academic Qualifications:
- M.B.A. (Master of Business Administration), Offenburg University of Applied Sciences, Faculty of Business and Industrial Engineering, Germany: International Business
- B.B.A. (Bachelor of Business Administration), North South University, Dhaka, Bangladesh: Finance and Marketing

Profile: Manisha is a business consultant and startup advisor. She specializes in finance and operations management in Asia and Europe.

Aleksei Kalinichenko

Position: External Doctoral Student
Research Focus: *Patent Protection for Artificial Intelligence and Machine Learning Technologies: Implications for Innovation Management*

Academic Qualifications:
- LL.M. (Master of Law / Magister), Diplomatic Academy of the Ministry of Foreign Affairs of the Russian Federation: Private International Law
- B.Ec. (Bachelor of Economics - Diplom / Specialist degree), Perm State University, Russia: Economic theory / economics and law
- B. Eng. (Bachelor of Engineering - Diplom / Specialist degree), Perm State Technical University, Russia: Information Technology and Mining Engineering.

Profile: Aleksei is a Patent and Intellectual Property Advisor with fifteen (15) years of experience in private practice. He specializes in patent protection of information technology solutions.

Vanessa Brummund

Position: External Doctoral Student
Research Focus: *Integrating Generative AI in Medical Training*

Academic Qualifications:

- M.B.A. (Master of Business Administration) in Leadership, Entrepreneurship, and Finance , Power Online Business School, Madrid, Spain
- Double Master's Degree Program in Supply Chain Management: Master of Science in Business Administration and CEMS Master in International Management, University of Köln, Germany
- Semester Abroad in Cross Cultural Negotiation, Stockholm School of Economics, Sweden
- Exchange Program in International Relations, Charles University Prague, Czech Republic
- Exchange Program in Economics, Belarusia State University, Minsk, Belarus
- B.Sc (Bachelor of Science) in Business Administration, University of Köln, Germany

Profile: Vanessa has considerable academic and practical experience in different areas of the supply chain and value creation process at Bayer AG since 2014, when she joined the Group as an intern, then a master thesis student, until present times. She is now the Group's Digital Lead for Supply Chain & Logistics End-to-End Supply Chain Planning at the Leverkusen office in Germany.

Xiang Yong

Position: External Doctoral Student
Research Focus: *Global Cross-border Technology Transfer and Intellectutal Property Management in the Field of Wind Energy Technology*

Academic Qualifications:

- M.B.A. (Master of Business Administration), Steinbeis University, Stuttgart/Berlin, Germany: International Management Business Administration
- LL.M. (Master of Laws), Sichuan University, China: Intellectual Property Law
- B.Eng. (Bachelor of Engineering), Southwest University of Science and Technology, China: Mechanical Engineering

Profile: Xiang has almost two (2) decades of practical experience in the mechanical parts, engineering innovation, and industry 4.0., field. This supported with his more than thirteen (13) years of experience in renewable energy, wind & solar farms investment and.policies. He has additional experience in international trade between China and Europe/ASEAN. Currently, he is a guest professor at the Manufacturing School of Southwest University of Science Technology, China, since 2019.

Marek Meis

Position: External Doctoral Student
Research Focus: *Digital Entrepreneurship and Innovation in Fragile States*

Academic Qualifications:

- M.A (Master of Arts) in International Innovation Management, Hochschule Stralsund, Germany
- B.A (Bachelor of Arts) in Business Administration for SMEs, Hochschule Aalen, Germany

Profile: Marek is an avid traveler who has an abiding passion in foreign policies, especially as they affect entrepreneurship and innovation of start-ups in fragile states. He is the Team Lead Business Development/ Operations at EX Venture, as well as a freelancer with BMBLE Innovation Studio since June 2021. Between October 2020 and March 2022, he self-produced a documentary spanning three countries, including Lesbos, Greece, highlighting the human stories within the largest refugee camp in Europe.

Simon Felix Jacobs

Position: External Doctoral Student
Research Focus: *Innovation Meta-Clusters: Enhancing MNE Competitiveness, Regional Innovation, and Policy Impact*

Academic Qualifications:

- M.Sc (Master of Science), Queen's University Belfast, United Kingdom: International Business
- B.Sc (Bachelor of Science), University of Augsburg, Germany: Business Administration

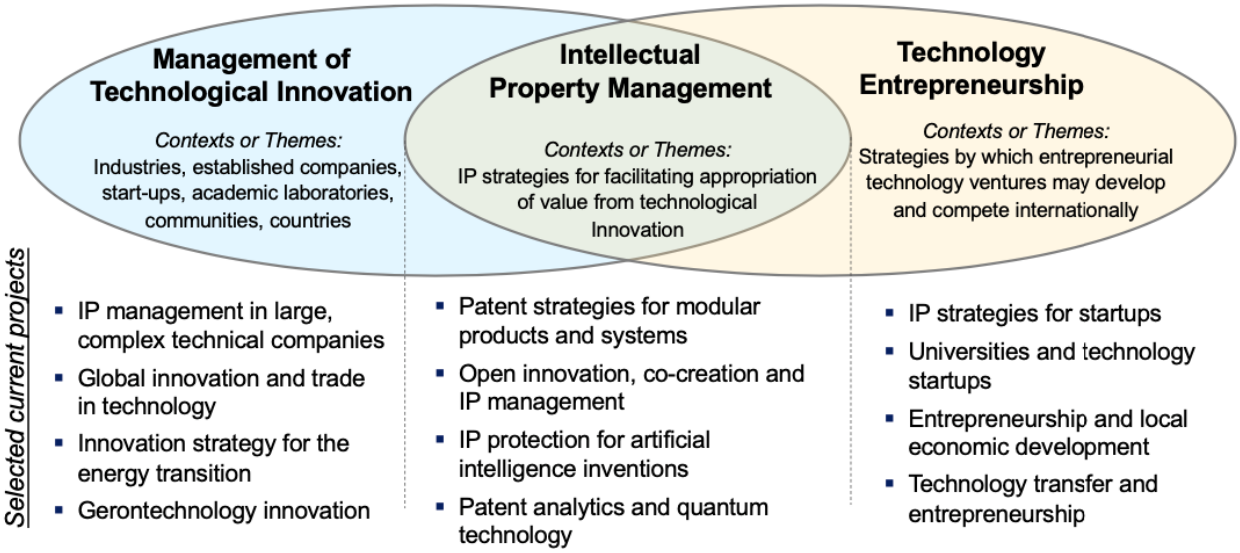
Profile: Simon is focused on innovation and digital transformation, with a career spanning consulting roles across Europe's public sector and startup ecosystems. He has led initiatives in open innovation, digital sovereignty, and upskilling, while driving regional development through flagship projects within the innovation cluster landscape, covering diverse technological sectors. Additionally, he has fostered cross-border collaborations and supported European funding opportunities and business model development through the European Cluster Collaboration Platform (ECCP).

3. RESEARCH

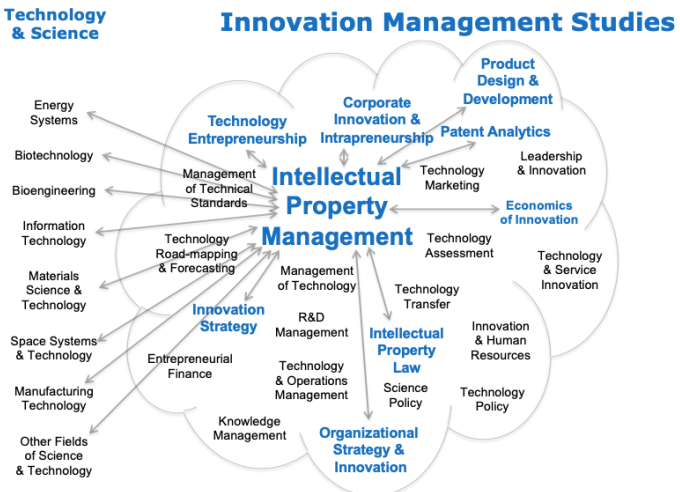
3.1. Research Focus of the Chair

The research of the Chair addresses the *strategic management of technological innovation* for both large established corporations and entrepreneurial technology ventures. Within both those contexts, ***we focus especially on the management of intellectual property and the ways in which innovators may artfully employ "IP"*** *(such as patents, trade secrets, copyright, design rights and trademarks)* ***to boost their success in the international commercialization of new technology and innovative technology-intensive products and services***. In addition to research focused on strategy for firms and industries, we also investigate the relationship between technological innovation and the economic welfare of countries and local communities. Finally, we also study special topics such as women in entrepreneurship and innovation, and technological design strategies for an aging population. We embrace both qualitative and qualitative research methodologies, employ a variety of sophisticated data analytic techniques where appropriate, and always aspire to link good theory with practical application.

We examine technological innovation from three different academic perspectives, using sound theory and rigorous methodology, to produce novel and useful results



The special research focus of the Chair on intellectual property is based on the recognition of the fact that technological innovation, including technology entrepreneurship and the commercialization of science and technology, requires sophistication and prowess in ***managing intellectual property***.



Expertise in the management of intellectual property matters not just for lawyers. It is also necessary for a wide range of people involved in innovation, including: technology entrepreneurs, managers of established technology-intensive corporations, product designers, investors, technology-transfer professionals, R&D managers, innovation-oriented academic researchers, regional innovation infrastructure professionals, IP traders and specialized IP intermediaries, technology marketing professionals, software and IT service providers, and also public policy leaders. Thus, our Chair follows an interdisciplinary approach to linking various domains of technology, on one hand, with key innovation-related fields of management, on the other hand, by focusing on the emerging professional field of intellectual property management as the nexus point of innovation research and practice.

HHL Academic House Entrance

3.2. The Strategic Intellectual Property Management of New Products in Complex Technological Organizations

To create and capture wealth in the long term, firms operating in environments of fast-changing technologies such as those in the commercial aircraft industry need dynamic capabilities, which are the abilities to build, combine, and reconfigure internal and external competences. Teece's 2018 proto-synthesis of dynamic capabilities theory and systems theory portrays both theories as adopting a holistic view requiring elements of an organization (as a system) to be in alignment with each other and the external situations. In this research, we aim to test, elaborate and clarify this proto-synthesis; and to further explain the coevolutionary behavior of the dynamic capabilities of the IP function and those of the technology function of a complex technological organization by conducting an empirical case study of Airbus.

Punyapat Saksupapchon, HHL; Kelvin Willoughby, HHL

Subtopics

- Analysis of the long-term competitive dynamics of Airbus and Boeing, viewed through the lens of patenting strategy.
- Approaches to patent licensing agreements in collaborative R&D projects.
- Methodology for mapping the development of corporate intellectual property capabilities.
- Analysis of the co-evolution of IP capabilities and technology development capabilities in Airbus.

3.3. Intellectual Property and International Pathways for Appropriating Value from Endogenous Technological Innovation

A stream of research has emerged in the literature supporting the theory that variations in outward-bound patenting activity influence the relative levels of economic development of countries. Our research contributes to that literature by empirically identifying and elaborating the mechanisms by which outward-bound patenting activity is translated into national economic benefit. The focus is on the protection from imitation of knowledge-intensive exports of physical products on the territory of an importer.

Nadezhda Mullina, HHL; Kelvin Willoughby, HHL

Subtopics

- Interconnection between outward-bound patenting activity and national economies; reverse Innovation; the middle-income trap.
- International technological specialization of countries; the complexity of patent portfolio, national competitiveness.
- International trade as a key factor influencing international patenting activity.
- Patenting activity and economic growth: A systematic literature review and analytical framework.

3.4. Patent Protection for Artificial Intelligence & Machine Learning Technologies: Implications for Innovation Management

As the technologies of machine learning (ML) and artificial intelligence (AI) have become ubiquitous in recent years, the demand by companies active in the field for intellectual property protection for their inventions has risen dramatically. However, the terms

under which such protection may be provided, under national laws and international agreements, are highly contentious. This creates challenges for entrepreneurs and established corporations investing in the development of AI. Our research relates to the patent protection of technical solutions related to artificial intelligence and machine learning (ML & AI) technologies. The research, we strive to systematize existing approaches to the examination of inventions and the development of a patent protection strategy and offer an effective methodology for researching patent information in the field of AI & ML.

Aleksei Kalinichenko, HHL; Kelvin Willoughby, HHL

Subtopics

- Defining artificial intelligence for the purpose of patent analysis.
- Systematizing and critiqueing current legal approaches to examining AI and ML inventions for patenting.
- Development of patenting strategies for AI and ML inventions, taking into account both national and international jurisprudence.
- Identification of patent-informed innovation strategies for companies involved in developing AI and ML technologies.

3.5. Intellectual Property Management and Startups

Entrepreneurial technology ventures are frequently seen as facing a difficult tension at the interface of intellectual property (IP) rights and business: on one hand, their ability to obtain access to necessary financing and other resources, or to form collaborations with business partners, depends upon their prowess at obtaining and enforcing appropriate IP rights; yet, on the other hand, their lack of capital and in-house IP expertise, puts them at a disadvantage compared with large encumbents and better financed competitors in IP-related competition. At the same time, there is evidence that mastering the art of intellectual property management is even more critical for the survival of startusp than it is for other types of enterprises. In this project, we investigate the IP strategies that technology startups may employ to create value and sustain activity in a competitive intenatinal environment.

Manisha Mozumder, HHL; Kelvin Willoughby, HHL

Subtopics

- Current intellectuall property rights practicrs of technology startups in Europe.
- IP-based commercialization strategies of technology startups.

3.6. Innovation Strategies for the Energy Transition

As countries and companies struggle with the challenges of transitioning from fossil-fuel dependent energy systems to sustainable renewable-energy systems, they are faced with complex investment decisions, involving enormous resource allocations, related to the development of new energy technologies. The policy and strategy questions evoked by these challenges are not easy to resolve. In particular, deciding on the balance between private sector investments and public sector investments, on one hand, and between basic science and targeted technology investments, on the other hand, can be problematic. We address these issues though systematic empirical research on the innovation process in one field of energy conversion technology, and through exploratory research on institutional factors related to technology transfer and technology commercialization from academic institutions.

Dmitry Smirnov, HHL; Kelvin Willoughby, HHL

Subtopics

_ Understanding the Dynamics of Innovation, Science, and Technology.
_ The role of universities and business schools in facilitating the commercialization of new energy technology.

3.7. Strategies for the Appropriation of Economic Value by the Creators of Artistic Works

Cultural and creative industries (e.g., the music industry, graphical arts, literature, drama and choreography) have great potential to generate wealth for their creators and to contribute to the GDP, exports, and employment, and development outcomes, of their respective communities and countries. In recent decades, such industries have been substantially transformed by the digitalization of the production, storage and distribution of creative works and this has created both opportunities and challenges for the creators of those works to generate and appropriate wealth from their activities. Legal instruments in the domain of intellectual property, such as copyright, are critically important for allowing fair remuneration for creative artists and other stakeholders in the creative-arts industries. However, such benefits do not accrue automatically, and prowess in obtaining, managing, and exploiting intellectual property rights is required for success. In this project, we study the effect of digitalization on the music industry in one particular region, Africa, and we explore how cultivating skill in obtaining, managing and exploiting intellectual property rights by musicians in Africa may play a role in enhancing their capacity to generate a livelihood for themselves and their communities.

David Waweru, HHL; Kelvin Willoughby, HHL

Subtopics

_ Copyright in sound recording and composition in the digital age.
_ The influence of artistic works on income generation, job creation, and export earnings in Africa.
_ Investigating the digital roadmaps in Africa and what impact infrastructure in the digital economy bears on music copyright and revenue.
_ New business models for creative businesses in the digital age.

3.8. Global Cross-border Technology Transfer and Intellectual Property Management in the Field of Wind Energy Technology

Current IP protection in the wind energy /Europe/USA/CHN, with focus on the IP protection risk and challenge analysis. This will involve reviewing the different methods of intellectual property protection analysis, as well as the future trends of IP protection in line with technological innovation. The investigation would focus on the degree to which the strategic issues faced by enterprises engaged in cross-border technology-transfer in the field of wind energy technology vary according to technological details, countries of origin, characteristics of enterprises, and industry competition & dynamics.

Xiang Yong, HHL; Kelvin Willoughby, HHL

Subtopics

_ Defining artificial intelligence for the purpose of patent analysis.
_ Systematizing and critiqueing current legal approaches to examining AI and ML inventions for patenting.

- Development of patenting strategies for AI and ML inventions, taking into account both national and international jurisprudence.
- Identification of patent-informed innovation strategies for companies involved in developing AI and ML technologies.

3.9. Technological Innovation for an Aging Society

The demographic transition to an aging society has afflicted many countries, especially wealthy countries in Europe, North America, Japan and elsewhere, but also China and other countries where birth rates have slowed in recent decades. Apart from the challenges generated by this transition related to financing the retirement costs of elderly people, another issue has recently captured attention in the literature: older people typically have different technology-related needs and different experiences of technology than do younger people, and hence alternative designs may be required to address the growing market for technological devices and services for the elderly. This has led to the recent emergence of a new field of practice and research, namely, “gerontechnology.” We are investigating the emergence of this field internationally, and studying empirically the application of sophisticated gerontechnological innovation strategies in the domain of information and communication technology for elderly people in China.

Siyang An, Chi Fai Cheung and Mei Na Chang, Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University; Kelvin Willoughby, HHL

Subtopics

- Roadmapping the emergence of gerontechnology, in the domain of information and communication technology.
- Theory-driven approaches to gamification of instructional systems for promoting technology learning by older adults.

3.10. Integrating Generative AI in Medical Training for Enhanced Value Creation and Learning Experiences

GenAI is recognized as agame changer for education and its application can enhance learning effectiveness, support intrinsic motivation, amd promote interactive engagement. GenAI applications leverage foundation models and advanced neural networks, which marks a significant evolution in deep learning. While the current literature focuses on technical implementations, they lack in-depth coverage of foundation models. The aim of this research work is to examine the rise of GenAI applications and their implications of business model innovation (BMI), as well as on intellectual property assets and rights. This would encompass an understanding of the origin of data, assessment of legal risks, and incorporation of protections into contracts.

Vanessa Brummund, HHL; Kelvin Willoughby, HHL

Subtopics

- Technical desogn for implementing a GenAI system.
- Leveraging Generative AI for Business Model Innovation and Enganced Value Creation.
- Pedagogical experience of GenAI based trainings.
- Data and IP rights & management related to the implementation of GenAI enabled solutions.

3.11. Digital Entrepreneurship and Innovation in Fragile States

As of 2020, over three quarters of people living in extreme poverty resided in fragile contexts. Fragility creates institutional voids, leading to significant challenges and barriers, as such; entrepreneurial activities in fragile environments face significant resource constraints. The aim of this research focus is to systematically understand the state of the research in fields of digital entrepreneurship (DS), innovation, development studies, and international business. Thereafter, it is to examine the overlaps of DS with fragility to develop effective policy recommendations and best practices, as well as strategies that can be employed by start-ups and entrepreneurs in fragile states for growth.

Marek Meis, HHL; Kelvin Willoughby, HHL

Subtopics

- Digital Entrepreneurship and Innovation in Fragile States.
- Challenges and Barriers of Entrepreneurship in Fragile States.
- Digital Bricolage in Fragile States.
- Coping Strategies in Fragile States.

3.12. Incentivizing the Creation of Intellectual Property Assets by Employees

The research aims to understand how incentives motivate and/or demotivate employees from creativity and innovation in organizational settings through an interdisciplinary lens that combines law, management and psychology. The research, therefore, seeks to answer the question – *To what extent can organizational designs be effective in incentivizing employees' creation of intellectual property assets, and are the designs moderated by jurisdictional justifications for intellectual property rights and the individual self-determined identity factors?* .

Omolade Zainab Adeyemi, HHL; Kelvin Willoughby, HHL

Subtopics

- Philosophical underpinnings of IP laws in management and organization economics.
- Interplay between functional designs of IPLs and organizational incentive designs.
- Efficacy of customized eincentive designs vs. employees' motivation.
- Organizational context, motivation & incentive designs in business enterprises.

3.13. Innovation Meta-Clusters: Enhancing MNE Competitiveness, Regional Innovation, and Policy Impact

This study undertakes a comprehensive literature review to establish a clear and consistent definition of innovation meta-clusters and synthesizes existing theories to propose a precise conceptual framework. It explores how meta-clusters enhance the competitiveness and innovation capacity of multinational enterprises (MNEs) within Global Value Chains (GVCs) by enabling global collaboration and resource sharing. Additionally, the analysis examines the role of meta-clusters in fostering regional innovation and resilience through cross-regional and cross-sectoral cooperation, thereby contributing to sustained regional economic growth. Finally, the study evaluates the effectiveness of European Union initiatives—such as the Euroclusters

Initiative—in promoting meta-cluster development and assesses their broader impact on GVC integration and regional competitiveness.

Simon Felix Jacobs, HHL; Kelvin Willoughby, HHL

Subtopics

_ Conceptualizing Meta-Clusters.
_ Meta-Clusters and MNE Competitiveness.
_ Regional Innovation Dynamics and Meta-Clusters.
_ EU Policy Evaluation and Meta-Cluster Development.

3.14. Innovation Meta-Clusters: Enhancing MNE Competitiveness, Regional Innovation, and Policy Impact

Under increasing regulatory pressure, MedTech firms are being compelled to rethink their intellectual property (IP) strategies as a means of maintaining competitive advantage and ensuring compliance. This investigation examines how these firms can cultivate and leverage IP management as a dynamic capability to adapt and thrive amid evolving market and regulatory environments. Central to this analysis is the economic and strategic impact of recent EU regulatory reforms—particularly the Medical Device Regulation (MDR) and the forthcoming Health Technology Assessment Regulation (HTAR)—on the value, timing, and exploitation of patents. Furthermore, the study explores how the EU's Joint Clinical Assessment (JCA) framework is pushing MedTech firms to integrate IP considerations much earlier and more thoroughly into product development and regulatory planning. As a result, many companies are reconfiguring their IP strategies, weighing proprietary versus open models, in an effort to balance innovation, compliance, and market access in a shifting and increasingly complex ecosystem.

Felix Heidtke, HHL; Kelvin Willoughby, HHL

Subtopics

_ Intellectual Property as a Dynamic Capability.
_ Regulatory Impact on Patent Exploration.
_ JCA and Early IP Strategy.
_ Strategic IP Configurations for MedTech Innovation.

3.15. Global Innovation in Quantum Technology

Quantum technology (QT) is a field of innovation attracting global attention in recent years and it is becoming a locus for international competition between many countries, especially the United States and China, and in Europe and elsewhere, with the equivalent of tens of billions of Euro of public funds being allocated to develop the technology. However, what exactly is quantum technology? Concepts derived from quantum physics—such as superposition (in which a particle may be in two states, or places, simultaneously), quantum entanglement (whereby classically not-possible correlations can be shared between distant locations), quantum tunneling (whereby a wave may pass through an ostensibly—according to classical mechanics—impenetrable barrier), or the replacement of absolute truth with probabilistic estimates—make quantum technology not only difficult for people not deeply educated in quantum theory to understand, but also rather difficult to define for strategic industry development. This is turn creates challenges for leaders in either the public sector or the domain of private investment wishing to channel resources productively to develop new technology in the field. In this project, we address this challenge in two ways:

using artificial intelligence to reliably define quantum technology, and its constituent fields; and, to profile international competitive dynamics in the industry.

Zeki Can Seskir, Institute for Technology Assessment and Systems Analysis, Karlsruhe Institute of Technology; Kelvin Willoughby, HHL

3.16. International Cultural Distance and Cross-Border Co-Inventing

As international collaboration in research and development (R&D) has burgeoned during recent decades, both intra-organizationally within multinational corporations, and inter-organizationally between both public and private organizations across national borders, the issue of the cultural mix of R&D teams has become salient. In particular, the impact of the national culture of the home country of participants of multi-national R&D teams on the dynamics of collaborative projects has attracted much attention. In this research project—using data from large-scale multi-year data set of co-patenting dyads, involving over 60 countries spread over two decades, we investigate empirically the impact of cultural distance between the countries of collaborators on co-inventing performance. The research has implications for planning the composition of muti-national R&D teams.

Ralf Mischkowski, School of Management, University of St. Gallen; Maximilian von Zedtwitz, Department of International Economics, Government and Business, Copenhagen Business School; Kelvin Willoughby, HHL

3.17. Open Innovation and Intellectual Property

The “open innovation” trend in industry has led many companies to recognize the value of collaborative innovation not only with their partner companies, universities or startups, but also with individual external contributors—such as consumers, innovation enthusiasts, students, researchers or independent experts—through a variety of innovation-focused co-creation practices, such as crowdsourcing contests, community-based innovation, and lead user or expert workshops. By requiring the contribution of knowledge from both the company’s and the contributors’ sides, such co-creation practices generate new intellectual assets that may accrue intellectual property (IP) rights, i.e., patents, trade secrets, copyright, design rights or trademarks, the ownership of which may be contentious. Co-creation is thus seen to be inevitably accompanied by complex challenges of IP management.
In this project, by drawing upon ideas from both contingency theory and configurational theory, we contribute to the emerging literature in this field by exploring the complex relationships between co-creation contexts, configurations of IP management strategies and co-creation project performance through an empirical study of over 100 co-creation projects fron a variety of countries and industries.

Anja Tekic, Graduate School of Business, HSE University, Moscow; Kelvin Willoughby, HHL; Johann Füller, Department of Innovation & Entrepreneurship, Universität Innsbruck

3.18. Commercialization of Technology and Science from Academic Institutions

Discussion in the scholarly literature about partnerships between entrepreneurs and universities for the creation of technological spinouts, and for helping universities to extract more value from their technology-related intellectual property, is lively. However, there is a gap in the literature in understanding how business schools may participate in the process of technology

commercialization by facilitating the creation of intellectual property (IP) rights. In this research, we seek to fill this gap in three ways. First, we study relationships between technical universities and entrepreneurs using a multi-level approach, through the lenses of several established theoretical perspectives from the domains of economics, social science, and management. Second, we investigate the phenomenon of learning reinforcement through multiple organizational levels to understand how business schools may play a prominent role in technology commercialization, together with the theoretical conditions under which they may do so. Third, we are developing an IP management model under which business schools, as such, may create and appropriate financial value by generating innovation-related IP that may be transferred to enterprises.

Our research to date has revealed a misalignment between promising approaches to university-based technological innovation suggested by normative theory and commonly adopted practices; and has highlighted a strategic issue, which is that the performance of most universities in the domain of technology transfer is disappointing. We explore ways to address this misalignment, and this strategic issue, through the establishment of what we label as “Technology Innovation Laboratories” in business schools—analogous to technical laboratories usually associated with technical universities—that could generate various types of product- or service-related IP. This type of intellectual property—typically different from invention IP, and which we label here as “business IP”—could be exchanged for equity in spinouts or royalties from licensing, similar to the manner in which the invention IP of technical universities is usually commercialized.

Dmitry Smirnov, HHL; Kelvin Willoughby, HHL

3.19. Intellectual Property Management and the Business of Small and Medium Sized Entreprises.

Innovation is important for sustainable profitability, company growth, and long-term firm survival, especially in an increasingly competitive business environment. However, innovative ventures typically carry a high risk of failure and thus present a financial burden for their stakeholders. Firms thus need to identify critical success factors (CSFs) that make innovation less risky, more likely to succeed, and financially more efficient. Factors of highest interest are arguably the ones that can be influenced directly by corporate managers themselves. Accordingly, innovation and its relationship to an organization’s commercial performance, with acceptable risk, has become an imporeamt topic in the academic literature, leading to a lively debate about innovation-specific subsets of CSFs and the innovation related success factors (ISFs), including intellectual property strategy. However, there is a tension in the literature between those scholars who presume the general applicability of their findings across all companies and contexts and those who assert that the impact of particular ISFs on firm performance is context specific or firm specific. This is the issue that we aim to resolve in this research. Are the factors that determine corporate success, especially IP-related factors, universally applicable or context dependent?

Christopher Lohrey, HHL; Kelvin Willoughby, HHL

4. TEACHING

The heart of Prof. Willoughby's teaching philosophy is reflected in the phrase "student-centered learning." Student-centered learning is a dynamic approach to education based on the belief that the teacher has a responsibility to facilitate the acquisition and generation of knowledge by the students themselves. In his teaching, Prof. Willoughby also emphasizes the interplay between theory and practice. Teaching should be informed by the analysis of practical problems and real-life management should be enlivened by theory.

4.1. Entrepreneurship: FT M.Sc.

(Master of Science Degree, 5 ECTS)

The course explores the distinctive challenges of strategic management associated with entrepreneurship by examining eight complementary topics and their interplay in the entrepreneurial process:

- New product development for new ventures;
- New product development for new ventures;
- Technological innovation and entrepreneurship;
- Identifying and cultivating, or creating, a market;
- Building and managing an entrepreneurial team;
- Organizing the enterprise;
- Designing an appropriate business model;
- Managing intellectual property in new ventures; and,
- Obtaining finance and other resources for the venture.

The course focuses special attention on two especially important dimensions of managing entrepreneurial ventures: the constant challenge of assembling the resources—financial, human, material and organizational resources, among others—that are required to operate the business; and the art of iteratively and concurrently managing the processes of technology design, product and/or service design, and marketing. It also adopts an international perspective, on the understanding that, in the contemporary world, for an entrepreneurial venture to flourish it is almost always necessary for it to engage in business internationally.

4.2. Innovation Management & Corporate Entrepreneurship: FT M.Sc.

(Master of Science Degree, 5 ECTS)

This course explores the innovation space of organizations, paying attention to the different dimensions and contexts in which organizations innovate. Commencing with a general overview of what innovation is and why it matters, the course then addresses six complementary themes:

- The strategic management of technological innovation;
- Organizing for innovation;
- Sources of innovation;
- Intellectual property and innovation;
- Appropriating value from innovation; and,
- Elaborating and sustaining innovation.

The course focuses on the challenges faced by managers in established organizations, but attention is also being placed on the relationship between entrepreneurial behavior and corporate innovation strategy. The teaching approach of this course is inspired by the concept of "education for judgement" that lies behind the case-discussion methodology typically associated with the Harvard Business School. The idea is that rather than be taught facts, theories and techniques in a traditional didactic manner, students cultivate the art of forming managerial judgements by grappling with the complexities of "real world" issues and

circumstances contained in business cases. Accordingly, this course relies heavily on the so-called “Harvard style” case discussion methodology.

4.3. Disruptive Technologies and Business Models: FT M.Sc.

(Master of Science Degree, 5 ECTS)

This course aims to provide students with a fundamental understanding of major technological developments affecting industries and societies in the era of digital transformation. Thus, technological developments—e.g., from the fields of artificial intelligence (AI), blockchain, robotics, quantum computing, molecular biology, virtual reality or other fields—are introduced and discussed. The focus lies on the discussion of potential business models based on the introduced technologies, and the disruptive impact of new technology on incumbents.

Students will gain deep and applicable competencies in understanding and applying these new technologies in business settings. Guest presentations from practice partners are integrated to complement the discussions with concrete practical examples of technology application.

4.4. Entrepreneurship: PT MBA

(Master of Business Administration Degree, 3 ECTS)

Entrepreneurship is the pursuit of business goals through the creation of new ventures, without having control or ownership of the necessary resources.

Entrepreneurial business therefore requires artfulness and sophisticated strategy, together with agility in solving problems, in gaining access to resources controlled by others, and in pivoting wisely when necessary. It presents the entrepreneur with special managerial challenges related to planning, managing people, assessing market opportunities, accumulating resources and capabilities, organizing and structuring the enterprise, building relationships with external partners and stakeholders, responding dynamically to external forces, and developing incrementally. It also requires appreciation of the needs and interests of potential investors, and of the nuances of “boot strapping.” In the world of contemporary business, these challenges are amplified by the impact of new technology and global competition in innovation. Success in entrepreneurship typically requires a great deal of “learning by doing” combined with high managerial prowess, but, in contrast with the management of established corporations, managing entrepreneurial ventures requires the additional skill of coping creatively with the constraint of scarce organizational resources.

This course is therefore designed so that students will:

- Understand the key differences between entrepreneurial business and other types of business, and be familiar with contemporary theories of entrepreneurship;
- Understand the most important managerial challenges and leadership skills associated with creating and leading new ventures;
- Understand the key differences between working in an entrepreneurial venture versus being an employee of an established corporation;
- Appreciate the distinctive approach to business planning associated with creating and sustaining new ventures;
- Understand how the various functions and elements of an entrepreneurial venture need to be co-developed and integrated dynamically over time;
- Be able to identify key decisions facing entrepreneurial teams during the early development of a new venture, as well as the appropriate timing of those decisions;
- Develop skill in working within a team to plan the creation and ongoing development of a new venture;

- Gain experience in articulating cogently, and pitching succinctly, the concept and practicalities of an entrepreneurial venture to various stakeholders and potential stakeholders;
- Develop basic awareness of their suitability for, and interest in, either becoming an entrepreneur or working within an entrepreneurial firm.

4.5. Innovation Management: PT MBA

(Master of Business Administration Degree, 5 ECTS)

Most firms recognize the need for innovation. However, succeeding in innovation, especially technological innovation, is not easy. Furthermore, innovation is not only a matter of R&D and technological capabilities. It relies on the learning ability of the firm, on its capacity to identify and create new ideas, to transform those ideas into new products or services, and to successfully introduce them into the market. It also relies on a firm's ability to identify different innovation opportunities. Most importantly, it requires the organization to develop and maintain its capability to dynamically renew the skills, processes, routines, organizational structures and disciplines that enable it to build, employ and orchestrate both intangible assets and tangible assets to support superior long-run business performance.

At the end of this course, participants should be able to:

- Demonstrate an understanding of the different concepts, comparable terms and associated processes of a successful and sustainable innovation management process;
- Apply different techniques to detect, analyze and solve innovation-related problems in firms;
- Analyze the current innovative situation of a firm and identify what are the specific areas of the organization and its Strategy that need to be redesigned or improved to enhance its innovative performance;
- Think of not only successful innovation management strategies, but also the associated managerial challenges and organizational choices.

The pedagogical design of this course is similar to that of the IM&CE course from the full-time M.Sc. program, placing heavy emphasis on learning through case interactive discussion.

4.6. Entrepreneurship: PT M.Sc.

(Master of Science Degree, Leipzig, 5 ECTS)

Similar to the design of the course by the same name in the MBA, except more substantial in content and in expectations placed on students. Heavy emphasis on "hands on" entrepreneurial strategy development through a two-part team project, involving an entrepreneurial-concept presentation and entrepreneurial-concept report.

4.7. Innovation Management & Corporate Entrepreneurship: PT M.Sc.

(Master of Science Degree, Leipzig, 5 ECTS)

Similar to the full-time M.Sc. course by the same name, but delivered in an intensive mode.

4.8. Innovation Management & Corporate Entrepreneurship: PT M.Sc.

(Master of Science Program, Köln, 5 ECTS)

Similar to the full-time M.Sc. course by the same name, but delivered in an intensive mode.

4.9. Innovation and Intellectual Property Management: PT MBA

(Master of Business Administration Degree, 3 ECTS)

Intellectual property (IP) is a critically important aspect of contemporary business and a key factor in the process of technological innovation and the management of technology-intensive enterprises. Prowess in the management of intellectual property and the analysis of intellectual property is important for leaders in both established corporations and entrepreneurial ventures. Innovative technology ventures flourish according to how well their intellectual property assets are managed, leveraged and enforced. Additionally, it is almost impossible for engineers or scientists to avoid confronting issues related to intellectual property. These issues include: the risk of violating the IP rights of others; an obligation to respect the IP policies of one's employer; the need to obtain IP protection for one's own inventions and creative works; the obligation to become involved in the management of the IP belonging to one's employer; generating strategies for extracting value from one's intellectual assets; and the challenge of ensuring that one's own IP rights are not infringed by others, including by one's own employer or one's clients. In addition, given that such a large amount of contemporary business—in both the private sector and government—involves outsourcing and inter-organizational collaboration, expertise in the licensing of intellectual property rights is in high demand. The management of intellectual property may often also involve artfully connecting proprietary strategies with open innovation strategies.

Upon completion of this course a student should be able to:

- Identify, differentiate and understand the various of types of intellectual property;
- Articulate and explain a variety of ways in which intellectual property plays a role in technology commercialization;
- Intelligently discuss the integration of intellectual property with the innovation strategies of technology organizations;
- Identify intellectual property risks associated with technology commercialization;
- Understand the fundamentals of accumulating, managing, implementing and enforcing IP rights, as well as appropriating value from IP assets;
- Appreciate approaches to resolving IP-related conflicts between organizations;
- Think critically about the international dimension of IP management;
- Identify and analyze ethical and social issues associated with intellectual property;
- Apply IP data and IP analytics intelligently to the development of IP strategy.

4.10. Innovation and Intellectual Property Management: PT MBA

(Master of Business Administration Degree, 3 ECTS)

Similar to the PT.MBA course by the same name, but for the IPM Track.

This course will survey basic concepts of intellectual property and provide an introduction to a variety of types of intellectual property and IP-related rights, such as patents, copyright, trade secrets, trademarks, design rights, database rights, domain names, and demarcations of origin. The course will also examine the strategic management of IP in the process of technology commercialization and the resolution of IP-related conflicts between technology-based enterprises; and introduce basic concepts of IP licensing.

4.11. Master Theses Supervision

These are some of the ongoing and recently completed master theses supervised by Prof. Dr. Willoughby, with support from members of the Chair:

- The Development of Regional Clusters for Lithium-Ion Battery Recycling in Europe – *Abel Takacs, MSc24*
- Reflexive Thematic Analysis as an Explorative Approach to Identify Common Themes and Patterns in Expectations of Consortia Partners Towards Commercialization of Project Technologie*s* – *Patrick Dalacker, PMSc13*
- Balancing Expertise with Diversification: Developing a Successful Investment Strategy as a European Industrial Tech Angel Investor – *Anna Sofia Saari, PMSc14*
- Business Model Transformation in the Music Industry: The Transition of Major Record Labels' Value Proposition towards Artist*s* – *Eileen Lee Höflich, MSc22*
- Strategic Pathways for the Commercialization of Academic Pharmaceutical Innovations: A Case Study Analysis within University Hospital Contexts – *Jan Eggert*, PMSc13
- Evaluating the Potential of Risk Management with Artificial Intelligence – *Vanessa Otto*, MSc23
- International Patenting Practices as a Success Factor for Technology Companies: Empirical Analysis of the Energy Technology Industry – *Jonas Höpfner*, PMSc12
- Strategic Intellectual Property Decision Making: A Survey of Practices in Emerging Tech Start-Ups – *Shaikh Mohammed Azfar Nawaz*, M22
- Monetizing Content: Market Possibilities of Digital and Media Data in GenAI Model Development – *Julian Rauber*, PMSc12M
- In Tune with Innovation: Democratization of the Music Creation Process through Artificial Intelligence and Implications by the EU Copyright Framework – *Dominik Möcker*, PMSc12C
- The Role of Sales Function in Product Innovation in the Pharmaceutical Industry – *Tobias Frank*, P16
- The Global Innovation Landscape of Generative AI Technology, with a particular focus on the Automotive Industry: An Analysis from the Perspective of Patent Data – *Vitt Jannik*, PMSc12M
- Comparing Licensing Compliance Challenges for Satellite Manufacturers in the European Union and the United States: Examining Market Access – *Harkner Yannick*, MSc22
- What Impact does Intellectual Property have on the Performance of Financial Firms – *Carlos Figueredo*, M22
- The Impact of Streaming Services in the Music Industry on the Livelihoods of Grassroots Musicians: Opportunities for New Business Models – *Lorenz von Wurmb*, PMSc12
- Evaluation of Supplier Integration as a factor for Vehicle Modularity in German Automotive Industry – *Anisha Philip*, M21
- A Decision Framework for Commercializing Open-Source Software with Hybrid Business Models – *Tunçer Tanyel*, PMSc12
- Designing eVTOL's for Passenger Urban Air Mobility – An Interplay of Service, Product, Technology, and Public Acceptance – *Linder Michael Fritz*, MSc22
- The New Way of Work: Implications of Physical Space on Collaborative Work and its Impact on Innovation – *Lina Roos*, P16
- Alternative Strategies for Technical Standardization of the Fiber Optic Communications Market in Germany: Prospects of a Cooperative Solution – *Thau Johannes*, PMSc11C
- Do Green Innovations lead to Higher Productivity? Analysis of the Manufacturing Sector – *Aydin Dalia*, PMSc11

5. TRANSFER

HHL MBA Students_M22/23

Prof. Dr. Kelvin W. Willoughby
(B.A. Hons.1, Ph.D., Ph.D., LL.M. I.P.)
Chairholder

5.1. HHL-Fraunhofer Center for Deep Tech Transfer

The HHL-Fraunhofer Center for Deep Tech Transfer addresses a pressing gap in the innovation process: developing business know-how and successful commercialization strategies from academic research, from initiation to scaling. The Center supports established companies and startups looking to build business at the intersection of management and deep tech, and also helps academic organizations to commercialize existing intellectual property through the development of viable business models.

5.2. Otto Mønsted Fond

Otto Mønsted Gæsteprofessorat, awarded by the Otto Mønsted Foundation for a Visiting Professorship at the Copenhagen Business School. April-July 2022, Copenhagen, Denmark.

5.3. The Hong-Kong Polytechnic University

The Hong Kong Polytechnic University, Department of Industrial and Systems Engineering, Kowloon, Hong Kong. Guest teaching and research collaboration in the areas of technology transfer and commercialization, and technology management.

5.4. Chitralada Technology Institute

Chitralada Technology Institute, Bangkok, Thailand. Partnership on the development of entrepreneurship curricula and pedagogy, and executive education for South East Asia.

5.5. The University of Nairobi, Institute for Development Studies

Our Chair has commenced collaboration with the Instutute for Development Studies of University of Nairobi, in Kenya, for a project titled “Innovation in the Cultural and Creative Industries: Towards a New Paradigm for Social Development.” Our research examines the nexus between cultural and creative industries (CCIs), digital technologies, innovation, and intellectual property rights in Africa. It assesses the potential for new digital technologies to provide opportunities for both innovation and growth in African CCIs.

UNIVERSITY OF NAIROBI

5.6. HHL Student Consulting Project, Cyber Insight

About: Cyber Insight is a Leipzig based entrepreneurial venture employing sophisticated AI tools to enable small and medium sized enterprises to minimize data and IT security risks.
Topic*: Strategy for Increasing the Efficiency across the entire Cybersecurity function and expand Cyber Insight’s services globally*.
Academic year: 2024.
MBA Student Team: Apurv Adarsh | Pratham Airee | Azhar Khurshid | Maxine Kobinski | Ruiyun Li | | Shubham Saklani | Sangat Sethi | Karan Sikri.
Supervisor: Professor Kelvin Willoughby.

Measure, Manage, Mitigate Risks
cyber insight

5.7. HHL Student Consulting Project, the nu+company

About: The nu company is a food tech startup and creators of the vegan and sugar-reduced chocolate bar line nucao and the organic protein brand numove. It is committed to healthy, plastic-free and climate-positive snacks. Driven by its company DNA “food for a nu world”, the startup is uncompromisingly rethinking the future of food: all products are of natural origin and of certified organic quality, vegan, free of refined sugar and wrapped in specially developed home-compostable cellulose packaging. It is based in Leipzig.
Topic: *Strategy for moving the nu+ company Customer Experience from Physical to Digital*.
Academic year: 2022.
MBA Student Team: Azfar Nawaz | Daniela Pecho | Harshita Srivastava | Kashyap Shubham | Nupur Gupta | Tsz Pui Chan
Supervisor: Professor Kelvin Willoughby.

the nu+company

5.8. Global Urban Competitiveness Project (GUCP)

The GUCP is a group of scholars and researchers who study a variety of important issues that confront residents of urban areas and the policy leaders who seek to enhance the vitality and competitiveness of the world's cities, towns and urban regions. The GUCP represents urban areas that are situated in: Australia, China, Canada, India, Italy, Kenya, Korea, Mexico, the Netherlands, Portugal, Spain, and The United States, and hence offers a truly global perspective on these policy issues. GUCP meets annually and publishes a book on contemporary topics related to urban innovation and competitiveness.

The 2023 GUCP Annual Research Conference was hosted in Leipzig, Germany, by HHL and the City of Leipzig. The general conference theme was "*The Transformed Central City: Surviving or Thriving after COVID*" and included a seminar on "*Cities as Innovation Spaces*" at the HHL SpinLab.

5.9. HHL Student Consulting Project, Hotel App Loyalty

About: The client - *Touristik Union International* ("Tourism Union International") is a German multinational leisure, travel and tourism company and the largest of its kind in the world.
Topic*: Effective Loyalty Program Studies for TUI AG's Robinson Group in Emerging Markets*.
Academic year: 2025.
MBA Student Team: Guanlin Hu | Ritwik Basu | Roshni Bella Raghu | Wenjing Xia | Garvit Maheshwari | | Jessie Ghartey.
Supervisors: Omolade Zainab Adeyemi, Professor Kelvin Willoughby.

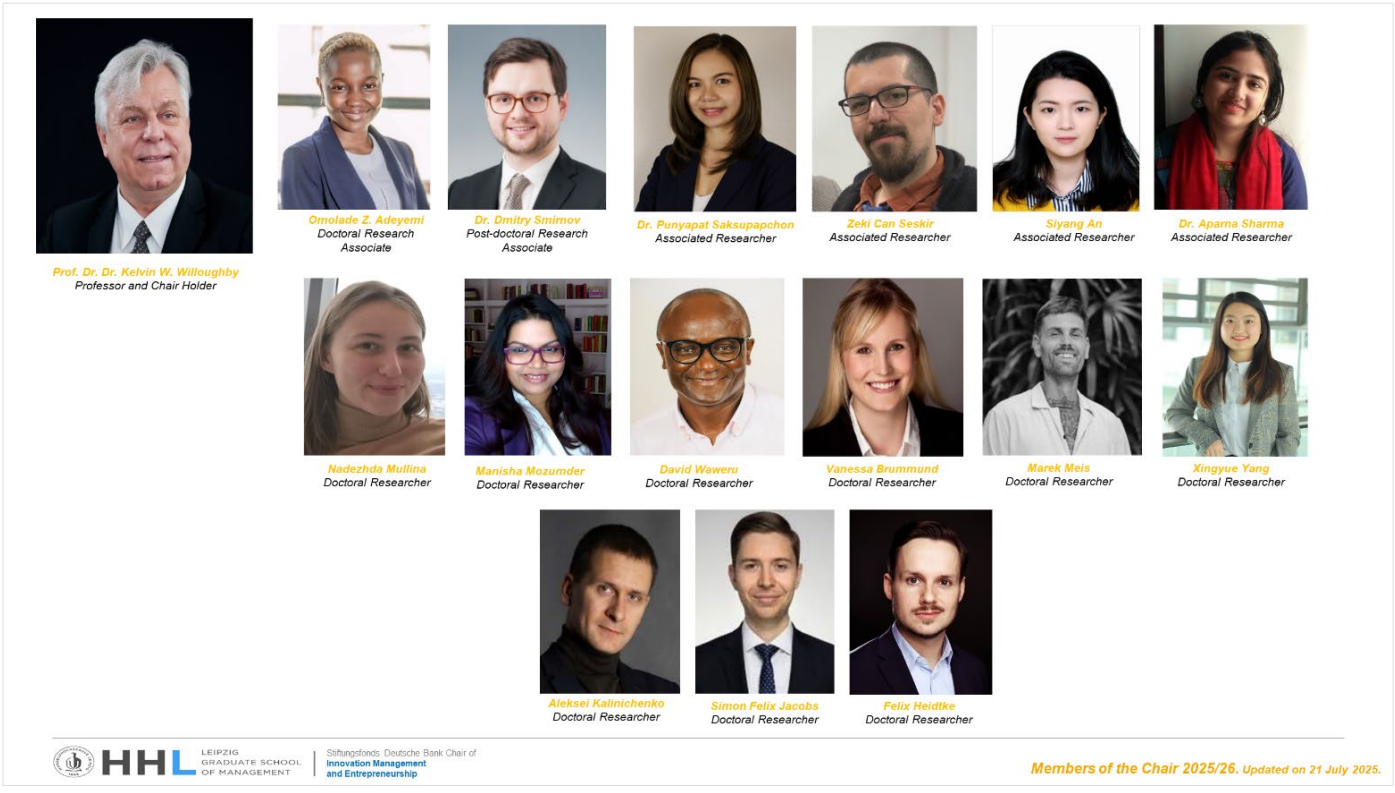
5.10. HHL Student Consulting Project, HealthTech Collaboration Models

About: The project clients are SpinLab – The HHL Accelerator and AOKPlus Sachsen. SpinLab is a startup accelerator that supports the growth of entrepreneurial and innovative teams who want to scale up their businesses. It is located in Leipzig, Germany. The spinoffs of SpinLab - RootCamp, ExciteLab, and BitRoad – all work together in different areas to help startups and corporates flourish. AOK Plus is a German statutory health insurance company that is mainly responsible for the federal states of Saxony and Thuringia. It is one of the largest health insurance companies in Germany and belongs to the group of general local health insurance companies (AOK).

Topic: *Partnerships between eHealth Startups and Health Insurers in Germany and how to Improve Outcomes*.
Academic year: 2025.
MBA Student Team: Ankit Kumar | Changyue Cao | Elizabeth Dorsey | Nitesh Malethia | Wenhui Hou.
Supervisors: Omolade Zainab Adeyemi, Professor Kelvin Willoughby.

SPINLAB THE HHL ACCELERATOR

AOK PLUS
Die Gesundheitskasse für Sachsen und Thüringen.



6. EXTERNALLY FUNDED PROJECTS

6.1. EU Horizon Research Project – SAFELOOP

About: “SAFELOOP” is a three-year EU funded “Horizon” innovation research project aimed at developing a safe and environmentally sustainable lithium-ion battery industry in Europe. The multinational project consortium includes fifteen organizations from Germany, France, Finland, Poland, Greece, Denmark, Turkey, Ukraine, US, UK and Australia.

Aim: To support the scientific and engineering experts of the consortium in implementing the technical results of this project and to drive its societal impact. The HHL team will map out and study in detail the international battery value chain, develop strategies and business models for the commercialisation of technology-intensive results, and facilitate the industry-related focus groups and stakeholder interactions to verify and improve practical relevance of project results. We will also focus on the analysis of Intellectual Property in the industry worldwide and in the SAFELOOP project consortium.

Project start date: 01.06.2024

Project manager: Dr. Dmitry Smirnov

Principal investigator: Prof. Dr. Dr. Kelvin Willoughby.

SAFELOOP

Funded by
the European Union

7. CONFERENCES/SPEECHES/SYMPOSIUMS

_ Omolade Z. Adeyemi and David Waweru, Harvard Law School's Intellectual Property & African Conference: Presentation & participation, Massachusetts, Cambridge, USA, 6 – 8 November 2024.

_ Manisha Mozumder, Kelvin W. Willoughby, Martin A. Bader, and Sevim Süzeroğlu-Melchiors, "Managing Intellectual Property along the Development Pathway of Startups," R&D Management Conference 2024, Transforming industries through technology, KTH Royal Institute of Technology, Stockholm, Sweden, 17-19 June 2024.

_ Nadezhda I. Mullina, Kelvin W. Willoughby, Max von Zedtwitz, and Mette Præst Knudsen, "Identifying the Mechanisms for Translating Economic Benefits from International Patenting into National Wealth," R&D Management Conference 2024, Transforming industries through technology, KTH Royal Institute of Technology, Stockholm, Sweden, 17-19 June 2024.

_ Omolade Z. Adeyemi, PatentSight+ Summit and Academy: Participation, Wiesbaden, Germany, 4 -6 June 2024.

_ Prof. Dr. Willoughby, Invited Keynote Lecture, 2nd Thailand Entrepreneurship Education Forum, Bangkok, Thailand. Topic: "Entrepreneurship Education and the Art of Teaching", 7 September 2023.

_ Prof. Dr. Willoughby, Invited Keynote Lecture, second Thailand Entrepreneurship Education Forum, Bangkok, Thailand. Topic: "Intellectual Property (IP) Management for Entrepreneurial Ventures", 8 September 2023.

_ Prof. Dr. Willoughby, Invited Seminar Presentation: Suranaree University of Technology, Nakhon Ratchasima, Thailand. Topic: "The Relevance of IP for Research Utilization under Thailand's TRIUP Act", 11 September 2023.

_ Prof. Dr. Willoughby, HHL Expert Talk, HHL Leipzig Graduate School of Management. Topic: "Local Entrepreneurship, Global Innovation and Intellectual Property Strategy", 6 April 2022.

_ Prof. Dr. Willoughby, Otto Mønsted Professorship, Guest Lecture: Copenhagen Business School, International Business Program. Topic: "Global Intellectual Property Management", 25 April 2022.

_ Prof. Dr. Willoughby, Otto Mønsted Professorship, Guest Lecture: Copenhagen Business School, International Business Program. Topic: "International Technology Transfer", 26 April 2022.

_ Prof. Dr. Willoughby, Otto Mønsted Professorship, Faculty Research Presentation: Copenhagen Business School, Department of International Economics, Government and Business. Topic: "Global Innovation, Outward-bound International Patenting and National Economic Development", 25 May 2022.

_ Prof. Dr. Willoughby, Chitralada Technology Institute, Bangkok, Thailand. Academic guest, January 2022.

_ Kelvin W. Willoughby, Munich International Patent Law Conference, 24 June 2022. Theme: Claiming exhaustion in patent infringement cases. Participant.

_ Prof. Dr. Willoughby, 2022 IEEE International Conference on Industrial Engineering & Engineering Management (IEEM2002), Kuala Lumpur, Malaysia, 7-10 December 2022. One (1) paper presented by members of the Chair.

_ Prof. Dr. Willoughby, Member of Scientific Review Committee, 10th ICAT Conference (International Conference on Appropriate Technology), Khartoum, Sudan. Sponsored by International Network on Appropriate University. Hosted by University of Khartoum and co-hosted by Sudan University of Science &Technology, 22-25 November 2022.

_ Punyapat Saksupapchon and Kelvin Willoughby, "Mapping the Development of Corporate Intellectual Property Capabilities: A Framework for Large Complex Technological Organizations," EPIP 2022 Conference, University of Cambridge, Cambridge, UK, 14-16 September 2022.

_ Aleksei Kalinichenko and Kelvin Willoughby, "The Concept of Artificial Intelligence Viewed Through the Prism of Patent Information," EPIP 2022 Conference, University of Cambridge, Cambridge, UK, 14-16 September 2022.

- Dmitry Smirnov and Kelvin Willoughby, “How Can Business Schools Generate Value in the Commercialization of New Technology? Technological Innovation Laboratories and Intellectual Property Management as Leadership Channels for Business Schools,” EPIP 2022 Conference, University of Cambridge, Cambridge, UK, 14-16 September 2022.

- Prof. Dr. Willoughby, Technology Transfer and Commercialization (Guest teaching at the Hong Kong Polytechnic University, Master of Science in Technology Management), October 2021.

- Prof. Dr. Willoughby, Inaugural Professorial Lecture, Stiftungsfonds Deutsche Bank Chair of Innovation Management and Entrepreneurship, HHL Leipzig Graduate School of Management, Topic: “Managing Technological Innovation and Entrepreneurship: Challenges for Practice and Research, Viewed Through the Lens of Intellectual Property” - 15 September 2021.

- Kelvin W. Willoughby and Nadezhda Mullina, “Intellectual Property Strategy and Reverse Innovation”, 81st Annual Meeting of the Academy of Management, virtual meeting, 30 July - 3 August 2021. Including two (2) other papers presented by members of the Chair.

- Prof. Dr. Willoughby, HHL Alumni Lecture, Refresh at HHL, HHL Leipzig Graduate School of Management, 26 August 2021. Topic: “Innovation and Intellectual Property: Leadership and Management Challenges.”

8. RECENT PUBLICATIONS

- "The Coevolution of Corporate Capabilities in Intellectual Property Management and Technological Innovation," European Journal of Innovation Management. Published, 31 July 2024. Punyapat Saksupapchon, Kelvin W. Willoughby & Alistair F. Scott - https://doi.org/10.1108/EJIM-09-2023-0824

- Kelvin W. Willoughby, "Les niches technologiques," pp. 74-83 of Une anthologie pour comprenedre les Low-Tech, dirigée per Clément Gaillard (Postface Philippe Bihouix) (Paris: T&P Publishing, 2023)

- "A Gamification Approach for Enhancing Older Adults' Technology Adoption and Knowledge Transfer: A Case Study in Mobile Payments Technology," Technological Forecasting and Social Change. Vol 205 August 2024, 123456. Siyang An, Chi Fai Cheung & Kelvin W. Willoughby - https://doi.org/10.1016/j.techfore.2024.123456

- "How Can Business Schools Generate and Appropriate Value in University-based Technological Innovation?" International Journal of Innovation and Technology Management, 2350052 (58 pages), 28 July 2023. Dmitry S. Smirnov & Kelvin W. Willoughby - https://doi.org/10.1142/S0219877023500529

- "Different Settings, Different Terms and Conditions: The Impact of Intellectual Property Arrangements on Co-creation Project Performance," The Journal of Product Innovation Management, 13 March (2023), 1-26. Anja Tekic, Kelvin W. Willoughby & Johann Füller. - https://doi.org/10.1111/jpim.12668

- "Global Innovation and Competition in Quantum Technology, Viewed Through the Lens of Patents and Artificial Intelligence," International Journal of Intellectual Property Management, 13, 1 (2023), 40-61. Zeki Can Seskir & Kelvin W. Willoughby. - https://doi.org/10.1504/IJIPM.2021.10044326

- "Reverse Innovation, International Patenting and Economic Inertia: Constraints to Appropriating the Benefits of Technological Innovation," Technology in Society, Volume 67, November 2021, 101712. Kelvin W. Willoughby & Nadezhda Mullina. - https://doi.org/10.1016/j.techsoc.2021.101712

- "Rethinking the Dynamics of Innovation, Science, and Technology: The Curious Case of Stirling Engines and Stirling Refrigerators," Energy Research & Social Science, Volume 79, September 2021, 102159. Dmitry S. Smirnov & Kelvin W. Willoughby. - https://doi.org/10.1016/j.erss.2021.102159

- "Contextual Factors Affecting Patent Licensing Provisions in Collaboration Agreements of Complex Technological Organizations," International Journal of Intellectual Property Management, 11, 3 (2021), 280-315. Punyapat Saksupapchon & Kelvin W. Willoughby. - https://doi.org/10.1504/IJIPM.2020.10032645

- "Intellectual Property Management, Dynamic Capabilities and Competitive Innovation in the Commercial Aircraft Industry," International Journal of Intellectual Property Management, 11, 3 (2021), 236-262. Punyapat Saksupapchon & Kelvin W. Willoughby. - https://doi.org/10.1504/IJIPM.2020.10032446

- "A Roadmap of Information and Communication Technology-Oriented Product-Service Systems for Older Adults in Hong Kong," IEEE 2021 9th International Conference on Information and Education Technology (ICIET 2021), Okayama, Japan, March 27-29, 2021. Paper ID C068. Published in IEEE Explore on 10 February 2021. Si Yang An, Chi Fai Cheung, Mei Na Cheng and Kelvin W. Willoughby

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