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**Abstracts
and
Conference Materials
for the
22nd European Conference on
Knowledge Management**
A Virtual Conference hosted by
Coventry University
UK



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aci⁺

**Abstracts of Papers
Presented at the**

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Management
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ECKM Preface

These proceedings represent the work of contributors to the 22nd European Conference on Knowledge Management (ECKM 2021), hosted by Coventry University, UK on 2–3 September 2021. The Conference Chair is Dr Alexeis Garcia-Perez from Coventry University, UK and the Programme Chair is Professor Lyndon Simkin, from Henley Business School (University of Reading), UK.

ECKM is now a well-established event on the academic research calendar and now in its 22nd year the key aim remains the opportunity for participants to share ideas and meet the people who hold them. The conference was due to be held at by Coventry University, UK but due to the global Covid-19 pandemic it was moved online to be held as a virtual event. The scope of papers will ensure an interesting two days. The subjects covered illustrate the wide range of topics that fall into this important and ever-growing area of research.

The opening keynote presentation is given by Prof. Dr. Dagmar Monett, Professor of Computer Science (Artificial Intelligence, Software Engineering) Berlin School of Economics and Law (HWR Berlin), and AGISI.org, on the topic of *Intelligence, The Elusive Concept And General Capability Still Not Found in Machines*. There will be an afternoon Keynote presentation given by Dr. Denise Bedford, Georgetown University's Communication Culture and Technology, a Visiting Scholar at the University of Coventry, UK on the topic of *The Culture and Community of Knowledge Sciences*. The second day of the conference will open with an address by Peter Pawlowsky, Chemnitz University of Technology, Germany, who will talk about *KM in post pandemic times* “*KM unde venis-quo vadis?*”.

With an initial submission of 205 abstracts, after the double blind, peer review process there are 101 Academic research papers, 9 PhD research papers and 5 work-in-progress papers published in these Conference Proceedings. These papers represent research from Australia, Austria, Brazil, Colombia, Czech Republic, England, Finland, France, Germany, Greece, Hungary, Iceland, Iraq, Ireland, Italy, Japan, Kuwait, Lithuania, Malaysia, Morocco, Netherlands, North Cyprus, Norway, Pakistan, PARAGUAY, Poland, Polska, Portugal, Qatar, Romania, Russia, Saudi Arabia, Slovakia, Slovenia, South Africa, Spain, Switzerland, Turkey, UK and USA

We hope you enjoy the conference.

Dr Alexeis Garcia-Perez
Coventry University, UK
September, 2021

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Biographies

Conference and Programme Chairs



Dr Alexeis Garcia-Perez is an Associate Professor in Cyber Security Management at the Centre for Business in Society at Coventry University (UK) and a Visiting Research Scholar at Georgetown University (USA). His original background in computer science was complemented by a PhD in knowledge management from Cranfield University. This socio-technical understanding of information systems has enabled Alexeis to focus on the wider challenges of data, information and knowledge management in organisations and society. Alexeis is a Senior Fellow of the UK Higher Education Academy. He leads the Data, Organisations and Society Research Group at Coventry University's Centre for Business in Society. Alexeis has been the course director for KM-based programmes including the MBA Cyber Security at Coventry University, and has collaborated extensively with key industry players on their KM strategies, as well as with UK and international academic and business associations as a KM expert.



Prof Lyndon is Executive Director of the Centre for Business in Society, before which he was Professor of Strategic Marketing and Head of School at Henley Business School (University of Reading), having been Research Lead at Oxford Brookes and previously Director of the Warwick MBA at Warwick Business School. He is an acknowledged expert in strategy creation, planning processes and implementation management, guiding practitioners with their execution and mentoring COEs and leadership teams. Lyndon is a member of the Academy of Marketing's research Committee, Associate Editor of the Journal of Marketing Management and co-chair of the Academy's special interest groups in CRM and Market Segmentation and Strategy. Lyndon is author of eleven books, including the market leading Marketing: Concepts and Strategies, Marketing Planning, Market Segmentation Success: Making it Happen! and research based The Dark Side of CRM.

Keynote Speakers



Dr. Denise Bedford is currently Faculty, Georgetown University's Communication Culture and Technology, a Visiting Scholar at the University of Coventry, and a Distinguished Practitioner/Virtual Fellow with the U.S. Department of State. Dr. Bedford is a retirement failure. In 2010, Dr. Bedford retired as Senior Information Officer, World Bank and in 2015, she retired from her role as Goodyear

Professor of Knowledge Management. Dr. Bedford has also worked for Intel Corporation, NASA, University of California Systemwide Administration, and Stanford University. Over her career she has also taught for Catholic University, University of Tennessee, and York University. She currently serves as an Associate Editor of the Journal of Knowledge Management, has conducted research funded by the National Academies of Sciences, Engineering and Medicine, and is the author of nine published books. She is the series editor for Emerald's new series, Working Methods for Knowledge Management, which is now in its second year of production, and working on the third year titles.



Dagmar Monett is Professor of Computer Science at the Berlin School of Economics and Law; Co-founder of the AGI Sentinel Initiative, AGISI.org; and AI expert at Ms.AI, “Artificial Intelligence for and with Women.” With over 30 years of research and teaching experience in different countries, her current research fields include

AI, digital ethics, software engineering, and computer science education, among others. Her most recent work focuses on intelligence research, particularly on defining and understanding both machine and human intelligence. She is also interested in machine learning, robotics in education, metaheuristics, knowledge-based systems, and software design and development including Agile.



Prof. Dr. Peter Pawlowsky, currently Senior Research Professor „Team- and Knowledge Management“ at Chemnitz University of Technology. Between 1994 and 2020 Full Professor in Personnel Management and Leadership Studies at Chemnitz University of Technology. He was co-founder and president of the German Society

for Knowledge Management, and was appointed as vice president for the Commission on Learning in Further Training Institutions of the Federal Ministry for Education and Research (BMFT). He has played an active role in the New Club of Paris developing concepts for intellectual capital management (ICM) and has conducted large studies on the development of KM Knowledge Management (KM) and ICM in the German economy. Prof. Pawlowsky initiated the first European Master Program in Knowledge Management and was course director of the CUT "Executive Master of Knowledge Management" program. As Director of the Research Institute for Organizational Competence and Strategy (FOKUS), TU-Chemnitz he has been successful in fund raising and has been playing a leading role in several national and international research projects in knowledge management and high performance research. Lately his focus has been on high performance management and excellence in culture, sports, business and emergency operation as well as on the development of transfer trainings that promote learning from high

performance teams. Recently, his research team has focused on learning in emergency and disaster management systems and ambulatory healthcare.

Knowledge Cafe Facilitator



David Gurteen is a writer, speaker, and conversational facilitator. The focus of his work is Conversational Leadership – a style of working where we appreciate the power of conversation and take a conversational approach to the way that we connect, relate, learn and work with each other. He is the creator of the Knowledge Café – a conversational process to bring a group of people together to learn from each other, build relationships and make a better sense of a rapidly changing, complex, less predictable world. He has facilitated hundreds of Knowledge Cafés and workshops in over 30 countries around the world over the past 20 years. He is also the founder of the Gurteen Knowledge Community – a global network of over 20,000 people in 160 countries. Currently, he is writing an online book on Conversational Leadership.

Workshop Facilitators

Dr Mahdi Bashiri is Assistant Professor of Business Analytics in School of Strategy and Leadership, Faculty of Business & Law, Coventry University and also a Course Director of International Business Management. Mahdi is a Senior Fellow of the UK Higher Education Academy and has more than 17 years of Management, Leadership, Research, and Teaching experience in the HE sector. Mahdi's research and teaching interests are in the quantitative methods and Operations Research. He has significant experience as an industry consultant.



Dr Rebecca Beech is Lecturer in Business Management at the School of Strategy and Leadership at Coventry University. Prior to joining the School, Rebecca was awarded her PhD in July 2020 at the Centre for Business in Society at Coventry University and was a consultant at a branding agency in London, delivering insights into millennials use of technology. Alongside lecturing and research roles since 2014. Her doctoral studies explored knowledge sharing and consumer empowerment in online communities within the context of green clothing. Rebecca's research interests are, knowledge sharing, online communities, consumer empowerment, social media, sustainability and sustainable fashion.

Dr Constantin Bratianu is Professor Emeritus of the UNESCO Department of the Bucharest University of Economic Studies, Romania. He is a professor of Strategic



Management and Knowledge Management and the President of the International Association for Knowledge Management (IAKM). He is known for his contributions to the theory of knowledge fields, knowledge dynamics in organizations, and knowledge strategies. He is Associate Editor of the Electronic Journal of Knowledge Management, and former Associate Editor of VINE Journal of Information and Knowledge Management Systems.



Dr Anitha Chinnaswamy is an Assistant Professor at the Business School in Coventry University and a Research Associate with the Centre for Business in Society (CBIS). Anitha has a broad multidisciplinary area of research. Her interests include researching the links between digital transformations and security risk management and how organisations can be assisted with a proper knowledge management system to deal with these risks.



Dr Rasha Kassem is an internationally-oriented academic with expertise in Forensic Accounting; Fraud Prevention; Fraud Investigation and Financial Reporting. Rasha is currently an Assistant Professor in the Faculty of Business and Law at Coventry University. She is also a Certified Fraud Examiner, an academic advisor at Cifas, a member of the Cross Sector Advisory Group at the Cabinet Office, and a member of the ACFE Fraud Advisory Council. Rasha has authored numerous publications in Fraud and over the last couple of years, Rasha has also been working closely with the City of London Police to develop online fraud courses for fraud investigators and law enforcement in fraud prevention and detection.



Dr Sandra Moffett is a Reader in Business Analytics and Acting Head of the Department of Global Business and Enterprise, Ulster University, Magee Campus. Sandra is a core member of the Business and Management Research Institute, researching in the areas of Business Analytics, Knowledge Management and Digital Transformations. Her expertise on Knowledge Management contributes to her being one of the UK leading authors in this field, with over 100 high quality, international research publications. She has received a number of research awards and citations for her work.

Dr Esin Yoruk is Senior Lecturer at the School of Strategy and Leadership and Research Associate at the Centre for Business in Society at Coventry University. Her main research interests are in the field of innovation studies and entrepreneurship

and their effects on sustainable economic growth. She has extensive in interest in novel research methodologies.

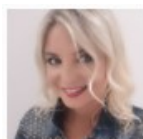
Mini Track Chairs



Dr. Gianluigi Baldesi is a senior manager at the European Space Agency with 15+ years of technology leadership experience in assessing and executing complex projects for future aerospace missions in a cross-cultural environment. Currently, he is in charge of leading the Corporate Knowledge Management activities and coordinating corporate strategic planning for the Agency. He holds a PhD in Systems Engineering and Executive MBA from Columbia Business School and London Business School.



Lorenzo Cobiانchi MD, PhD is an Associate Professor in General Surgery at the Department of Clinical-Surgical, Diagnostic and Pediatric Sciences at the University of Pavia, Italy. Besides his clinical research topics about mini-invasive surgery, oncology, new integrated approaches for the treatment of pancreatic cancer and regenerative medicine, he is interested in the impact of new technologies on surgery and healthcare, knowledge translation, teams dynamics and co-production in medicine and surgery.



Francesca Dal Mas is a Senior Lecturer in Strategy and Enterprise at the Lincoln International Business School at Lincoln, UK. She has a Master's Degree in Business Administration from Udine University and a Law Degree from Bologna University, Italy. She got her Ph.D. in Managerial and Actuarial Sciences from Udine University. Her research interests include strategy, knowledge management, and intellectual capital.



Paulo Gonçalves Pinheiro is a Professor of Beira Interior University (UBI), Business & Economics Department, and a researcher at the NECE, Research Center in Business Sciences (UBI). His teaching activities are mainly on knowledge management and comprehend undergraduate, master, and doctoral students. He is a Ph.D. in management and author of several publications. <https://orcid.org/0000-0003-2397-6463>



Raysa Geaquinto Rocha (MSc) is a Ph.D. student at the University of Beira Interior, a researcher at the NECE, Research Center in Business Sciences (UBI), and a lawyer. She received her master's degree in management from Fucape Business School in 2016. Her main research areas are organizational spirituality, organizational practical wisdom, and knowledge management. <https://orcid.org/0000-0002-6542-1397>



Prof Dr Sağsan is the Director of the Graduate School of Social Sciences at the Near East University, North CYPRUS and also Editor-in-Chief of NEU Journal of Social Sciences since 2015. He is also a founding chairperson of Innovation and Knowledge Management Program at the same University. He received his Ph.D. from Başkent University, Ankara TURKEY in Management and Organization Science in 2008. His research focuses on innovation and knowledge management, organizational theories, strategic management, human resources management, e-government studies, and philosophy of social science. He published more than 150 scientific papers so far.

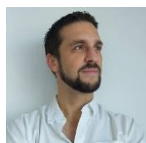


Maria José Sousa, Ph.D. in Management and Post Doc in Digital Learning, is a University Professor and a research fellow at ISCTE-Instituto Universitário de Lisboa. She has organized and peer-reviewed international conferences and is the guest-editor of several Special Issues from Elsevier and Springer. She has participated in European projects of innovation transfer and is also External Expert of COST Association - European Cooperation in Science and Technology and President of the ISO/TC 260 – Human Resources Management, representing Portugal in the International Organization for Standardization.



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Journals such as International Journal for Quality Research, Industrial, and Commercial Training.



Juan Manuel Verde MD, MSs is an Associate Researcher in Surgical Innovation and Image-Guided liver procedures at the Institute of Image-Guided Surgery Institut Hospitalo-Universitaire (IHU) of Strasbourg, France. His research interests include the impact of disruptive technologies in the field of minimally-invasive and image-guided hepatobiliary surgery. He is also interested in the use of blockchain and artificial intelligence technologies in healthcare.

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Wala Abdalla is a Ph.D. researcher in managing knowledge in the context of smart cities at the Faculty of Science and Engineering, University of Wolverhampton. She holds an MSc in Civil Engineering management and is a Fellow of the UK Higher Education Academy. Her research interests include knowledge management, smart cities, business model innovation for smart cities, sustainability strategies, and competitiveness.

Aderonke Olaitan Adesina has a Bachelor's degree in Physics and a Master of Information Science degree, both from the University of Ibadan, Nigeria. Aderonke is an emerging scholar and a doctoral student of the Department of Information Studies, University of Zululand, South Africa. Her areas of interest include knowledge management, information systems, and academic libraries.

Yasanthi Alahakoon is a Lecturer at the University of Sri Jayewardenepura, Sri Lanka. She is currently reading for PhD at Queensland University of Technology, Australia, in Knowledge Management. She has authored publications on Knowledge Management and Organizational Studies in international journals and conference proceedings. Her research interests are in epistemological stances and perspectives of knowledge management.

Anna Albrychiewicz-Słocińska is an assistant professor at Częstochowa University of Technology, Poland. She received her PhD in social sciences from Częstochowa University of Technology in 2008. She has been participating and organizing several international conferences on human resources management. Her main research areas are human resources management, knowledge sharing, knowledge management, ethics and organizational behaviour.

Areej Alqahtani is information systems lecturer in College of Community in Abqaiq at King Faisal University in Saudi Arabia. She has Master degree in computing (Information and Knowledge Management) from Ireland. She is currently working on her PhD research at University of Technology in Sydney (UTS). Her main research interests are Knowledge Management and innovation platforms.

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Keynote Outlines

Keynote Outlines

The following are outlines for the Keynote Speeches which will take place at ECKM 2021.

"The Culture and Community of Knowledge Sciences"

Dr Denise Bedford

Knowledge management as a discipline is at a critical junction. The discipline has evolved at the crossroads of several disciplines. Over the past sixty years, the community has attempted to adopt a holistic and inclusive definition of the discipline. In large measure the discipline is not yet a discipline, but a practice. It is still regarded by academic program directors as a “niche practice”. Over the past thirty years, we have suffered from a Ground Hog Day Syndrome – a continuous relearning and reiteration of the early ideas of practice. We have failed to advance to a higher level – to become a discipline of theory and one that is grounded in rigorous scientific process and thinking. A vision of knowledge sciences as a rigorous academic discipline, comprised of well developed and tested theory, and a range of applications and practices. A vision of knowledge sciences as supported by a comprehensive and regenerative learning culture, and a rich and inclusive community of researchers, developers, practitioners, consultants, educators and mentors, and learners. These are the critical enablers that grow a discipline. In this keynote, we will consider what we can each do to create a culture and a community that will transition knowledge management from a practice to a knowledge sciences discipline.

Intelligence, The Elusive Concept And General Capability Still Not Found in Machines

Prof. Dr. Dagmar Monett

Defining intelligence has been one of the most controversial and studied challenges of both ancient and modern human thinking. In the Artificial Intelligence domain and related fields, how this concept is defined has influenced the way intelligent algorithms and systems have been conceived, designed, developed, deployed, used, and even hyped, historically. Yet, we remain asking

and sometimes doubting, whether these artefacts are truly “intelligent” or not. This talk clarifies why they are not and what is still missing

KM in post pandemic times“KM unde venis-quo vadis?”

Prof Peter Pawlowsky

The contribution contains three main points addressing past, presence and future of KM. With regard to the past six phases of historical KM development are suggested, spanning from the origins of KM embedded in early concepts of organizational learning to current digitalization and cognitive computing approaches. The present of KM is addressed with a bibliographical analysis of the 28 most important journals on KM /IC (EBSCO and SCOPUS Database). In order to capture the focus of current research and publication activities, main content clusters are identified. Finally the authors suggest five fields of growing importance for KM research in the future.

The Knowledge Delusion

A Knowledge Café with David Gurteen

What is a Knowledge Café?

The Knowledge Café is a conversational process that brings a group of people together to share experiences, learn from each other, build relationships and make a better sense of a rapidly changing, complex world

The process is a simple one.

The participants sit in groups of 3 or 4 people at tables.

The speaker gives a short to the theme of the Café and then poses a question.

The participants then have three rounds of conversation around the theme and the question. At the end of each round, a few people change tables.

Finally, everyone comes together in a circle for a whole group conversation to share their thoughts and insights.

The outcomes of the Café: what you learn and the new relationships you form.

The Knowledge Café Theme: The Knowledge Delusion

We have built hugely complex societies and technologies, but most of us don't even know how a toilet works.

As individuals, we know almost nothing compared to what we think we know. Our personal knowledge is a delusion.

Most of our individual beliefs are not based on our personal experience or even our analysis of the evidence but are based on our trust or distrust of other people and institutions. Despite this, we argue and fight over our beliefs.

David will speak to the theme of this Knowledge Café and pose the question, "If as individuals we know so little, why do we fight so much?".

Research Paper Abstracts

Managing Knowledge in the Context of Smart Cities: A Systematic Review

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Abstract: The most recent view on smart city development has recognized that the level of technology adoption in urban contexts is no more able to reflect the real smartness of cities. Smart cities is seen as a centre of knowledge, education, and creativity. The development of smart cities is becoming more and more knowledge based. As a result, knowledge has been perceived as the core component that makes cities smart. Hence, to take advantage of the opportunities that knowledge-based economy and society can bring to the city, leaders and decision makers need to develop cities that take advantage of local knowledge and intellectual capital of the population. Therefore, they need to take initiative to adapt Knowledge Management (KM) in smart cities development. Smart cities KM offers the means to create valuable knowledge that brings consistent and sustainable added value that can therefore be useful in avoiding strategic risk, better-informed decision, and finding smart and effective business solutions. However, smart cities is a relatively new concept that still raises many questions related to its relevance in knowledge management studies. This often calls for the creation, use, capture and exploitation of new knowledge. Therefore, managing this knowledge is considered an important source of sustainable competitive advantage. However, only a few studies in the academic literature on smart city initiatives address issues related to managerial and knowledge management perspectives. This paper investigates the underlying dynamics behind KM and the need for successful implementation of KM strategies within the context of smart cities. The findings are in the main, based on thorough review of literature. It reviews the concept of smart cities and KM. The paper concludes that effectiveness of smart cities knowledge creation, exploitation and management significantly influences on effectiveness of smart city development. Therefore, smart cities governance must be able to exploit and manage knowledge that results from smart cities development.

Keywords: smart cities, Knowledge management, benefits, competitive advantage, knowledge creation

‘Tacit Knowledge Management Contradiction’: Practical Insights from the Buddhist Knowledge Discourses

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Abstract: This paper revisits the ‘tacit knowledge management contradiction’; a contemporary debate in knowledge management literature, and views it from a novel perspective through discourses in the Buddhist epistemology/theory of knowledge. The explicit-tacit dichotomy, which has epistemologically originated from the Cartesian worldview, which regards mind-body from a dualist perspective, serves as the foundation of the mainstream knowledge management approaches. Based on this dichotomic treatment, mainstream approaches advocate converting tacit knowledge to explicit forms for its management. Many criticisms are levied on mainstream approaches for disregarding unintended consequences of such conversion, and the issues related to objectifying knowledge from the knowledge subject are paramount. Conversely, the Buddhist theory of knowledge has a non-dualist standpoint. Discourses (*sutta*) outlined in this theory elaborate on the human-knowledge-production process, which signifies a person’s ‘psychophysical’ nature, due to which the mind-body [termed *nāmarūpa*] takes a non-dualist perspective. Therefore, revisiting the tacit knowledge management contradiction from this perspective overcomes the said criticisms on knowledge objectification attempts. In accomplishing this aim, the paper takes a qualitative approach and uses semi-structured interviews for data gathering. Three narratives of knowledge workers’ experience on knowledge management practices were derived from a poststructuralist discourse analysis of the interview texts. These narratives disclose impediments in managing tacitly held knowledge using dichotomic approaches. In order to overcome these impediments, a socially interactive approach to manage tacit knowledge is suggested. This approach is epistemologically founded on non-dualism, which is justified using relevant discourses in the Buddhist epistemology. These discourses were subjected to a poststructuralist reading to use them for the

secular purpose of managing knowledge. The paper contributes practically and theoretically to the existing corpus by empirically establishing the aptness of socially interactive approaches for managing tacit knowledge and elevating the non-dualist knowledge management discussion through the Buddhist epistemology, respectively.

Keywords: Buddhist discourses, dualism, explicit knowledge, non-dualism, social interaction, tacit knowledge

Knowledge and Medical Worker Health Security Management During a Pandemic COVID-19

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Abstract: Successive waves of the pandemic observed in Europe and around the world demonstrate the dramatic working conditions of medical staff. Constant exposure to dangerous SARS-Cov-2 virus undoubtedly affects the medical community's sense of security in terms of functioning in the workplace. The year 2020 demonstrated the unstable condition of information-related conditions that we live in. In an age of near-instant communication in the form of the Internet and other types of communicators, citizens received various, most often contradictory and untrue information concerning the virus, the pandemic conditions, and the principles of safe functioning in them. It seems, however, that medical specialists, due to their education and occupations, are among the best prepared in terms of knowledge, out of all professions. In addition to knowledge concerning the virus itself, these specialists also understand where to look for reliable information concerning the latest scientific reports on the pandemic. The article aims to present the views of medical workers regarding their sense of health security in relation to access to knowledge and information about the COVID-19 pandemic and their functioning in the work environment. The results of the research reveal positive dependencies between the access of knowledge and information and healthcare professionals sense of health security.

Keywords: knowledge, health security, pandemic COVID-19, medical worker

Capturing Community Needs Through an Open Innovation Process

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Abstract: Public online open innovation platforms allow a local community to be part of an open innovation process by sharing their innovative ideas about a specific problem. However, capturing community needs before problems are posted is an essential phase that is ambiguous in open innovation literature. In previous studies, open innovation on a community was applied by seeking innovative solutions without exploring ways to capture community needs as an initial phase before designing a product or service. This study explores this missing step in the literature and asks how community needs are captured before selecting a specific problem to be posted on the platform. Semi-structured interviews were carried out with two different open innovation platforms teams in two countries. Thematic analysis is utilised to highlight the procedures used to capture community needs through an open innovation process. The study develops a revised open innovation process that can be followed to capture community needs in the context of open innovation.

Keywords: Open innovation, Open innovation process, Public open innovation platform, community needs

The Measurement of Meaningfulness

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Abstract: Currently, the topic of Spiritual Knowledge is discussed in the literature and approaches to systematize this type of knowledge are presented. It seems unquestionable that an important aspect of spiritual knowledge is in particular the topic of meaningfulness. In order to systematize this aspect of spiritual knowledge, it could be helpful to measure the meaningfulness of activities in general and of work in particular. The aim of this paper is to reveal the fundamental dimensions of meaningful work by comparing selected measurement scales. Selected measurements mainly focusing either on meaningful work or on calling are introduced, namely the Comprehensive Meaningful Work Scale, the Work and Meaning Inventory, the Existential Meaning of Work Inventory, the Copenhagen Psychosocial Questionnaire, the Vocation Identity Questionnaire, and the Calling and Vocation Questionnaire. Based on a semantic cluster analysis of their relevant items and an interrater analysis, fundamental dimensions are grasped. Altogether six dimensions are found: balance, belonging, calling, enjoyment/enablement, significance, and work as an end and not as a means. Based on these dimensions, we propose a general approach to measure meaningfulness in the context of spiritual knowledge. Finally, the relevance of spiritual knowledge and its factor of meaningfulness for modern knowledge management in organizations is discussed.

Keywords: Spiritual Knowledge, Meaning, Meaningful Work Scales, Knowledge Measurement

Value-Based Frameworks in Consumer Internet of Things (CloTs): A Systematic Literature Review

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Abstract: Consumers face an increasing number of smart-connected products in their day-to-day activities. These connected everyday products are called consumer Internet of Things (CloTs). Even though consumer IoTs possessed a significant share in a global market, researchers in both academia and industry so far have basically focused on the technical aspect of implementation ignoring user desires and values. This makes some consumers to be still not positive enough to purchase IoT devices, and others even fear the introduction of additional technological complications to their lives. Hence, appropriately designing these products based on consumer preferences to uncover consumer value is essential. The purpose of this paper is to analyze the value-based frameworks published in peer-reviewed journals related to CloTs and provide research agendas in the context of consumer value. For this purpose, 72 research articles have been systematically reviewed and analyzed. In the process, four groups of major models/frameworks are identified to be Technology Acceptance Model, Theory of Planned Behavior, Theory of Consumption Value-based frameworks, and Design-based frameworks. CloTs features, consumer values, attitude, user experience, and user intentions are the main constructs identified using construct mapping in CloTs studies. The available frameworks/models have mainly focused on measuring acceptance/adoption levels, user intentions, and attitudes towards using CloTs. The analysis also showed a lack of comprehensive value-based frameworks to create better user experiences. Therefore, it is important to develop models/frameworks that can discover implicit needs and wants of users, and facilitate user-centered approaches in the design and development of CloTs. Effective frameworks/models able to cope with evolving user needs and wants are in demand for future studies.

Keywords: Consumer IoTs, consumer value, user experience, CloTs features, value-based framework

Overcoming the COVID-19 Crisis with KM and Smart Governance: The Challenge for the Italian Public Sector

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Abstract: March 2020, Italian prime minister Giuseppe Conte has ordered several restrictions on Italian citizens and locked down the entire country to stop the spreading of COVID-19. This strategy has deeply pushed the digitalization of the Italian public sector through knowledge management patterns, leading to a rethinking of the “Public administration mindset” with a Smart Governance approach (Italian stability act, 2021, Heeks, 2002). This work analyses the paradigm shift occurred in the main Italian reforms that occurred in the last year through a “Knowledge Management Toolkit” (Herbert, 2010) along with a report of interviews conducted with local authorities’ managers and citizens, showing that while the plague was spreading, the Italian Public sector conducted a silent revolution led by two words: digitalization and knowledge management (Riege et al, 2006; Velasquez, 2021).

Keywords: COVID-19 crisis, public sector, smart governance and KM

Joint Knowledge Base: A Key to Knowledge Sharing and Collaboration

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Abstract: Knowledge sharing is a key to successful collaboration (online or in presence) and since collaboration is changing due to increasingly emerging so-

called “New Collaboration”, so knowledge sharing should change accordingly: we call this New Knowledge Sharing. Organisations wishing to exploit the potential of New Collaboration need to understand how the new knowledge sharing and collaboration are related and in particular, how they actually proceed; the very steps of their interwoven process. During the course of our previous work, the concept of a Joint Knowledge Base (abbreviated to JKB) emerged and became more and more prominent as a key to knowledge sharing. Thus, in this paper, we will first revise and elaborate our concept of a JKB in more detail. We will see how, on the one hand, when working on a shared task each collaborator contributes to its construction and how, on the other, the JKB functions as an *interaction bridge*, and this is why it is a key to knowledge sharing. Secondly, we will describe different opportunities for partners in an interaction (team meeting, workshop, creative session, etc.) to contribute to the creation of a JKB by means of so-called “Distributed Contribution Tools” (DCT) which are standardised artefact-mediated interaction methods developed by E. Obeng. In particular, this second part will present 6 such DCTs and explain how they contribute to the JKB by means of a socially distributed production.

Keywords: knowledge sharing, new collaboration, joint knowledge base, collaboration process, artefacts-mediated interaction

Towards Semantically Enriched Curricula as pre-built Information Spaces in Higher Education Institutions

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Abstract: Study programs in Higher Education Institutions (HEI) are dedicated learning environments that are designed to achieve learning objectives to meet specific qualification profiles. They are environments for knowledge creation and knowledge transfer to the prospective students. Current developments in curricular design are trending towards more modular and more learning outcome-oriented structures and descriptions. Modules should be interoperable between different study programs and different HEI. This contribution explores the use of semantic technologies to support the design process and the execution of curricula of HEI. Contrasting to earlier approaches in the field the contribution focuses on a minimal viable solution to keep the semantic models simple and easy to employ. The conceptual architecture represents a pre-built information space that supports

the creation of academic curricula in a modular and learning outcome-oriented way which defines the learning environment for the students in a well-defined way. The approach should enable the verification of learning outcomes and generate transparency on the concepts taught. An analysis of the current situation in curricula development with respect to previous work is being conducted. The new approach is builds on lessons learnt and focusses on document-centred and self-contained aspects. It provides the foundation for a new type of ICT supporting systems supporting the digital transformation process in HEI.

Keywords: Higher Education Institutions, HEI, Management, Semantic Web, Technology Enhanced Learning, Curricula Design

Knowledge Management and Learning for Innovation in SMEs

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Abstract: Knowledge is commonly considered the key ingredient of innovation, and hence the effectiveness of innovation activities depends on how companies manage their learning processes. This requires that companies fill their “knowledge gaps” and reduce uncertainty regarding various innovation-related issues about technical, economic, and market aspects. Especially in the case of small and medium-sized enterprises (SMEs), there is evidence that companies go through learning processes and manage innovation-related knowledge, but this is often done in an informal and substantially “unconscious” way. In particular, the adoption and use of systematic knowledge management (KM) practices for collecting, creating, and exploiting useful knowledge is scarcely diffused among SMEs. This topic deserves further investigation, considering that those companies are an essential part of the economy. By investigating a sample of 12 cases of innovative projects in SMEs, this study examines the critical KM issues in innovation implementation. The goals are: a) to detect and categorize the need of companies to fill their knowledge gaps in relation to the various elements and activities that are involved in the innovation process; b) to examine what KM practices are adopted and the success or limits of these practices; and c) to investigate whether and how systematic KM approaches are or can be used to effectively perform these

learning processes, and the possible problems in their adoption. The study contributes to the literature about KM in SMEs, especially in relation to innovation. From a practical point of view, it offers food for thought to SME managers about the key role played by knowledge in the innovation processes and about how to better manage it.

Keywords: learning process; innovation; knowledge gaps; SMEs; case studies

Performance and Conscientiousness in Teams: A Field Experiment

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Abstract: This study investigated whether conscientiousness, one of the five personality traits, affects team performance. Although previous studies have shown that conscientiousness is the most potent noncognitive construct for individual occupational performance, experimental evidence of the impact of conscientiousness on group performance is scarce. Results in the present study derived from a field experiment, with 120 students paired according to their level (high vs. low) of previously measured conscientiousness score. Three types of dyads were obtained: low-conscientiousness, high-conscientiousness, and heterogeneous. The low (high)-conscientiousness dyads consisted of two members, both with low (or high) scores on the conscientiousness trait. Heterogeneous dyads consisted of two members, of which one had high scores on the conscientiousness trait, and one had low scores. All teams then worked on case studies provided by the "Samsung Innovation Camp" project. The goal of each group was to propose a genuinely practical solution. Team performance was measured on several criteria by an external board. The results showed that high-conscientiousness dyads significantly outperformed the other teams. In contrast, heterogeneous dyads were not different from the low-conscientiousness dyads. These data confirm the central role of the conscientiousness trait in predicting performance, extending it to workgroups and not just individuals. They also show that members with high scores in the conscientiousness trait must be paired with similarly high individuals in the same trait to have a competitive advantage.

Keywords: knowledge creation, conscientiousness, team performance, team composition, field experiment

Knowledge Dynamics: A Semantic Analysis

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Abstract. This paper aims to perform a semantic analysis of the *knowledge dynamics* concept and to propose a framework for the semantic clusters used in knowledge management. *Knowledge* is an abstract term without correspondence with any physical object. Knowledge can be understood through metaphorical thinking. Metaphors used in explaining knowledge contribute to its spectrum of meanings today and the difficulty of finding a unique definition. Among the most frequently used metaphors are those based on an object, a stock, an iceberg, a flow, a process, and energy. The concept of *knowledge dynamics* follows the same pattern, and its interpretation depends on the researcher's experience and the metaphor used. That explains why we find so many different interpretations for such a critical concept in knowledge management theory and practice. The aim of the present research is to perform a semantic analysis of the multiple meanings assigned to *knowledge dynamics* and to propose a framework for the semantic clusters. The research is based on a qualitative analysis of the literature, the theory of metaphorical thinking, and the theory of semantic clustering. We take as reference the well-defined meanings of the *dynamics* concept from physics and thermodynamics. In physics, *dynamics* means motion in space or change in time. In thermodynamics, *dynamics* means transformation from one state to another state or from one field into another field of a given variable. Our analysis findings can be instrumental in a better understanding of the knowledge dynamics concept and adequate utilization in practice. Many researchers use, for instance, the meaning of *flow* for both the concept of *knowledge* and that of *knowledge dynamics* without a correct understanding of the fluid mechanics laws. That leads to misinterpretations in their research models and empirical research. The originality of this paper comes from the semantic clustering analysis and the proposed framework used and an interdisciplinary approach.

Keywords: knowledge, knowledge dynamics, metaphors, metaphorical thinking, semantic analysis

Digital Transformation in FMCG and Automotive Industries: Emergence of Digital Innovation Capabilities

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Abstract: Technological developments are disrupting the business environment, introducing new and more innovative, digitally-born competitors. Simultaneously, customer engagement with digital technologies, such as social media platforms, has altered behaviour and expectations. Established firms are under siege from these radical and disruptive changes and are responding by engaging in digital transformation using digital resources, including big data, to deliver product as well as process innovation. Such transformation requires new innovation capabilities, but the nature of these capabilities is not well understood. This study addresses the question ‘What are the innovation capabilities that firms require for digital transformation?’. This paper explores innovation capabilities development in four companies, in two industries that are facing significant technology-driven market and operational turbulence. We have collected data from the automotive industry and the fast moving consumer goods (FMCG) industries. Both sectors are experiencing industrial restructuring with new, data-driven competitors, digitalised business models, unconventional alliances, distribution challenges and changing customer expectations. For firms in these industries digital transformation includes process innovation through the introduction of digital technologies and new ways of working to leverage value from big data. It also involves innovation through increasingly personalised customer engagement and the commercialisation of data systems. Using a multiple case study design based on elite interviews, we compare the four firms’ approaches to digital transformation. Our study provides new insights into the digital innovative capabilities (DIC) that firms apply to develop new knowledge within their digital transformation. From our findings we develop five specific propositions for the development of digital innovation capabilities theory.

Keywords: digital innovation capabilities, digital transformation, innovation, dynamic capabilities, FMCG, automotive

The Role and Relevance of Knowledge and Knowledge Management in the Health Sector: An Irish Case Study

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Abstract: The role and relevance of knowledge and knowledge management in the health sector: An Irish Case study. The health sector in Ireland is undergoing substantial reform as a result of new public management initiatives designed to increase transparency, accountability, and efficiency. This study focuses on the potential for improvements in knowledge management practices in the sector. This is illustrated through an in-depth case study that utilises a busy regional hospital in the Republic of Ireland as the case study exemplar. Data was gathered via a series of semi-structured interviews with a cross-section of hospital staff ranging from clinical nurse managers and practitioners to consultants and the chief executive of the hospital. The collected data was analysed utilising a three-stage sequential qualitative coding process. The analysis finds that knowledge is relatively compartmentalised, siloed and not shared as comprehensively as it might be. Access to knowledge is also somewhat limited, as is the measurement of its relevance. In terms of knowledge, the only specific metrics that appear to be utilised are patient numbers, and there are no particular practices in place to gather subsequent metrics on post-treatment recovery times, rehabilitation parameters, and general aftercare. This inhibits organisational learning and practice improvement. The recommendations presented – based on the findings - are aimed at introducing knowledge initiatives in the health sector to improve future organisational performance. In particular, it is recommended that a chief knowledge officer (CKO) is appointed to oversee knowledge initiatives and to improve and embed knowledge management best practices. This role should be supported by a knowledge analysis unit that reports directly to the CKO. Its role is to implement knowledge management best practice, and also to take responsibility for technology enabling initiatives especially those that promote intra departmental knowledge sharing. These recommendations can contribute to improvements in knowledge management and practice in healthcare and ultimately lead to improved patient experiences and outcomes

Keywords: Knowledge, Healthcare, Knowledge Management, organisational effectiveness

The Impact of Training and Development on Knowledge Creation Embedded in Interpersonal Trust Between Colleagues During Remote Work in the IT Sector

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Abstract: Purpose – Knowledge creation is a key activity for organizations in current economics, linked to successful business strategy. Particularly in pandemic situations, it is necessary to create new solutions and to adapt to changing situations. This paper focuses on how to strengthen an organization's capacity to create knowledge through employee training and development. The purpose of this paper is to study the effect of training and development on knowledge creation moderated by interpersonal trust in colleagues for remote working situations. Design/methodology/approach – The research began with an in-depth literature review on knowledge creation to create a set of constructs. Based on the identified constructs, research hypotheses were derived. A sample of 220 employees from IT organizations has been used to gather data through a standardized questionnaire and test the hypotheses through simple moderation model. The data was collected during the first wave of the COVID-19 pandemic. Findings – The results indicate that training and development influence positively knowledge creation in remote setting. Additionally the results indicate that interpersonal trust in colleagues moderates these relationship. Moreover, the findings highlight that interpersonal trust is critically important for knowledge creation, especially when there are low levels of development and training in the organization. Originality/value – From a theoretical perspective, the study contributes to literature considering a training and development and its effect on knowledge creation. This investigation, based on the theory of social constructivism, emphasizes the importance of interpersonal trust as a platform for facilitating the knowledge creation based on employees' competences. In fact, a few studies have considered the impact of training and development on other variables, such as productivity, but never on knowledge creation. From a managerial perspective, the research suggests managers to implement and involve practices strengthening training and development as well

as interpersonal trust within business. The promotion of interpersonal trust can have a positive effect on the creation of knowledge.

Keywords: knowledge creation, interpersonal trust, social constructivist theory, training and development, COVID-19

The Impact of Trust on the Creation of Knowledge and Innovation in Enterprises

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Abstract: In discussions on the creation of trust in enterprises, the subject of the significance of intangible values in terms of its stimulation is increasingly undertaken. One of these is that of organizational trust which strengthens the level of cooperation between the employees and employee teams within the enterprise, which in turn is favourable towards the creation of knowledge. Trust aids the transfer of information that is necessary for the creation of knowledge. Hence, this may constitute a key attribute in its creation, which in turn, increases the opportunities for the enterprise to gain a competitive advantage on the market. The problematic issues of the ties between organizational trust and the creation of knowledge is a relatively rare subject matter for research analysis. The authors of this paper intend to fill the gap in this field and present the findings of empirical research into the role of organizational trust in terms of creating knowledge that favours innovativeness in enterprises. The assumption that trust influences the creation of knowledge and innovativeness in enterprises made it possible to formulate the research objective, which was to examine the impact of the dimensions of organizational trust (horizontal, vertical and institutional trust) on the creation of knowledge and innovativeness of employees. The assumed goal was executed owing to the application of the survey method. Empirical research was conducted on 179 enterprises from the list of the 500 largest enterprises in Poland. As a result of the research, significant statistical ties were discovered between the types of organizational trust and the process of creating knowledge. The positive impact of organizational trust on innovativeness in the analysed enterprises was indicated. The research findings acquired indicate the significant role of trust in terms of stimulating the processes of creating knowledge and innovativeness in large enterprises.

Keywords: organizational trust, knowledge, innovativeness, enterprise

Knowledge Sharing in Business Education: Systematic Review

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Abstract: The paper aims to investigate the evolution of the theme knowledge sharing in business education in the academic literature. Based on an extensive search, it can be stated that this is the first systematic review of this topic. The method employed in this study was a systematic review that covered publications from 1997, when the first paper relating the topic was published in the selected databases, to 2020. The analysis was based on 306 articles. From them, 251 articles came from Scopus and 108 from ISI Web of Science. Some articles are in both databases. Four periods were identified: embryonic, emergent, growth young, and growth highest. One of the findings is that knowledge sharing in business education is growing in virtual environments, especially in the last year, where the COVID 19 pandemic restricted the option of face-to-face education in classrooms. It is recommended that business schools decrease the percentage of time they spend in lectures and increase the time and strategies in which students share knowledge, discuss problems and make decisions based on collective reflection.

Keywords: Knowledge sharing; knowledge management; business education

Analysing Sustainable Economic Growth and Knowledge: Evidence from Mediterranean Region

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Abstract: Increases in real output from one period of time to another is a main signal of economic growth. But economic growth does not necessarily exhibit the

features of sustainability. Sustainable economic growth meaning that the economy can maintain its positive and significant growth rate without creating any environmental problems or exhaust natural resources. For any economy to continue to increase real output, it is necessary to increase production capacity with extending production possibility frontier. Here, the most important factor is the productivity. It is not a coincidence that in most developed economies, technology and knowledge-based economic systems are using at every stage of production to achieve higher productivity level. The World Bank has been entitled the Knowledge Economy as a way to achieve economic growth without any side effects. The term “dematerialization” of the economy has been used to describe the economic activities with intangibles. Recent arguments say the Knowledge Economy can be a solution to resource scarcity and sustainable economic growth. However, the countries which are wealthier tend to consume more non-renewables, and also tend to invest more in IT and education. This enables to establish a relationship between knowledge and economic growth in terms of sustainability. On this basis, this study aimed to examine the relationship between the knowledge economy variables and economic growth in selected Mediterranean region countries which are Portugal, Spain, Italy, Turkey, Cyprus, Greece, France and Malta which have sustainable economic growth targets with knowledge. Annual panel data collected from World Bank Databases for the period of 2003-2018, the appropriate period for complete and common data for all countries. The study used panel data analysis techniques and conducted panel regression analysis, panel Granger Causality test and Pedroni Cointegration test. According to the test results there is a cointegration between variables which also establishes long-run relationship between them. Study also showed that, bi-directional and uni-directional causality exists between some knowledge variables and growth and the knowledge variables themselves which proves the impact of knowledge on real GDP growth in eight selected Mediterranean countries. The findings of this study confirmed the expectations of the knowledge economy literature and advocates the importance of knowledge on sustainable economic growth.

Keywords: Economic growth; sustainability, knowledge economy; econometrics

The Intellectual Potential of Employees in Hospital Management

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Abstract: As medical entities, hospitals provide health services to patients under a contract with the payer or outside the contract. The possession of specialized medical staff is a prerequisite for the effective health care services, staff training, clinical trials, and the development of medical technologies. The share of remuneration of medical staff in hospitals in the overall cost structure prevails over other cost items. The purpose of the article is to identify and measure the intellectual potential of hospital employees, including knowledge workers, based on the available financial data contained in the hospital's financial statements. The research question is as follows: Does the existing legal and informational environment provide the basis and enable the identification and measurement of the intellectual potential of employees in hospital management? The research is based on reporting data for 2018 and 2019 relating to selected clinical hospitals as the basic units gathering high-class medical specialists. The study was empirical and based on quantitative and qualitative data. This included not only reporting data, but also covered the legal environment influencing remuneration in the hospitals. The analyses are of an expert nature, from a statutory auditor's perspective and a longstanding researcher of problems in the functioning of medical entities, such as hospitals. The preliminary findings indicate that the identification of the intellectual potential of hospital employees is conditioned by many macro and microeconomic factors. This potential is critical to the development of the healthcare system. The considerations presented in the article are an essential voice in recognizing the conditions for the development of hospitals as the entities with the intellectual capacity that is potentially useful in solving the health problems of an international scope. The research findings are directed mainly to the authorities creating medical entities and influencing the healthcare system and hospital management.

Keywords: intellectual potential of hospital employees, doctors' remuneration, hospital management, knowledge workers

The Impact of IT and Intangible Assets Management on Performance of Polish Hospitals

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Abstract: Undoubtedly, modern information technology has an increasing impact on the activities of healthcare entities, which is attributable to the relationship between information technology (IT) and medical technologies and the use of IT in the management of these entities. The aim of this paper is to examine the relationship between hospital performance and a strategic approach to managing Information Technology and intangible assets in Polish hospitals. Based on previous studies, the proposed model considers two different phenomena which affect the performance of Polish hospitals. These are the level of knowledge management of hospital employees and the level of managing intangible assets which are not directly related to the staff's knowledge and competencies. In the proposed research model, the constructs corresponding to the management of knowledge and other intangible assets play a mediating role between the strategic approach to IT management and the performance of Polish hospitals. The estimation of the model parameters and the assessment of their correctness was performed using the partial least squares structural equation modelling (PLS-SEM) methodology. The model parameters were statistically significant. The hypotheses proposed in the paper which form the structural model have been positively verified, and the model meets the required quality criteria. A strategic approach to IT management indirectly influences the efficiency of hospital operations through the appropriate management of staff knowledge and other intangible assets. The research findings may be useful for hospital management at a strategic management level.

Keywords: knowledge management, intangible assets, healthcare management, information technology, intellectual capital

Knowledge Management and Eco-Innovative Service Packages for SMEs

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Abstract: The underlying objective of the paper is to analyse the process of knowledge management in preparing the packages of eco-innovative services directed at Small and Medium-Sized Enterprises (SMEs) from the Baltic Sea Region (BSR) countries. The service packages have been developed within the confines of the ECOLABNET project – a network of partners from the BSR countries that promotes exchange and dissemination of knowledge on eco-innovative solutions and services. The knowledge on the needs of SMEs from the BSR countries was gathered based on the survey conducted in all the six partners countries participating in the project. The survey provided valuable data for further analyses pertaining to the stimulating factors and barriers to eco-innovative activity signalled by the SMEs participating in it. The results of the survey demonstrate that SMEs from the BSR region undertake eco-innovative initiatives primarily to satisfy the needs of customers in this respects, but also to strengthen their brand image, comply with the legal regulations in this scope and to differentiate themselves from their competitors. The survey has also demonstrated that an important incentive for eco-innovative activity of SMEs is effective utilisation of resources. In the case of barriers to eco-innovative initiatives the investigated SMEs indicate the lack of access to expert knowledge, lack of in-house expertise as well as lack of proven technologies and tools as the most significant factors that hinder their involvement into the area of eco-innovations. Thus, the identified barriers and stimulating factors to eco-innovative activity constituted the focus of the project partners in adjusting their offer to the indicated needs of the SMEs from the BSR region. The offer of the project consortium has been developed in the form of eight service packages that comprise the areas of partners' expertise with regard to the determined needs of SMEs. Each service package includes a number of service and product cards, which are detailed description of eco-innovative services and products that are offered by the project partners to the SMEs. In the next stage of knowledge management in the ECOLABNET project the service packages (including service and product cards) will become a part of the developed by the Polish partner – Czestochowa University of Technology – the Digital Communication Tool (DCT). The DCT is a platform that will allow all the entities interested in eco-innovations to gain access to the knowledge repository of the ECOLABNET project.

In this way the service packages will become accessible to all the entities interested in developing eco-innovative activity.

Keywords: eco-innovative service packages, knowledge management, knowledge transfer, SME

GDPR'S Impact on the Area of Information and Data Management in Public Service Bodies in Poland

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Abstract: The development of ICT and the ever-increasing role of the Internet in the functioning of virtually all contemporary organisations has increased the number of threats related to security of information and data. The low level of measures protecting organisational information resources and a growing number of incidents of personal data breaches prompted the European Union to introduce a new regulation that imposes stricter rules in the area of information and personal data protection in its member states. The new EU's legislation - General Data Protection Regulation, commonly called the GDPR, became effective on 25th May 2018. This paper presents the selected issues related to information and personal data management in a selected group of Polish public service bodies. Based on the results of the conducted surveys, the authors present in it the assessment of the state of personal data security in these organisations just prior to the introduction of the GDPR.

Keywords: cybercrime, cybersecurity, information security, GDPR, personal data

Relationship Between Personality Traits and Knowledge Sharing Among IT Industry Employees Working Remotely

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Abstract: The COVID-19 pandemic emerged suddenly and forced significant changes in terms of functioning in various areas of life. These consequences have also been felt in the sphere of working life, leading, among others, to the spread of remote working. As a result, the importance of organizing this form of work effectively has increased, namely, the search for systems to facilitate the management of remote working by employees, including the management of employee knowledge. One of the key elements of knowledge management is knowledge sharing, and this process is influenced by many factors that can be divided into the following: technical, organizational and individual factors. This paper attempts to answer the question of which individual variables are related to the knowledge sharing behaviour of employees in remote working conditions. The focus was on analysing the relationship between individual personality dimensions (according to the Big Five model) and knowledge sharing among IT employees working remotely. A cross-sectional study model was applied. The study included 47 employees from the IT industry, who worked remotely at the time of the survey. The study used the *NEO-FFI* Costa and McCrae inventory and the author's questionnaire. It was found that the Big Five personality traits are associated with knowledge sharing behaviour among IT professionals. A strong positive correlation was obtained between the following dimensions: openness, conscientiousness and knowledge sharing, while a moderate positive correlation was obtained between extraversion and knowledge sharing. On the other hand, a strong negative correlation was revealed between the neuroticism dimension and knowledge sharing. The results of the study significantly expand the knowledge on the determinants of the effective organization of the knowledge management process and, in particular, knowledge sharing in remote working conditions. They provide a view of the specificity of individual variables related to personality traits that may influence the willingness to share knowledge within a group of IT employees. Increasing the awareness among IT managers with regard to the link between an employee's personality characteristics and their willingness to share knowledge

with other employees can significantly improve the effective division and execution of tasks in a remote environment, and thus increase organizational performance.

Keywords: Knowledge Sharing, Big Five Personality Traits, Openness, Conscientiousness, Extraversion, Neuroticism

Conflict Resolution as an Element of Knowledge Management in an Organization Based on Collective Disputes in Poland

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Abstract: Knowledge management in enterprises may be considered on many levels. The most common ones are knowledge creation (innovation), knowledge sharing, knowledge distribution and knowledge protection. However, there is one area of management where the importance of knowledge management is underestimated, namely, that of organizational conflict. The aim of this paper is to show how knowledge management can affect the efficiency of reaching an agreement, while resolving an organizational conflict and to what extent inappropriate knowledge distribution in an organization can play a conflict-generating role. The research conducted is of a qualitative nature. Case studies of mediations conducted within the framework of Collective Disputes Resolution in Poland will be presented in the paper. The subject of the analysis will be production and service companies, as well as organizations from the public sector. The author will prove the proposition that democratic access to information in an organization has a positive impact on the effectiveness of resolving organizational conflicts. Even if conflict resolution is not possible at a given moment, the democratic distribution of knowledge enables the effective management of the process of an organizational conflict.

Keywords: Collective Disputes, Conflict Management, Knowledge Management, Mediation

Defining the Public-Private Partnership through the Logic of Knowledge Management: A Literature Review

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Abstract: Public-Private Partnership (PPP) is merely considered as a tool of governance and management (Khanom, 2010). Nevertheless, for the last 40 years, many countries and regions have been promoting PPP to overcome the drawbacks of traditional public procurement to make this model of organization a popular tool widely used in the field of public services delivery (Cui et al, 2018). The World Bank (2007) defines PPP as “an agreement between a government and a private firm under which the private firm delivers an asset, a service, or both in return for payment [...]” and the main focus of PPPs is that added value can be achieved from greater co-operation between public and private actors (Steijn et al, 2011) precisely in correspondence of this agreement. This paper aims to investigate the contribution of Knowledge Management (KM) in facilitating a sustainable improvement in the delivery, efficiency, and effectiveness of PPP projects followed by a systematic literature review underling the relations between PPP and KM. Indeed, part of international literature emphasized the gap in skills related to public involvement for PPPs, also considering the lack of case studies that investigates PPP under a KM theoretical lens (Boyer, 2016; Robinson et al, 2010; Li et al, 2003). By this qualitative literature review, we tried to identify some best practices and common rules that admit the coexistence of PPP along with a Knowledge Management approach (Robinson et al, 2010). The results suggest an innovative concept of KM within PPPs, describing it as “process or practice of creating, acquiring, capturing, sharing and using knowledge [...], whether tacit or explicit, by making it easily accessible and usable to save time, improve performances and facilitate innovation in the planning and operational phases of PPP projects” (Scarborough et al, 1999; Robinson et al, 2010). Furthermore, this work highlights how attention should be paid on the knowledge sources (Castrogiovanni et al, 2015) and on the increasing number of theoretical and comparative investigations on KM – both in private and public sectors- in order to develop PPP tools in line with current information needs and literature gaps (Carrillo et al, 2006).

Keywords: Knowledge Management, Public-Private Partnership, Public Sector Organizations, Public-Private Governance

Knowledge Management and Dynamics as Perceived by Emergency Surgery Teams: A Quantitative Study

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Abstract: Surgical Trauma Teams are characterised by the need to face unexpected situations, with little time to make decisions. In emergency contexts, teams must act in a coordinated way, ensuring, at the same time, proper knowledge transfer and sharing to reach the best possible outcome for the patient. Considering the specific research context, team dynamics among emergency clinicians appear as particularly relevant in terms of knowledge translation, transfer, and sharing, supported by the presence of non-technical skills. Ensuring proper knowledge management is critical for teams to operate accurately. The paper aims at investigating such topics through a quantitative methodology. An online survey was carried on in cooperation with the World Society of Emergency Surgery (WSES) during the month of January 2021. The investigation was conducted following the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) methodology. 402 trauma surgeons from the five continents participated in the survey. Results were analysed using the software R. Preliminary results highlight the importance of non-technical skills like leadership, professionalism, and communication to facilitate the team's work, boost performance, and allow the translation of knowledge. Knowledge translation and sharing can be facilitated through training, the presence of multidisciplinary team members, and clear clinical guidelines. The respondents identified several issues and barriers to knowledge sharing and effective teamwork. Results may lead to new practices and training topics for surgical trauma teams; but they can be extended to any groups or units operating in an emergency context or under time pressure.

Keywords: Emergency teams, Healthcare, Surgery, Non-technical skills, Knowledge translation

Knowledge Management and Mentoring in Public Organizations: A Narrative Case Study

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Abstract: Public organizations have based knowledge transfer processes on documents and archives only, leaving the benefits of other mechanism of knowledge transfer unexplored. In this context, the mentoring tool like a multifaceted and complex role consisting of interventional, training and support activities, can be successfully used in public sector. This tool promotes knowledge transfer through the interaction between mentor and new employee (mentee). The aim of the work is to analyse the relationship that is created between mentor and mentee in complex public organizations. The methodology used is qualitative, we observe the case study of an Italian public organization through the tool of the narrative interview with mentor and mentee. The collected narratives concern the process of introducing the new employee in the public organization and the process of transferring knowledge to them. The study is still at an early stage and the results achieved so far seek to offer a conceptual framework on how mentoring takes place in complex public organizations, focusing mainly on knowledge management. The use of narrative interviews can be useful to detect both the subjective perspective of the interviewees and to highlight the involvement of the various subjects in the process of knowledge transfer. The results obtained so far contribute to developing the academic debate on the characteristics of the mentoring role, the relationships and phases that occur in the mentoring processes and their implications in public organizations.

Keywords: Knowledge Transfer, Public Sector, Mentorship, Knowledge Management, Narrative approach

Educating for Career: Comparative Views on Knowledge Transfer to Film Students

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Abstract: Studies about the effectiveness of knowledge transfer to boost production and create competitive advantages in industrial firms and their associated workforce have filled many a literature review section. The role of tacit knowledge and its ability to transfer from instructor or professional to the student becomes important because this typically is the “secret sauce” that allows crafts persons to develop and achieve their potential. This study compares the relationship between the Film Industry and associated academic institutions seeking to educate for that industry in two different geographical locations, Norway and the United States, each offering a different industrial presence and employing correspondingly different pedagogical methodologies. The film industry has been chosen as the target discipline for this study because it relies heavily on a wide variety of tacit knowledge, held and implemented by its workers to achieve sustainable high-level productivity. The empirical data collected in Norway in 2018, and in the United States in 2019, is based on a structured questionnaire to professors and students from leading universities with film programs, and corresponding professionals from the film industry in each location. Additional qualitative interview data from the United States was collected in Los Angeles and Chicago, also in 2019. Findings indicate broad similarities in the generally perceived views of the state of collaboration, with professors and industry professionals agreeing on most topics in both locations, however, within the student sectors, there exist fairly disparate views regarding the effectiveness of collaboration, the knowledge transfer methodology, and even their own goals and aspirations.

Keywords: Knowledge transfer, creative education, film industry

The Complexity of Medical and Radiological Imaging Data and Their Difficult Daily Management

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Abstract. The complexity and rise of data in healthcare and radiology makes their management difficult. Information technology is changing healthcare and radiology systems in revolutionary ways. The need to develop alternative methods for analysing the huge and large volume of data generated by the clinical patient record and radiological examinations is required. Healthcare is complex due to the diversity of tasks involved in the delivery of patient care and the complexity of his/her disease. It has been proven that AI methods and new technologies are capable enough to be useful and be adopted in daily clinical practice. In this context, we propose to discuss the complexity of medical data and radiology in the life of both the patient and the physician by proposing solutions to their manipulation and management based on AI methods and new technologies.

Keywords: medical data complexity, AI methods, management solutions, Information technology

LinkedIn: A Link to the Knowledge Economy

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Abstract: The world's most pre-eminent social network for professionals is LinkedIn. Members are able to create resumes, list their previous and current education, skills and job roles, network with other members, search for people, jobs, opportunities, endorse one another, join relevant groups of interest and so much more. LinkedIn, also allows businesses to do all of the above. Today's era can be viewed as a Knowledge Economy with over 4.6 billion content items being produced daily. One would think the search for knowledge would be satisfactory. However, information production and information distribution is not the same as

information consumption. The amount of information being put out into the world is the driver of information overload. This makes it very difficult for individuals to actually find what they are searching for. The user's needs need to be taken into consideration and then customized recommendations and suggestions through an interactive learning experience needs to be made. Artificial Intelligence and machine learning can assist with this issue. Learning Experience Platforms in particular should be integrated because it makes use of aggregation, curation, personalization and creation. Artificial Intelligence and machine learning will replace numerous jobs in the future, but Artificial Intelligence and machine learning can and should be used to the individuals benefit. This study reviewed LinkedIn as a Learning Experience Platform. LinkedIn met the criteria in terms of being a Learning Experience Platform. In terms of aggregation, relevant content is gathered. With regards to curation, Artificial Intelligence and machine learning does curate relevant as well as contextual content to the user. In terms of personalization, personal recommendations are made. Lastly, with regards to creation, the user has access to tacit information. Based on the above review, guidelines were created for users to make LinkedIn a Learning Experience Platform suitable to address their needs. LinkedIn a free social media platform that has numerous benefits that users are not aware of. There is no benefit in having tools like the one mentioned above if you do not know how to utilize it appropriately. This paper showcases the importance of LinkedIn as a Learning Experience Platform that will benefit users in ways they did not expect.

Keywords: LinkedIn, knowledge economy, artificial intelligence, guidelines, learning experience platforms

Analyzing Merger and Acquisition Opportunities: A Role for Intellectual Capital

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Abstract: One of the critical unanswered questions in knowledge management (KM) and intellectual capital (IC) studies is an empirical link to improved organizational performance. Everyone who works in the field is probably convinced that identifying, cataloguing, and then better managing knowledge assets will

benefit a firm. But efforts to empirically demonstrate this relationship have been mixed, at best, and demonstrate a decided lack of agreement on approach, variables, and, ultimately, the true meaning of the results. This paper begins to address these issues and, indeed, establishes that a firm's level of intellectual capital may very well be correlated with financial performance. Moreover, the relationship is less statistical than experimental, so with a big enough data set, the approach could infer causation. Making an identifiable strategic decision based on objective intellectual capital data, executing the strategic decision at a distinct point in time, and incorporating pre- and post-event financial data can be defined as a field experiment with high external validity. It's a different approach to some of the previous approaches that attempt to draw statistical correlations at a point in time, but the longitudinal structure avoids some difficulties with previous empirical work looking demonstrate the link between IC and financial performance. The specific approach of the study is obtaining IC metrics from firms announcing a merger & acquisition action (here, Tobin's q). Those metrics identify firms of interest to later collect financial results, specifically marketing capitalization, both pre- and post-merger. The results demonstrate that specific IC circumstances can predict financial outcomes, essentially locking in the knowledge asset and financial performance relationship. Further research is necessary to uncover the details of that empirically demonstrated relationship. But establishing the empirical is a key result for the full disciplines of both IC and KM. It essentially demonstrates why we all work and believe in these fields. The methodology can also prove extremely useful for practitioners, specifically as an investment strategy. Consequently, this paper explains the investment approach as that is easiest to understand. The results, making an investment decision based on pre-M&A metrics and evaluating its success, are both positive and significant. And, again, as an experiment rather than a statistical demonstration of correlation, have a more substantive conclusion. Again, the results are important for the investment community as a financial strategy and, ultimately, for the KM and IC community as a demonstration of the importance of the fields to the financial performance of the firm.

Keywords: Merger and acquisition (M&A), intangible assets, intellectual capital, organizational performance, Tobin's q

Digital Enterprise Transformation: Lessons Learnt From Expert Experience

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Abstract: This paper describes the experiences of digital enterprise transformation experts who are drivers of digital transformation in various organisations, focusing on the challenges they experience, and the lessons they learnt during the transformations. We also report the experts' views regarding the prerequisites for embarking on a digital enterprise transformation and how digital enterprise transformation can be described as 'aspirational'. The qualitative research was conducted through personal, semi-structured interviews with four digital enterprise transformation experts. The results show that digital business transformation efforts are complex. This paper articulates thirteen lessons learnt during the transformations, including the importance of total Chief Executive Officer (CEO) commitment and appointing the best team to successfully drive the implementation; the perception and behaviour of stakeholders (including the workforce) before, during and after the transformation; the difficulty and importance of choosing the best digital platform; the increased importance of relationships with partners in the business ecosystem; and the need for change leadership instead of change management.

Keywords: digital enterprise transformation, digital disruption, lessons learnt, digital management

Comparative Evaluation of the Intellectual Capital Dissemination Efficiency of Belgium and Sweden

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Abstract: Creating intellectual capital and a sustained competitive advantage is a key objective of most member states in the European Union. Multiple efforts have been put in place to harness the power of the internal inputs employed to achieve this, however, Belgium has consistently been lagging at the lower spectrum of intellectual capital generation among the European Union member states whilst Sweden currently stands as the one with the best innovative performance. Hence, using Panel data from the European Innovation Scoreboard (2011-2019) for Belgium and Sweden, this paper employed a two-stage DEA analysis (Hybrid Distance) to assess the efficiency of the use of financial injections in transforming into a sustained creation and dissemination of intellectual capital. Findings show that even though there has been steady improvement in efficiency in Belgium for past couple of years, the years of 2016-2018 were found to be relatively more efficient when compared to the preceding years. However, when the results were benchmarked against Sweden, the most innovative member state as of 2018, Belgium was still surprisingly found to be relatively efficient in the years of 2016-2018 prompting insightful learnings from between both countries. Recommendations were provided based on results of input redundancy and output deficiency computations as well as suitable policy implications to avert this gap.

Keywords: Intellectual Capital dissemination, Knowledge sharing, Funding, Efficiency Analysis, Data Envelopment Analysis (DEA)

The Influence of Knowledge Management on the Result of Innovation of Companies in the Mold Industries

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Abstract : In today's business world, knowledge and innovation are key factors for the success of organizations. Knowledge stock alone does not generate a competitive advantage to companies, but the way it is used might create it. It is through the wide network of relationships that involves the organization that innovations emerge. These two concepts are intertwined, since for the innovation process to be successful, there must first be an effective knowledge management, which involves knowledge acquisition, application and sharing. In this context and based on a sample of 36 companies in the mold making sector in Portugal (one industry where Portugal is the 8th top producer in the world), a confirmatory research work was carried out with the aim of studying the impact of knowledge management on innovation performance. For this purpose, we used a quantitative methodology based on a survey. Through the estimation of a structural equations model, using SmartPLS software, we found that knowledge acquisition has a positive influence on knowledge sharing, which in turn is positively reflected in its application, which positively impacts innovation in performance in Portuguese plastic injection mold making companies - these results are in line with similar studies carried out in different contexts. Consequently, knowledge, considered as an intangible asset, must be managed effectively and efficiently, in order to create value through innovation, a determinant of competitiveness in an activity sector that creates customized solutions for its customers. Despite of the small sample size, these results highlight the importance of effectively managing the acquisition,

Keywords: Knowledge Management; Knowledge Acquisition, Application and Sharing; Innovation

Intermentoring as a Key Method of Knowledge Sharing in Organizations Focused on Managing Generations

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Abstract: In organizations that base their activities on knowledge resources, intermentoring has a special place. It is considered an effective tool enabling the exchange of knowledge and experiences of employees belonging to different generations. The basic condition for the effectiveness of knowledge transfer in organizations is the inclusion of employees of different generations to actively participate in this process and focus on their strengths. This allows them to act as a mentor and share knowledge with each other, supplementing it with their own observations or experiences. The article is theoretical and empirical. The theoretical part is based on the analysis of domestic and foreign literature on the subject. The theoretical part of the article presents the essence of intermentoring, knowledge and its transfer in an organizational space. The empirical part is focused on the analysis of the effectiveness of the knowledge-sharing process in Polish organizations focused on managing employees belonging to different generations. The aim of the presented research was to identify selected factors determining the behaviour of employees of different generations, related to the sharing of knowledge. The point is to identify the generations most willingly engaging in the exchange of knowledge, which are guided by different motivations, and to identify possible barriers and limitations hindering the active participation of employees of different generations in this process for the benefit of the organization. Additionally, the aim of the research was to identify the activities of management staff in the context of motivating employees of different generations to share knowledge with each other. In order to solve the research problem, from September 2018 to March 2019, a survey was conducted among 650 employees of various generations from all over Poland, but 273 correctly completed questionnaires were received. For the given research sample, the χ^2 independence test was performed. On its basis, it was assessed whether the nature of the answer to the question asked depends on the respondent's belonging to the younger generation (Y and Z) or the older generation, known as the BB generation and generation X. The null hypothesis (H_0) assumes that belonging to a given generation does not affect the answer, while the alternative hypothesis (H_1) indicates that the answer depends on belonging to the selected generation. The test was performed for the significance level $\alpha = 0.05$. The knowledge obtained on

the basis of the analysis of the results of the author's own research may be useful for the organization. It facilitates an increase in the awareness of the management regarding the effectiveness of intergenerational knowledge transfer within the organization. Knowing the attitudes of employees of different generations towards sharing knowledge can have an impact on decisions made by management. Their role cannot be overestimated when it comes to building a knowledge-oriented organizational culture and creating conditions conducive to mutual transfer of the knowledge needed by the organization.

Keywords: intermentoring, knowledge management, knowledge sharing, managing employees of different generations

Organizational Culture Subordinated to Knowledge Sharing in Polish Organizations Managing Multigenerational Groups

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Abstract: The research problem of the article is to examine the relationship between various ways of promoting knowledge sharing in an organization, and the size of the company and the generation to which the respondent belongs. The relationships between the variables were demonstrated using the χ^2 independence test. In order to solve the research problem, from September 2018 to March 2019, research was carried out among employees of various generations from all over Poland. An on-line questionnaire form (CAWI), available via a web browser and filled in by the participants of the study, was used for the research. Each participant received an e-mail with an invitation with a link to the survey and individual one-time access to the survey. 820 invitations were sent to the survey participants; the survey was anonymous and voluntary; 552 correctly completed questionnaires were returned.

Keywords: organizational culture, knowledge, knowledge sharing, employees of various generations

Fuzzy Logic Driven Technological Knowledge Collecting and Sharing

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Abstract: Emerging technological knowledge collecting and sharing plays a vital role in many contemporary organizations' knowledge management processes and significantly impacts competitive position and market performance. Effective knowledge management requires the use of an interdisciplinary approach, including drawing on the rich achievements of AI and knowledge-based modeling, which use mathematically inspired methods, e.g. fuzzy logic. Some literature presents the results of research on various applications of AI and fuzzy logic in knowledge management. It is necessary to consider the possibilities of using such approaches to technological knowledge collecting and sharing, which is desirable because of the enormous pace of development of new technologies, the tracking of which is necessary but often constitutes the source of many problems. Manual browsing of the available materials, gathering, and sharing knowledge is difficult and burdened with significant errors in the subjective assessment of technology descriptions. The research aims to seek answers to the following research question: *What is the possibility and justification of applying AI methods for emerging technological knowledge collecting and sharing?* Considerations were carried out on the example of fuzzy logic, which is a subset of AI. This paper's primary goal is to develop a fuzzy logic model that can be explored to use technological knowledge gathering and sharing. Theoretical considerations related to building the suggested model taking into account the technological knowledge base were presented. The proposed implementation of the model and its empirical verification research based on patent documents were also indicated. Summary of the obtained research results and determination of their fundamental limitations provide a reliable basis for further research on fuzzy logic driven technological knowledge collecting and sharing.

Keywords: knowledge management, technological knowledge collecting and sharing, emerging technologies, artificial intelligence, fuzzy logic

Organizational and Institutional Proximity Effect on SMEs Open Innovation Activities

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Abstract: Open innovation paradigm has become the anchor of the network economy in recent times. Due to the adoption of network systems as key developmental tools to create and share knowledge in an open system, a synergistic and network ecosystem has forced many firms to cooperate. Many such proponents of the collaborative ecosystem include the industrial district, innovative milieu and the proximity concepts that preceded Chesbrough's open innovation concept. The underlying assumptions of these concepts lie in the fact that innovation is an interactive process, which is realized through a concerted effort of actors to create and share knowledge in a collaborative manner where the actors involved would reap the benefit and transcend the knowledge for the betterment of society. The open secret of SMEs is their inherent struggle to gauge and manage their collaborative sources of information auxiliary to their in-house innovation activities. However, looking at how knowledge is important, SMEs' collaborative efforts must increase their institutional and organizational cooperation with other stakeholders within the industrial ecosystem. This will permit knowledge transfer between industrial players enabled by the interplay of institutional norms and mutual representation; likewise, SMEs are ensured syndicated transfer of tacit knowledge and access to diverse resources within their collaborative ecosystem. With this in mind, the paper using data from the CIS 2014 analyzed the effect of organizational and institutional proximity arrangement of SMEs in some selected CEE countries employing Partial Least Square Structural Equation Model for the empirical analysis. The results indicate that external and internal organizational and institutional proximity affect SMEs open innovation, although the findings show that the indirect effect of proximity on SMEs innovation performance through firms' open innovation is stronger for only organizational proximity.

Keywords: Open Innovation, Industrial District, Innovation milieu, Proximity, Collaboration

Knowledge Sharing and Organizational Creativity: Mediating Role of Employee Empowerment

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Abstract: In recent years, the unstable and dynamic business environment, knowledge, and mechanism of knowledge sharing are playing a critical and inevitable role in the processes of organizational learning, growth, development, and change. In addition to this organizational creativity, the fundamental component for the process of innovation that led to enhancing value creation processes and creating the organization's comparative advantage. Moreover, the employee empowerment or empowered employee is considered as one of the most consequential elements of human resource management in the organization and has a crucial role in the creative thinking processes. The main purpose of this study is to describe and examine the role of knowledge sharing in reinforcing organizational creativity. The study has analyzed the role of knowledge sharing on organizational creativity through the mediating role of employee empowerment, moreover, this paper is declaring that empowered employees are capable of being creative thinkers and that will be the most significant component for developing organizational creativity. The method of this research is based on positivism philosophy; the Quantitative research method was applied in this research. The research is divided into two main parts: the theoretical part and the empirical part. The theoretical part consists of the deep literature review on knowledge and knowledge sharing, employee empowerment, and organizational creativity. For the empirical part, the researcher used the questionnaire on a group of professors and specialists. The questionnaire was founded to be the most suitable instrument to obtain the necessary data empowerment. The hypothesis has been tested and the outcome of the study clarified that there is powerful evidence that the independent variable (knowledge sharing), has a statistically significant positive impact on the dependent variable (organizational creativity) with the mediating role of employee empowerment.

Keyword: Knowledge; Knowledge Sharing; Employee Empowerment; Organizational Creativity.

Knowledge Management and Traceability of Decisions for Value Creation in a Family Firm

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Abstract: Family firms are the most common corporate form in the world today. Family firms are a unique organizational form where the relationship between family owners and family employees is often characterized by reciprocal trust and informal communication. Family firms play an important role in Iceland in the fishing industry, which is one of the main pillars of the Icelandic economy. The purpose of this paper is to examine how Icelandic family firms can benefit from implementing knowledge management procedures in their operations to improve value creation through the increased traceability of decisions. The examination is based on a case study that was conducted at a family firm in the fishing industry that had been the recipient of the *Knowledge Organization of the Year* award in 2018, the first within the fishing industry. The aim of the research questions was to study how personal and emotional attachment effects knowledge management processes in a family firm and to examine how different members of the family influence the strategic direction of the firm by leveraging control via ownership or board involvement. The case study contains interviews with family and non-family members of different generations and with different positions within the firm along with board members from within the family and an independent chairman of the board. The findings support the notion that a family with strong ethics and reciprocal trust can support the general business. Trustful family relations and an emphasis on informal communication can help provide business opportunities for family firms and increase job satisfaction. Nevertheless, it can be challenging to support the stability and traceability of decisions without a systematic documentation of vital information by board members and the CEO. It is important that family firms practice information and knowledge management and avoid favouritism among family members or incoherent decision making. The results show that the previous experience of systematically documenting detailed information on seafood production influenced and increased the documentation of executive decisions, which added great value to the success of the firm.

Keywords: Family firm, knowledge management; value creation, fishing industry, reciprocal trust

Assessing Feasibility and Critical Success Factors for Knowledge Sharing Within Industrial PhD-projects in Sweden and Norway: A Case Study

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Abstract: Industrial PhD projects depart from problems identified by business organizations and are reframed by researchers from relevant research domains suitable for a PhD student. There are apparent benefits for such applied research projects and also challenges, e.g., differences in organizational cultures, stakeholders' values, or vested interests. Nevertheless, experiences from a Swedish university show that applying a tailored process steering instrument, the Thesis Steering Model (TSM), with structured communication support for stakeholders, can contribute to high-quality academic research, which is also interesting for industrial partners. This paper presents a case study of implementing TSM in Norway, and discusses its feasibility. The results illustrate the feasibility and critical success factors in organizing PhD projects, e.g. as the industrial PhD is organized much closer to the company in Norway than in Sweden. A practical consequence of this paper is information and knowledge transfer of the Swedish TSM to a Norwegian context and lessons learned for activities needed to support collaboration and co-creation in the different countries.

Keywords: postgraduate education, case study, collaboration, applied research, knowledge processes, knowledge sharing, and instruments in education

Aware or not? IT Organisations, Knowledge Management and Innovation

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Abstract: For decades, the literature in this and related fields has been dominated by the belief that employee knowledge and experience are vital to an organisation's success and using physical resources to design and create new products has long been inadequate. Furthermore, there are other factors necessary for an organisation's success in the development and implementation of new innovative solutions. These factors are appropriate means of communication, a staff of competent employees and, above all, knowledge. Skilful knowledge management can significantly increase an organisation's effectiveness and its innovativeness. The purpose of this article is to present an analysis of the implementation of knowledge management processes by IT organisations, which were classified into three groups: micro, small, and medium-sized enterprises in Poland. The article will answer the research question whether all IT actors are equally aware that implementing knowledge management processes is essential for the success of the organisation and how this translates into their innovativeness. In order to answer this question, a questionnaire was used as the primary source of research together with research from the author's broader research on determinants of innovativeness of IT enterprises, including knowledge management processes. The conclusions are interesting. Micro-enterprises from the IT sector dealing mainly with sales of ready-made solutions (both hardware and software) which do not conduct innovative activities gave answers suggesting that they do not implement any knowledge management processes in their organisation. However, these organisations did not always seem to be aware that some of their practices were actually aspects of the knowledge management processes. The conclusions formulated based on the research results are addressed mainly to managers of IT enterprises, including the group of managers who indicated that they do not undertake any activity connected with knowledge management in their organisation. The author of this article is trying to demonstrate that a better understanding and implementation of knowledge management will contribute to the development of innovative activities of the organisation. This may, as a result, change the way some entrepreneurs think, especially those who have not previously noticed the need and importance of knowledge management in their organisations.

Keywords: knowledge, knowledge management, knowledge management process, innovation, IT

Co-design Management Framework for Community Empowerment through Local Government - Design School Collaboration

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Abstract: The notion of empowerment in the context of co-design is vastly studied in community architecture, community design, participatory planning, social innovation, and knowledge management. Despite the growing literature on co-design in various disciplines, there is a need for a comprehensive approach to co-design that explores different meanings and manifestations of communities that are under the influence of continuous change and transformation in urban areas. Our aim is to investigate (1) how the co-design process could be enhanced to foster community empowerment and (2) which design methods and tools could be explored to align with the paradigm shift towards a new model of co-design that aims to include biodesign, which sees nature as a co-creator and co-designer. This study proposes a new framework of community empowerment for a [re]-defined co-design management framework as an outcome of the collaboration between the local government and planning agencies and the Design School of Izmir University of Economics, Turkey. Methodological framework - derived from the Double Diamond diagram developed by the Design Council, illustrates a co-design system to integrate various actors; stakeholders (designers, local authorities, academics), community representatives (users, NGOs and civil initiatives, independent designers and artists). The findings address the opportunities to grasp the potential of co-design and generate new collaborations among actors including living organisms. This enables us to reconsider how co-design, as a knowledge management tool, can be utilized for empowering communities in urban areas, and to examine how it can be reframed for more livable urban environments. Through the construction of our framework, one of the crucial outcomes addresses the co-evolution that challenges the human-centered design paradigm and evolves it

towards co-designing with living systems. Thus, the final framework becomes multi-scalar and multi-directional, and requires constant vertical and horizontal movement between, and within, various micro-, meso-, and macro-levels of knowledge interactions.

Keywords: Co-design, management framework, community empowerment, living systems

Managing COVID-19 Related Knowledge in the UK Infrastructure Sector

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Abstract: COVID-19 has caused the most serious economic and health crisis globally that we have witnessed in decades. Millions of people across the world have lost jobs, while the healthcare systems are struggling to cope with the rapid increase in cases. Many sectors have been affected with this pandemic including the construction infrastructure sector which benefits from engineers and different staff members travelling to site and interacting/collaborating with peers. Infrastructure construction organisations have responded well during the pandemic in order to carry on works while minimising risks to their employees and their families, however management styles have had to be updated and the transferring/ storage and collection of knowledge has seen new processes and methods being adopted. The relationship between Knowledge and its management within the infrastructure sector during the COVID-19 Pandemic is a topic that has not been regularly researched. This paper aims to review both the impact that COVID-19 has had within the infrastructure sector and Knowledge Management during these times attempting to gain an output of how knowledge has been managed throughout the pandemic within the sector. **Methodology:** Given the lack of research on this topic, this study adopted and implemented a case study methodology approach. Ten semi-structured interviews were conducted as well as observations with the organisations that took part on the research. A total of five organisations took part

on this research and the patterns and connections were analysed during the data analysis stage to draw a conclusion from the study. **Findings:** COVID-19 has turned our worlds upside down with everything coming to a halt and everyone's lives changing constantly. All sectors have had to change and adapt to this new way of life which also means working management styles are to accommodate for these new ways of working. Innovative technologies are at a rise and construction companies are aware of these advancements. However, the industry has been one of the slowest industries in adopting these advances in relation to Knowledge Management. Knowledge is a big influencer within the infrastructure sector, there is a lot of resistance in terms of adopting innovative techniques to boost KM practices positively as most companies are not fully aware of beneficial adoption practices and tend to overlook the potential benefits and instead investigate the challenges it may raise during adoption. During these difficult times, organisations within the infrastructure sector have had to become a lot more digital. Data storage environments are being heavily used as people are not travelling to work offices which gave employees the ability to use resources and data from the office itself whether it be through face-to-face communication or paper drawings and information. Some companies though have implemented some form of innovative KM processes, one which was highlighted as a trend was Big Data. The industry should enhance their awareness of these technological advances and explore more processes that could benefit the industry to explore the benefits that they can gain. **Value:** This study provides contribution of the digitisation of knowledge within the construction sector. The paper highlights the challenges that the infrastructure sector has faced during COVID-19 and key innovative technologies that can provide benefits to the construction industry and enhance knowledge management processes within the construction sector. It has been concluded that awareness and training of these technologies can boost coordination within companies and enables organisations to have better practices achieving goals despite these current circumstances.

Keywords: COVID-19, Industry 4.0, Knowledge Management, Big Data, Construction, Artificial Intelligence

The Inclusive Knowledge Philosophy: Understanding Practices Through Deweyan and Naessian Philosophical Lenses

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Abstract: This conceptual paper discusses the inclusive knowledge philosophy fundamental for different modes of experiencing living enterprises. The American pragmatist philosopher John Dewey pointed to the importance of restoring the continuity between the refined and intensified experiences in our practices and everyday doings. He based this restoring on “the inclusive philosophic idea”. By this idea he was acknowledging the possibilities of imagination and associations among the social, technological-physical, natural, and mental modes. Another philosopher, the Norwegian Arne Naess, also highlighted imaginative experience and the human/nature interconnectedness including its potential joy and perseverance for individuals as well as organizations. We combine these two related philosophical lenses to enable fundamental understanding of concerted practices and strategic accomplishments for knowledge management (KM) studies. We propose inclusive association and imagination are necessary for the arts of exhibiting and experiencing new or improved offerings. We provide examples drawing on our own studies in the businesses of art organizations as knowledge-based, complex practices. Given that rich knowledge endeavours are necessary to develop arts for society, how can valuable arts/business practices be accomplished in inclusive, resourceful ways? Specifically, we investigate how arts business exhibition strategies develop in art museum contexts as illuminating examples of this process. The necessity of art is giving a societal meaning to the process of knowing based upon the experience of art. The reflection and dialogue based on art-as-experience can contribute to knowledge management by the shared ingredients involved in creating and participating in more fulfilling experiencing in the business offering process. The paper introduces a philosophical framework for how this might work. Dynamic art, design, and innovation processes are imaginative practices where the past, the present, and the future melt together. The imaginative experiencing might be crucial not only for the creation, but also for the make-believe of sustainable businesses and societies. We conclude that

understanding the inclusive dynamic knowledge processes might be mutually beneficial for art and innovative businesses.

Keywords: philosophical foundation, strategies, museums, change, art

Traveling ideas like a Global Virus Infections for Leadership

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Abstract: 'Traveling ideas' denotes that virtually identical management ideas crop up more or less simultaneously in similar organizations globally. The encounter between thought and practice may be lasting; beliefs may affect training and practice. Leaders in organizations may play a more active role than the one often depicted in management fashion theory. The ideas represent a trade-off between business strategy, leadership, and employees. We keep acceptable and adequate ideas while we drop unacceptable and inadequate plans. The ideas work like a sensitizing concept of directions along which to look for temporary order and stability. Adopting a business idea is like a virus spreading worldwide, leaving an enormous strength through global corporations and societies. The study methodology is built upon a total of 20 in depth interviews in Telia and Telenor done in 2019 and 2020. We also analyzed the annual reports for 2020 for the 20 largest corporations at the stock markets in Oslo, Stockholm and Copenhagen (N=60) to compare the results. We developed seven hypotheses from the literature foundation for empirical testing. We identified the following ideas at Telia (Sweden) and Telenor (Norway): Globalization, digitalization, sustainability, trust-based leadership, value-based leadership, virtual teams, project management agility, and flexible workplaces. The ideas came up both top-down as strategic intentions and bottom-up as the direction of work or by the COVID-19 crisis. We found that most of the 60 largest corporations at the Scandinavian stock market practice the same ideas. We have thus concluded that strategic and leadership concepts work as traveling ideas. These buzz words go to almost any private business forming the way of thinking and working as a traveling virus. We argue that this article's empirical test supports our belief that a virus-inspired theory gives a more vibrant picture than the fashion theory. Our analysis shows that four of our six hypotheses, derived from the virus-inspired theory, are strengthened by Telia and Telenor's

empirical explorative story. Telia and Telenor have decided upon what is adequate and acceptable as their business ideas and beliefs, similar to other corporations globally as a virus infection. The virus might hit the corporate culture in different ways, Virtually identical ideas crop up globally more or less simultaneously in similar organizations. A primary idea virus is running in every larger organization with a smaller differentiation than anticipated. In Telia and Telenor, the virus ideas worked like mission statements giving meaning and belief to work as a spiritual business soul of belonging to the modernity and the future. The virus works like directions along which to look for meaning, belonging, and modernity. The image of modernity through global buzz words might be a self-betrayal and most businesses would probably benefit more from critical reflections and a learning from their own culture and history.

Keywords: Traveling ideas, Fashion theory, Virus theory, Digitalization, Sustainability, Business spirituality

Knowledge Ecosystems as Complex Adaptive Systems: Between Myth and Reality

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Abstract: The paper analyses a rather relatively recent concept of knowledge ecosystems from the theoretical perspective of complex adaptive systems (CAS), which is (or should be) the conceptual backbone of any research stemming from the ecological paradigm in natural or social sciences. However, despite the growing focus on ecosystems in the academic research of innovation- and knowledge management, it is also criticised for its rather inaccurate or even false analogies with the natural ecosystems. The CAS perspective has strong explanatory power, but is not without limitations in the environments of managerial control (e.g. it is difficult to adopt CAS perspective in the contexts of more vertically controlled corporate „ecosystems“). In our paper, we regard the knowledge ecosystem as geographically co-located hotspots steered by either universities, research institutes, or firms that focus on collaborative knowledge search. In other words, the knowledge ecosystem comprises „diverse actors bound together by a joint search for valuable knowledge while having independent agency also beyond the

knowledge ecosystem” (Järvi, Almpantopoulou, Ritala, 2018). Such ecosystems may take the shape of both vertical and horizontal networks for generating the new knowledge in order to solve certain technological / societal issues or scientific problems. In our paper, we relate the knowledge ecosystems to the key theoretical parameters of complex adaptive systems. The mainstream perspective that puts public research organizations at the core of knowledge ecosystem has certain elements of CAS as exemplified by non-hierarchical control of the knowledge flows, semi-autonomous actors and open-ended networks. The ecosystem-as-affiliation approach has a more clearly pronounced CAS dimension than ecosystem-as-structure approach with its emphasis on more closed networks and “managed” complementarity of organizational resources.

Keywords: knowledge ecosystem, complexity, complex adaptive systems, innovation ecosystem

Knowledge Requirements of the Production Structure in the Aftermath of the Greek Crisis

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Abstract: This paper examines human capital and particularly the knowledge features of the Greek production structure for the year 2018, the repercussions of the economic crisis of 2011-2015 and the 4th industrial revolution. The knowledge requirements of the production system emerge as an outcome of the job requirement needs existing in the different sectors of the Greek economy. Knowledge requirements of low and middle levels of specialization are involved, pertaining to the following knowledge items: low level mathematics, customer and personal service, clerical knowledge, mechanical knowledge, and sales and marketing knowledge. These comprise 43% of the knowledge requirements of the Greek production system.

Keywords: Production Structure, Knowledge Requirements, Human Capital, Greece

Cultural Dimension of Femininity and Masculinity in Virtual Organizing Knowledge Sharing

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Abstract: Wikipedia is an example of a virtual organization that shares knowledge and whose uniqueness lies in its global range and inclusiveness. The main subject of this paper is the cultural dimension of femininity and masculinity and its reflection in the activity of the users of Wikipedia as a virtual organization sharing knowledge. Many studies tackled the issue of a low percentage of women in most language versions of Wikipedia. However, there have been relatively few attempts to investigate the virtual organization from the perspective of the cultural dimension of femininity and masculinity. The aim of the presented research was to identify the differentiation of the selected language versions of Wikipedia in the cultural dimension of femininity and masculinity. We answer the questions whether these differences are reflected in the functioning of the Wikipedia environment and how this fact may improve organizing cooperation in virtual organizations to enhance knowledge sharing. The method of content analysis and analysis of the register of user activity in several fields of activity were adopted. For quantitative analysis, xTools and PetScan tools for generating statistical data were used. For qualitative analysis, chosen user pages and other public spaces were investigated. The results of the conducted research showed that in feminine cultures the relational dimension of activity in Wikipedia space was more important. Behavioural traits specific to task orientation were more pronounced in masculine cultures. In many language versions of feminine cultures, gender divisions were neither distinguished, nor exposed, thus making them more problematic to identify. These differences may affect the ways of sharing knowledge in virtual organizations operating in various cultures and may also cause difficulties in the implementation of international projects. The awareness of these conditions may be of use for the organization of effective cooperation in knowledge management, especially knowledge sharing in various virtual communities of activities.

Keywords: knowledge management, masculinity, virtual organization, organizing knowledge sharing

Types of Management Utilised in Project Governance Processes

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Abstract: Actions performed while implementing projects require utilisation of a maximum number of commonly known forms and types of management. The objective of the present paper is to present and characterise at a given stage of the project basic/primary types, forms and methods of management. It has been recognised vital to stress through a brief description essential management values utilised while preparing to govern and analyse projects, regardless of their scope, implementation time or area. The author has presented basic and extended types of management as well as basic and extended knowledge areas utilised while implementing/carrying out projects. The presented management forms are oriented on preserving coordination and consistency of the characterised processes normalised in separate groups, which as a final result will constitute a whole of the implemented project.

Keywords: types of management, management forms, project implementation, knowledge areas

Managing KM in the Public Sector: The Case of the Public Procurement Process

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Abstract: Public procurement is a significant part of economics and one of the most extensive measures for distributing state budget funds in the public sector. At the European Union level, the goal is to increase the effectiveness and efficiency of the public procurement process. It can be done by shortening public procurement procedures and ensuring the best opportunities for supplier competition for public

contracts. Since service providers, service users, technological and methodological approaches influence each other; therefore, a systematic and detailed analysis of the public procurement process is necessary to improve the key performance indicators. The implementation of public procurement can be seen as a knowledge management model for achieving the ultimate goal: to ensure quality services. Compared to private capital entities, increasing the efficiency of the public sector faces additional challenges caused by bureaucracy and detailed legal regulations that are often also imperative. The use of necessary efficiency measures, such as standardisation and centralisation of procurement activities, can increase the efficiency of the public procurement process. However, it is worth noting that such measures ensure only fixed effects in the long run. To reduce process costs and eliminate no-value added process steps, other process improvement methodologies, such as e. g. Lean or Six Sigma come in to play. The study examines the process improvement through a systematic review of the applied methods to increase the public procurement process's efficiency from a non-financial criteria perspective. The analysis shows that a consistent and timely process review of operational problems and search for improvement opportunities enable organisations to operate more effectively and efficiently. The main contribution of this paper is revealing the positive impact of Lean and Lean Six Sigma for low-value and typical procurement processes: employee work time on average per-process reduced by 25.81%, and the whole process's duration reduced by 16%.

Keywords: public procurement process, knowledge management, public sector, evaluation, efficiency

System for Transfer and Management of Knowledge on Eco-Innovative Services for SMES in the Network of Service Partners ECOLABNET: A Case Study

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Abstract: The underlying objective of the paper is to present the logical structure and functionality of the modules of the System for Management and Transfer of Knowledge on Eco-Innovative Services for SMEs – services dedicated in the network of partners of the project consortium ECOLABNET, co-created by the Research and Development Institutions (RDIs) and Intermediary Organisations (IOs). The present

paper consists of two integral parts. In the first part the author justifies eco-innovative needs of Small and Medium-Sized Enterprises (SMEs). Based on the empirical research conducted by the partners (RDIs) of the international Network of Service Providers for Eco-innovations in Manufacturing SMEs – ECOLABNET from six Baltic Sea Region countries, created within the Interreg Programme of the Baltic Sea Region 2014-2020, the author has identified the needs of SMEs in the scope of eco-innovations. In particular, the needs directed at structuring the knowledge of Baltic SMEs (research sample N=256) on heterogeneous eco-innovations, eco-innovations prototypes, eco-innovative services packages: product ones and business processes ones (including technological, organisational, marketing, logistic as well as informatic ones). In the second part of the paper, in the context of the formulated primary objective, the author has presented a dual-layer structure of the System for Management and Transfer of Knowledge on Eco-Innovative Services for SMEs, in the network of services ECOLABNET. The author has presented, justified and visualised the logical structure of the System for Management and Transfer of Knowledge on Eco-Innovative Services for SMEs. Eight functional modules of the system have been summarised, justified and described. The module for searching and matching eco-innovative products and services has been considered as well. This module includes, among others, implemented explaining and reasoning tools with embedded conditional instructions IF -THEN.

Keywords: system for knowledge management, eco-innovative services network, SMEs

Digital Transformation of Energy Management in Micro Smart grid Networks

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Abstract: The primary objective of the paper is to identify and measure services, values in decentralised Smart Grid networks, as well as barriers and factors driving the digital transformation of energy management. Based on statistical periodicals, secondary research conducted for the European Commission and own research in the Silesian region of Poland, the authors have summarised the factors that drive or inhibit the diffusion of the digital transformation of energy management – in

decentralised Smart Grid networks. In particular, the paper includes two basic parts: epistemological and empirical ones. Based on the literature query the authors have defined a four-layer structure of the Micro Smart Grid network in two approaches: 1) added value and management functions, 2) involvement of final customers and other users of Smart Grid networks into the digital transformation of energy management. In accordance with the adopted objective of the paper, based on the secondary research, the authors have conducted a quantitative evaluation of factors stimulating and inhibiting the development of Smart Grid networks in the countries of the European Union (EU). In the European perspective the authors have summarised digitised services and values of Smart Grids, perceived by consumers/final customers in individual member states of the EU. Based on own research conducted in the group of electricity prosumers in the Silesian region of Poland, the authors have aggregated the services and values that are unique for the digital transformation on electricity management. In the context of the conducted studies the two-stage research methodology has been characterised: 1) developing the Portfolio of Services and Values, based on acts that regulate the digital transformation of energy markets in the EU, scientific literature as well as interviews with the use of interview sheet in the group of 24 managers of design and construction companies of photovoltaic farms in Poland; 2) a survey in the group of 132 electricity prosumers so as to select from the aggregated in the first stage Portfolio primary services and values generated in Smart Grid networks.

Keywords: digital transformation, energy management, decentralised Smart Grid networks

Wikipedia as a Space for Collective and Individualistic Knowledge Sharing

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Abstract: Wikipedia, an online encyclopaedia, is described as a phenomenon of global collaboration. Previous research has focused on its largest language versions. The individual versions differ in terms of the volume of content and the size of the communities which create them. The structure and commitment among the speakers of a given language also differ. The specificity of a given culture may affect the degree of involvement of members of the virtual communities of practice in

team undertakings, whereas individually created content may be subject to social control to a lesser extent. On the other hand, excessively strong collectivism leads to the submission to group norms and consequently, to the lack of a critical evaluation of the created content. The aim of the research presented in this paper was to identify the differentiation of language versions in the cultural dimension of individualism and collectivism. The research was both quantitative and qualitative. The authors selected Wikipedia language versions which were edited mainly by communities from homogeneous national cultures and with a minimum of 200 active users per month. The method used was the content analysis and the analysis of registers of user activity. The authors answer the question of whether these differences are reflected in the functioning of the Wikipedia environment. To answer the raised research question, three hypotheses were formulated. The relationship between the individualism index (IDV) of national cultures from which Wikipedians are recruited and the indicators of activity, while also the degree of regulation of activities in the project were examined. Research has shown that IDV is positively correlated with 1) the number of editions made per page which may be indicative of the greater courage to edit somebody else's text and 2) the ratio of the number of active users to the number of principles and recommendations, which means that actions on Wikipedia are relatively less frequently regulated in individualistic cultures. Less assertiveness and a greater degree of regulation of actions may mean that sharing knowledge in spontaneously formed organizational structures is more problematic in collectivist cultures. Research findings may be useful in organizing online work when establishing local policies to engage volunteers in sharing knowledge.

Keywords: sharing knowledge, individualism index, knowledge management, organizational culture, Wikipedia language versions

A Management Information System for Incremental Reporting in an Enterprise

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Abstract: With the increasing dynamic of changes in the organization's environment, the demand from the organization and its managers for the information required to make decisions also changes more and more frequently. This concerns both *objective* and *subjective information demand*. The ever-

changing demand for information in the enterprise that stems from the constant evolution of the managers' responsibilities and the context in which these responsibilities are fulfilled means that the organization must continue to adapt, i.e. acquire new (up-to-date) and relevant information. These challenges can be met by leveraging state-of-the-art IT solutions designed to support management, including Enterprise Resource Planning (ERP) systems (Kuzdowicz 2019). The purpose of this paper is to present a framework for an information system that relies on state-of-the-art information technology and constantly adapts to the shifting information demand from managers. The proposed system will make it possible to bridge the information gap and thus satisfy both types of information demand: objective and subjective. In addition, the article presents an *incremental reporting* method based on the modeling of quantity and value stream flows embedded in an ERP system and offers a number of associated reference models. The proposed approach will help companies design new information systems or modify the existing ones.

Keywords: ERP System, Incremental Reporting, Information Demand

Intelligent Quasi-rent as a Value-creating Factor for Modern Industrial Enterprises

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Abstract: The purpose of our study was to formulate the theoretical principles of the value-forming process of modern industrial enterprises, taking into account the increasing role of intellectual quasi-rent as a main factor in capital creation. It is a well-known fact that the target function of enterprises is the growth of its intrinsic value, the direction of change of which is determined by the presence and size of economic profit. Economic profit is a rent / quasi-rents (land, natural raw materials, labor, intellectual property) arising from the monopoly on any kinds of resources (physical or mental). In the industrial economy, the concentration of production,

reinforced under Russian institutional factors, led to the formation of monopoly markets in key industries. The basis of these markets is the possession of an impressive physical capital, thus ensuring the possibility of obtaining monopoly super-profits due to overpricing. At the same time, incentives for high-tech activities and innovative development of large monopolists are significantly reduced due to the opportunity to obtain economic profit due to a dominant position. Terms of the explosive development of information technology (cyber-physical systems of things, cloud computing Internet), to ensure the formation of open management systems, network-centric business systems and global enterprise networks. This led to the functioning of an interactive model for the transfer of knowledge, development, and innovation, thanks to which even enterprises that do not have a significant amount of physical resources are able to become participants in the innovation process. The result is the destruction of monopoly markets, which in turn creates incentives for high technology innovation in the monopolistic structures to ensure the replacement of dwindling monopoly super profits excess profit that is generated due to the intellectual quasi-rent (as compensation for accumulated intellectual capital and innovative risk) as a result of a temporary monopoly on intellectual resource.

Keywords: Intellectual rent. Enterprise value. Digital technology. Labor resource. Industrial enterprise

Additive Manufacturing of Spare Parts in the Maritime Industry: Knowledge Gaps for Developing a Norwegian AM-Based Business Ecosystem for Maritime Spare Parts

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Abstract: Additive Manufacturing (AM), also known as industrial 3D printing, is a high skill technology that can improve the safety level in the maritime industry, reduce costs for the actors and lead to environmental improvement in the shipping sector. Reaping the benefits of AM in the spare part supply chain requires adjustments in the entire business ecosystem. This paper reports findings from semi-structured interviews and conversations with industry stakeholders to assess the knowledge needs. It identifies ten companies that are engaged with AM in

either the offshore or maritime sector and provides insights into the main challenges that needs to be overcome. We find that additive manufacturing of spare parts in shipping is looking more and more realistic, and that the first commercial deliveries of non-critical parts have already taken place. But as the adoption of the technology is still in the initial stages, a lack of knowledge and understanding is a major obstacle, both among suppliers, end users and in the national government. The key contribution of the paper is to recommend ways to expand on existing knowledge to maintain the current momentum.

Keywords: Additive manufacturing, digitalization, maritime industry

How Intellectual Capital Shapes the Business Model in Strategic Areas of Enterprise Management

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Abstract: This article is a contribution to the pilot study on identifying the determinants of the business model. By focusing on the use of intellectual capital in enterprise management, an attempt was made to examine the role intellectual capital plays in shaping the selected element of the business model. The literature review in the field of "business models" and "intellectual capital" was used to justify the research question posed. In order to answer the question posed in the pilot study, the empirical part was carried out on the basis of the case study, based on the multi-division metal industry company operating throughout Europe. The objective of this publication is to examine the relationship between intellectual capital and the selected element of the business model, which sales is. The research method applied to accomplish the objective is trend analysis and correlation analysis. The research period is the years of 2010-2020. The conclusions obtained from the research suggest that deepening the understanding of the role of intellectual capital in shaping the selected element of the business model should focus on intellectual resources, which ought to enable capturing the dynamics of the process of obtaining and maintaining a competitive advantage, leading to increased sales in the long run. The publication contributes to the discussion on the extent to which enterprises use intellectual capital in the business model in order to gain a competitive advantage.

Keywords: the business model, intellectual capital

Trust Building for Integrative Trade Negotiations: Challenges posed by Covid-19

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Abstract: This paper discusses and examines trust building in the remote-digital negotiations. More specifically, the paper focuses on international trade negotiations aimed at being integrative, and how the Covid-19 pandemic affected the way they have been conducted over the years, mainly relying in face-to-face meetings. Information exchange and knowledge sharing is essential part of negotiations, occurring in interactive processes between actors involved. Trust is a prerequisite for effective information exchange and knowledge sharing and creation. Trust creates openness, willingness to collaborate, and freedom to be productive, and is a foundation for integrative negotiations. Trust manifests in different ways, affecting time, intensity, process, and results of the overall negotiation process. Remote working and remote-digital meetings have become prevalent these days, especially due to the disruption caused by Covid-19. Remote communication necessarily carries inescapable restrictions compared to face-to-face encountering and discussion. Therefore, the technology mediated (TM) remote context highlights the meaning of trust, as interaction and collaboration emerge more restricted than in face-to-face contacts. This paper builds on previous research on integrative negotiations, role of trust, and meetings. By analysing and discussing the academic literature, the purpose of the paper is to provide theoretical views and insights for further research, and practical implications for negotiators and professionals in general. The exploratory research questions are: i) what challenges did the Covid-19 pandemic pose to international trade negotiations? ii) how do virtual-TM meetings may affect trust building for integrative negotiations? iii) how does country culture and technology mediate the impact of virtual meetings in trade negotiations? By responding to these research questions, the paper focuses on intangible factors that may contribute to trust building or trust destroying in virtual meetings and how they may affect information exchange, knowledge sharing and knowledge dynamics leading to successful integrative negotiations.

Keywords: cross-cultural, culture, Covid-19, international trade, knowledge, negotiations, meetings, trust, virtual meetings

The Importance of Communication Management for Corporate Image in Football Organisations: A Case Study

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Abstract: The communication of an organization, even if it has specific objectives not directed to the transmission of the image, carries with it an implicit load of information concerning the organization, which contributes to a greater or lesser extent to present its corporate image. For this reason, it is becoming increasingly important to have a communication director who, in addition to achieving favourable relationships with all stakeholders, should be able to communicate and promote the image of the organisation. Sports organisations are no exceptions to the rule and, as in companies, they seek to serve stakeholders in the best way, creating their own communication departments to achieve a higher level of proximity with fans and their partners. The communication director not only guides communication activities within the structure of the sports club, but he is also responsible for increasing intangible assets and attract stakeholders - both internal and external. Therefore, this study starts from the following research question: What is the importance of the communication direction in the corporate image of a football club? Trying to answer this research question, we develop a study case – in Tondela Sports Club with the following aims :to understand the importance of corporate communication in the increase of intangible assets, specifically, in the corporate image; to verify the characteristics that a communication director must possess to achieve favourable relationships with the media; and to understand if the communicative activities developed by the director influence the club's image, from the point of view of the supporters. To achieve these objectives, interviews to journalists and surveys to the target audience/ supporters of the football club were applied in order to obtain their opinion about how to achieve a positive image and the importance of communication management and communication director.

Therefore, the main objective of this research is to demonstrate the growing importance of the functions of a communication director in a football club.

Keywords: Communication Management, Communication Director, Corporate Image, Football Sports Organizations, case study

Publication Patterns and Trends of 4IR Pillars in the Electronic Library Journal

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Abstract: The Fourth Industrial Revolution (4IR) is upon society, and studies have suggested that it is essential for society to have the aptitude to adapt to the new ways of doing things. It thus becomes critical that research supports the shift into this new environment. As a result, this paper aimed to determine the publication patterns and trends relating to the 4IR pillars over five years (2015-2019). The study utilised quantitative methods as the focus of the study was on analysing the publication patterns and trends of the 4IR pillars in an Information and Knowledge Management (IKM) focused journal, the Electronic Library. Deductive reasoning was utilised to enable the researchers to logically determine the publication trends and patterns of the 4IR pillars in the IKM journal identified. Content analysis was used to help fulfil the research objectives: *"to map the publication patterns and trends in IKM, in terms of 4IR research and information dissemination; and to analyse the publication gap between the various 4IR pillars found within the identified IKM journal"*. This is due to the content analysis strategy enabling researchers to contextualise data. To assist the content analysis process, a category sheet was developed to provide detailed information regarding the nine pillars' abbreviations, synonyms, and terminology, allowing for the easier identification of the pillars in the text. For this study, the abstract of each article was evaluated to determine the mentions of the 4IR pillars. While bibliometric analyses have been done on the concept of the 4IR, an analysis of publications regarding the pillars of the 4IR within the Electronic Library journal between 2015 and 2019 had not yet

been done. Therefore, it was crucial to determine the publication patterns and trends of these 4IR pillars to determine whether the identified IKM journal can aid the development of a 4IR capable workforce. The process of determining frequencies and sequencing allowed for developing a graph that summarised the research results.

Keywords: Information and Knowledge Management, Fourth Industrial Revolution, 4IR pillars, 4IR workforce, The Electronic Library journal

Publication Patterns and Trends of 4IR Pillars in a Knowledge Management Journal

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Abstract: The potential issue with the already existing fourth industrial revolution (4IR) is the readiness of knowledge practitioners in many parts of the world. With research being a key contributor to ensuring readiness for the 4IR, the purpose of this paper was to determine the publication patterns and trends of 4IR pillars in an information and knowledge management (IKM) focused journal, the Online Information Review journal, for a period of five years (2015-2019). Pragmatism was applied as well as a mono-quantitative method and deductive reasoning. It was most suited for the study to utilise a content analysis strategy as it enabled researchers to contextualise data. To assist the content analysis process, category sheets were developed by nine IKM experts to provide detailed information regarding the nine pillars' abbreviations, synonyms, and terminology. The research utilised two types of samplings: purposively sampling the Online Information Review journal and randomly sampling 255 articles within the journal. Secondary data was collected as the abstract of each article was evaluated to determine the mentions of the 4IR pillars. While bibliometric analyses have been done on the concept of the 4IR, an analysis of publications regarding the pillars of the 4IR within the Online Information Review journal for the period 2015 to 2019 has not yet been done. Therefore, it was crucial to determine the publication patterns and trends of

these 4IR pillars to determine whether the identified IKM journal can aid the development of a 4IR capable workforce. The analysis results indicated that a fluctuating publication pattern was the trend throughout the five years. The pillar found in most of the publications was big data, and additive manufacturing had the least appearances. The process of determining frequencies and sequencing allowed for the development of a table that summarised the research results.

Keywords: Fourth Industrial Revolution (4IR), 4IR pillars, Information and Knowledge Management (IKM), 4IR workforce, Online Information Review journal

The Effects of Knowledge Management on SMME Competitiveness: An Emerging Economy Context view

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Abstract: Given the potential of the knowledge economy to transform learning and communication of organisations, knowledge management (KM) is deemed fundamental to the success of small, medium and micro enterprises (SMMEs). Yet small, medium and micro enterprises (SMMEs) display a persistent inability to practice KM to improve their competitiveness. Drawing on a quantitative approach and survey conducted on 343 SMME owners and managers in the Free State province of South Africa, the study explored how KM dimensions (especially knowledge recognition and knowledge implementation) influenced the competitiveness of SMMEs. The study results demonstrate that effective KM accounts for 61.9% of the variance in SMME competitiveness. Knowledge recognition and implementation deemed fundamental to a firm and contribute to recursive processes that enable firms to compete globally. The study recommends government agencies to establish KM hubs that target SMME's training in KM activities to ensure their greater sustained competitiveness. This is critical to building new knowledge for SMMEs and ensuring more efficient resource exploitation. The paper contributes to literature on the utilization of KM as a component of the small firms' competitive strategy through its embedment into their operational processes.

Keywords: SMMEs, knowledge economy, knowledge management practice, knowledge management recognition, knowledge management implementation, competitiveness

Challenges of Managing Knowledge in the Government Departments of South Africa: A Literature Review

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Abstract: With the rapid developments in information and communication technologies, knowledge management activities are becoming significant in managing knowledge for achieving competitive advantage in the organizational environment. Knowledge management has become more and more recognized in today's business environment and facilitates decision-making. It cannot be overstated that knowledge management constitute a vital resource for organizations to flourish, however, it is not without challenges and hindrances. Interestingly, many organizations, including public government organizations are perforated with a plethora of challenges that makes it difficult to manage their knowledge. The manner in which knowledge is managed in organizations is still wanting. The management of knowledge in South African organizations has always been a cause for concern that needed an immediate intervention. Therefore, this study seeks to identify challenges related to the management of knowledge in the government departments of South Africa. This study is qualitative in nature and used content analysis from desk top review of literature to identify the challenges and suggested solutions. Among others, the findings indicates that the South African public sector does encounter challenges such as corruption, the difficulties of handling knowledge in different formats, departments are still rigid and bureaucratic in their processes and makes it difficult when continuing to evolve through the implementation of public sector reforms into knowledge-based work environments. Therefore, the study recommends the development of policy frameworks nor strategies aligned to the organizational goals.

Keywords: Knowledge management, Government departments, South Africa, Strategies,

Knowledge Management through Competencies: An Exploratory Study in the Automotive Industry Sector

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Abstract: Organisations and human resources managers (HRm) are currently facing a new set of obstacles and experiencing an urgent need to keep up with the expanding digitalization brought by the Digital Age. This has caused a great impact on business success and sustainability and as well as concerns regarding much-needed refreshed competencies for effective performance. Despite the global influence caused by this scenario, the industry is one of the most affected sectors, particularly in the automotive area. This study focuses on understanding HRm's opinions and beliefs including competency shifts caused by the influences and obstacles of the digital era in the automotive industry sector. The investigation carried out, assumed a qualitative methodology by applying eleven semi-structured interviews that collected the participants' perspectives and their concerns regarding the influences and challenges brought by the digital age including its impact on the change of competencies sought by organisations. All participants were active human resources (HR) professionals in different organisations in the automotive industry sector. The results showed that new topics such as competitiveness and continuous improvement gained substantial importance and that new challenges surfaced with the evolution of technology, such as employee's difficulty to adapt and the impact of technology on their socialization levels. In contrast, the shortening of physical distances through technology was seen as the major advantage. Additionally, this study points to digital competencies, technical capacity, Microsoft Office proficiency, proactivity, and cooperation as the current most valued competencies for automotive industry sector organisations. Further discussion was taken into consideration regarding the study results obtained confirming the impact of technology in the competencies profiles of automotive industry sector organisations. It can be concluded that the study's contributions and shortcomings are highlighted in addition to further suggestions made regarding future research on the theme.

Keywords: Human resources, Competencies, Automotive industry sector, Digital age; knowledge management, Economy 4.0

Knowledge Circulation to Accelerate the Operational Performance of Relief Organisations' Responsiveness to Contextual Changes

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Abstract: Transverse knowledge sharing at the operational level of relief organisations has become an important factor of organisational performance. In the aid sector, performance management includes understanding the key factors embedded in organisational, structural and systemic cults that impact the effective use of the implicit knowledge held within and between individual employees. Four main factors influence the effective circulation of this knowledge: the use of management standards, the way employees informally share implicit knowledge, disruptive digital transformation and the desire to utilise artificial intelligence (AI) technology. To address these factors, this study assessed an established aid worker population in the following age groups: less than 31 years, 31–40 years, 41–50 years and over 50 years. The study analysed how the aid workers circulated implicit knowledge, applied standardised management tools and coped with digital transformation within the context of the uncertainties caused by the Covid-19 pandemic. The study aimed to determine whether the recovery of implicit knowledge through transverse and informal exchanges created value for organisations, and it explored how employees handled the effects of Covid-19 uncertainties and acknowledged the value of implicit knowledge sharing in enhancing performance at an operational level. It considered the use of AI as a decision-making accelerator that enabled relief organisations to provide the intended knowledge deliverables. The study then proposed key considerations for reshaping the method of aid service delivery at an operational level.

Keywords: implicit knowledge circulation, operational knowledge, digital transformation, artificial intelligence

KMS Faced a New Challenge: Open Educational Platforms – How to Manage it?

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Abstract. Paper analyzes the processes of knowledge management in practice. The methods and forms are described using the examples of students' project activities as part of the corporate knowledge management system. The authors proposed their own technology for conducting and selecting projects. In the process of work, interdisciplinary student projects are placed on the university online platforms. The nature of the projects involves teams of students, their academic and industry mentors. They created a new part of the knowledge management system. By own experience, the authors show the importance of collaboration between universities and different profiles companies. It was shown that because of such interaction quite interesting and possibly attractive products have been created for the market. The support of such online platforms and the further implementation of the projects requires analysis and structuring. Authors compare different online platforms and interdisciplinary students' projects in world practice. This new format and its further promotion were supported by the large number of participants. Now it is extremely popular approach in the knowledge management system in higher education. Paper discusses the advantages and difficulties resulted from this technology. Now it is necessary to react the progress of these on-line project activities more quickly and effectively, and it means better management of such technology. Information about completed projects and announce of new ones should be more accessible and easier to find. It leads to a new analysis, to a new transformation and rethinking in the knowledge management system in large structures, such as large universities.

Keywords: project learning, open platform, learning models, human assets, intellectual assets

Genesis of Human Capital Theory in the Context of Digitalization

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Abstract: The paper aim is to consider the genesis of human capital theory in the context of the major economic doctrines from the 18th century to the present day marked by the establishment of the digital economy. The authors considered scientific works devoted to the history of economic doctrines and scientific articles about issues related to the formation of human capital at different stages of economic theory development. The authors present the following classification of human capital formation: (1) classic economic, (2) institutional, and (3) modern. The classical economic approach is based on the works of the founders of classical economic thought of the 18th century such as Adam Smith, William Petty, Jean-Baptiste Say, Karl Marx, Irving Fisher, and others. In that period of time, “human capital” was often equated with “human resources” whereas the theory of human capital itself was subject to considerable criticism. The institutional approach is formed based on economists' works in the period of the neoclassical economic theory developed in the late 19th and mid-20th century. The theory of human capital was formed in the 1960-70s of the 20th century that was greatly influenced by such institutionalists as T. Schultz, Gary S. Becker, Jacob Mincer and others. The institutional approach offers an assessment of human capital through investments in education, training, health care costs, mobility. One of the key features of the institutional approach to developing “human capital” is the empirically proven impact of this economic category on national economic advancement. The modern approach to human capital development is determined by the growing importance of digital skills and competencies, ICT-literacy, e-skills, the ability to adapt to rapid changes, and also “digital literacy” manifested in a mindset that enables users to perform intuitively in digital environments, and to both easily and effectively access the wide range of knowledge embedded in such environments. Thus, the paper attempts to provide a historical overview of efforts to define “human capital”. The

main result of the paper is the systematization of approaches to human capital formation based on the historical period.

Keywords: human capital, economic theory, economic history, digital economy, economy of knowledge

The Impact of Emerging Technologies on Knowledge Management

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Abstract: One of the defining trends of our time is the rapid development and spread of artificial intelligence (AI) and machine learning. With the recent boom in digital innovation, AI is getting a bigger emphasis, brings new opportunities to tackle many issues within organizations and raises new challenges about its usage and limits. It is expected that more and more "smart" interconnected machines capable of situational awareness and independent decision-making will emerge. Large-scale projects are being launched all over the world including Hungary, for developing and applying automation and AI-based business solutions. AI and expert systems were already used in the fifties and later in the seventies and eighties, but results did not bring any breakthrough success. Thanks to technological development the situation has changed and many seemingly unsolvable problems (e.g. machine interpretation, facial recognition, diagnosis and prognosis of certain rare diseases) are progressing well. Beside "human" knowledge, "machine" and common "human-machine" knowledge play an increasing role, in addition to "human" creativity "machine" creativity gains ground. In the field of Knowledge Management (KM), both theoretically and practically important issues arise like how the development of technology affects KM or how AI can contribute to the organization of knowledge, and how it can facilitate and extend the future of knowledge workers. The research is intended to map the future of KM and knowledge workers in the light of the emergence of knowledge generated by emerging technologies. The research is carried out via qualitative methodology by conducting interviews that result in organizational case studies with respondents from various organizations operating in Hungary. Just as effective adaptation of KM and today's technological achievements play an essential role in the survival of

companies, it can be a significant advantage if the knowledge created during application of emerging technologies is managed in some way.

Keywords: emerging technologies, knowledge management, artificial intelligence, human and machine knowledge

Pluralism or Trivialism: A Comparative Study of Academic ECKM Papers

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Abstract: The purpose of this paper is to analyze and compare all the papers in the proceedings of ECKM in 2017 (Barcelona), 2018 (Padua), 2019 (Lisbon), and the digital conference in 2020. The study classifies the papers according to methodology, analysis, discussion, and conclusion regarding their contribution to the four paradigmatic boxes. The approach uses five philosophy of science framework and compares this to the content of the research papers. We will use the findings in four representations of knowledge, two typologies of concepts, four paradigmatic classifications, and the concluding framework for knowledge management research. The four conferences have a heavy emphasis upon knowledge-itis and instrumental-itis and much less emphasis upon problem-itis. The papers are mostly centred around existing knowledge and accepted methodology and less related to new problems. The results indicate a conference based upon as-is knowledge and less upon new and often unsolvable problems. The ECKM academic papers in 2017, 2018, and 2019 have relatively low complexity presented in an empirical and materialistic paradigmatic framework through definitive concepts representing a form of atomistic research. The papers in 2020 are presented within a stronger clarified subjectivity and action research based framework through both definitive and sensitizing concepts. What would ECKM have been with a higher degree of complexity in action and subjective paradigmatic framework through sensitizing concepts representing a form of holistic research? Probably a more creative, engaged, and relevant conference. Probable also a more scientific conference since advances in knowledge demand not living up to the conference expectations data cannot meet. The more critical and green papers in the 2020 conference are opening up for new perspectives in the choice of methodology, problems, and knowledge. To move ahead for better quality in the

research, we find it necessary to break free from the empirical paradigm and the materialistic paradigm and move into the clarified subjectivity and action paradigm. Paradigmatic ecumenism will tend to a fiercer but idea-generating debate. This pluralistic approach will give more engaged practical research representing more sustainable societies and businesses. ECKM is on the road to include more pluralistic perspectives upon sustainability, value creation, gender issues, and the design of future knowledge work. There is a critical openness toward these issues making ECKM 2020 a more relevant conference.

Keywords: Paradigms, Concepts, Perspectives, Knowledge creation, Knowledge accumulation, Research domain

Power and Micropolitics in Project Management

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Abstract: The problem of the paper is: What is the importance and conduct of power and micropolitics in project management? The issue has resulted in five research questions: How do power and micropolitics appear in projects? How does the project manager use power and micropolitics to influence the result of his project? How are the findings related to the actor's intentions in the projects? How do the employees regard managers using power and micropolitics? What organizations foster and hinder power and micropolitics? We reviewed the literature as the basics for an open survey study to twelve managers to answer the research questions. We followed up the knowledge from the survey study with twelve in-depth interviews with project managers in four Norwegian companies in the oil and gas business, where all activities are based upon project management. The informal power and micropolitics played a massive role in the projects, and personal and relational knowledge appeared to achieve the expected project results. The project manager uses personal networks, personal relations, mentor's network together with cognitive, affective, and emotional influence as power and politics if needed to achieve expected results. Power and micropolitics were regarded as necessary skills and tools for a successful project manager. The findings relate to the manager's intentions. The informal power and micro-politics process are reused in every project in that informal power and micropolitics are part of project work. The accumulation and wise handling of power is an essential

leadership tool for every manager. Employees work for managers who have power over those who do not. The former can get them what they want: visibility, upwards mobility, and resources. A democratic and consensus-oriented culture opens for power games and micropolitics rather than hedging them compared to more hierarchical organizations. Informal micropolitics and power mean a high potential to prolong and complicate decision processes and significantly reduce efficiency and effectiveness. The theoretical implication is a general model for power and micropolitics, while the practical implication understands how power and micropolitics are practiced in projects.

Keywords: Power, Micropolitics, Project management, Power games, Power model, Influence

Cultural Change for Knowledge Management: The European Space Agency Approach for Communication and Recognition Activities

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Abstract: For Knowledge Management (KM) to be effective, it needs to be accompanied by a change in culture both at individual and at organizational level. In the framework of the European Space Agency's (ESA) KM activities, a particular attention during the last years has been devoted to KM communication and recognition activities. The ultimate goal of these activities is for KM to be seen as part of normal work, and not as an additional activity. Promotion activities foster the adoption of KM practices at ESA, and in so doing, provides the potential means to achieve the needed cultural change favouring the creation of an open and transparent, knowledge-based, working environment. Being KM activities in ESA still in its beginnings, the change in culture in this phase is encouraged mainly through awareness of the added value and the benefits of the adoption of KM processes, practices and tools, and ways to be involved; motivational means for the adoption of KM best practices to inspire individuals to act; recognition of KM early adopters, showcase the success stories of KM champions, putting emphasis on the

desired behaviour. This paper will discuss the chosen strategy for KM promotion activities at ESA in relation with the early stages of the KM implementation at ESA, highlighting successes, reflecting on encountered challenges, analysing how we learned our lessons along the way.

Keywords: space, communication, promotion, change, behaviour, awareness

Managing Customer Knowledge of Sustainable Consumption using Social Media

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Abstract: In recent years, the increasingly visible effects of climate change, the degradation of ecological systems, and the higher expectations of customers in relation to the role of business in society, have radically increased corporate awareness about the importance of environmental issues. Although sustainability has become a main trend in contemporary society, individual consumers' unsustainable patterns of consumption are still a major barrier to sustainable development. At the same time, an increasing number of consumers has become more responsive to sustainable consumption idea. Sustainable consumption is associated with people's awareness of the durable consequences of their consumption for nature or society. The significant role of contemporary companies is responsibility to educate and inform customers, because a high level of knowledge has a significant positive effect on consumers' purchase behaviour and implementation of sustainable consumption patterns. Companies can identify what motivates consumers to behave more sustainable and promote sustainable consumption using new technologies. Social media has recently emerged as a promising technology for customer knowledge management. Knowledge is one of the most influential factors that affect green purchase intention and behaviour. Consumers' knowledge about environmental issues could create an awareness, which would further increase interest and positive attitude towards sustainable products and sustainable consumption patterns. Social media encourages the free flow of information and knowledge, providing greater awareness about sustainability and sustainable consumption. Managing customer knowledge of sustainable consumption using social media supports green consumption, increases consumers' knowledge and awareness connected with environmental and social problems, and enhances acceptance level of alternative lifestyle and

consumption patterns. Social media creates a great challenge but also a great opportunity, especially as an effective tool of sustainability promotion and managing customer knowledge of sustainable consumption. The objective of the research is to explain how social media impacts on consumer environmental knowledge. Despite the increasing relevance of social media there is a lack of research literature that investigates the importance of its effect and impact on consumers purchase behaviour, regarding sustainable products and services. This study explores the exploitation of consumer knowledge regarding sustainability, gained from social media while making purchase decision.

Keywords: environmental knowledge, green products, Customer Knowledge Management, sustainable consumption, social media, sustainability

Organizational *Phronesis* Scale Development

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Abstract: Society is calling for practically wise organizations, companies with humanized strategy and highly innovative sustainable performance. Searching for answers, researchers are looking back to *phronesis*, the Aristotelian construct, also known as practical wisdom and prudence. While leaders guide organizational practical wisdom development, employees work with these guidelines and incorporate practical wisdom into company actions. The investigation on *phronesis* in knowledge management is intensifying because of the urge to comprehend how to disseminate *phronesis* (among leaders and members) and build practically wise organizations. However, there is no measurement examining employees' perceptions of *phronetic* organizations. Therefore, this research aims to develop a scale measuring organizational practical wisdom. We built the survey grounded on

the academic studies concerning practically wise organizations, and experts reviewed the items to address it. Data were collected utilizing an online survey with 16 items and sociodemographic questions. Participants answered the survey on a 5-point Likert scale from (1) I completely disagree to (5) I agree completely. We made it available in Portuguese, and we e-mail the survey to Brazilian and Portuguese universities, companies listed in free databases, unions, and our network through social media and mobile messages. We received 199 answers. After performed exploratory factorial analyses with the software IBM SPSS Statistics 27 to exclude unnecessary or poorly performed items, we conducted cases listwise exclusion; we withdraw items with a communality of less than 0.50; and we applied the matrix of correlations, using the principal components' method's extraction, followed by an orthogonal Varimax rotation. The final exploratory factorial analysis revealed a model accounting for 65.544% of Total Variance Explained. Cronbach's alpha was determined as 0.951 to evaluate internal data consistency. The main contribution is the development and purification of 12 items organizational *phronesis* scale. Understanding employees' perspectives on organizational *phronesis* is a step in discovering how to bridge gaps in incorporating it into the company. The next step is to conduct a confirmatory factor analysis to validate the scale with another sample providing evidence for construct validity.

Keywords: *Phronesis*; practical wisdom; prudence; practically wise organization; practically wise company; humanized strategy; sustainability; knowledge management; scale development

The Annual Report as a Chance to Communicate Knowledge: Intangible Assets in Innovative Companies

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Abstract: Intangible assets' communication is essential for stakeholder to grasp the companies' knowledge potential. Despite the annual report is largely inadequate to communicate intangibles value because of accounting requirements, it offers a unique chance of representing intangibles acquired in M&A. Prior evidence shows that opportunistic behaviours drive such allocation reducing the reporting transparency about the display of the acquired intangibles. However, according to the signalling theory, companies are more likely to provide information about intangibles when the proprietary costs of revealing know-how do not outweigh the

benefits achievable by reducing the information asymmetry. The paper aims at investigating the representation of the intangibles' value depending on the companies' innovation degree. Moving from the argument that innovative companies embrace M&A mainly to acquire intangibles, I hypothesize that such companies are more likely to disclose the value of the intangibles with the aim of reveal the strategic motivations to the price paid. The paper offers empirical evidence about the communication in the annual report of the intangibles acquired in a M&A comparing innovative companies and traditional ones. The findings confirm that innovative companies are more inclined than traditional companies to disclose information about the acquired intangibles. Furthermore, companies that minimize the intangibles disclosure are those acquiring target companies operating in the same industry, indicating that the acquisition is driven by expected synergies instead of identifiable intangibles. Such distinction suggests that the annual report enable managers to reveal the strategic reasons motivating the deal value. Innovative companies are inclined to reveal the source of their innovation to protect their knowledge. Inferences contributes to the literature showing that the annual report may be a communication channel for the corporate knowledge. The evidence offers practical implication for managers and stakeholders about the annual report's aptitude to communicate the knowledge potential that is incorporated or in the specific intangibles or in the expected synergies.

Keywords: Intangibles; Annual report; Communication; Knowledge

Method and Tool for Generating Table of Relevance in Literature Review (MTTR)

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Abstract: Every day, researchers in computing and IT are challenged with several articles that they need to rate, classify and separate quickly and effectively to contextualize and further advance their research effectively. It is considered that literature review is the most important step of discovery. Notably, a literature review is a part that allows the researcher to adjust the perspectives and limitations of an area of study. However, there is a lack of effective methods and tools for this activity. Often, traditional knowledge management techniques result in the “Gordian Knot” slowing down the process of literature review considerably. In this article, we present a Method and Tool for Generating Table of Relevance in Literature Review (MTTR). The MTTR is an innovative organizing method supported by software tools that make the literature review activity more efficient, faster and cheaper. An interesting feature of MTTR is data visualization using the Heat Map technique, Word Cloud and statistical techniques in designating and comparing each scientific article with the other relevant articles. The productivity gains in MTTR occur due to the automation in structuring and sorting scientific articles. In addition to efficiency, the lowest cost has the potential to place the MTTR as a preferred tool for the researcher. The anecdotal evidence reported in this article suggests that it is possible to carry out a literature review in a much shorter time with MTTR than in the traditional manner.

Keywords: Review Method, Heat Map, Word Cloud, Active learning tools, Systematic Review

How Knowledge Sharing Mediates the Effects of Internal Marketing on Customer Orientation

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Abstract: A growing body of research has demonstrated the growing importance given to two areas of business management: internal marketing and knowledge management. Nevertheless, these seldom areas are considered together. This paper explores the importance of knowledge sharing as a mediating variable in the

relationship between internal and external marketing. Thus, our research presents an investigation model where the influence of tacit knowledge sharing and explicit knowledge sharing are presented. The data of this research was collected from the employees of a company in the logistics sector, through a face-to-face questionnaire. The proposed research hypotheses were tested empirically through structural equation modeling (PLS-PM) with a bootstrapping procedure. The results demonstrate that internal marketing has a positive effect on knowledge sharing and, consequently, on customer orientation. In this sense, through this paper, managers can verify the importance of knowledge sharing (tacit and explicit) in leveraging the effects of internal marketing in customer orientation.

Keywords: Knowledge Management; Knowledge Sharing; Internal Communication; Customer Orientation

On Relationship of Futures Foresight and Knowledge Management

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Abstract: Knowledge management modelling has lately mostly focused on taxonomies for contents of knowledge action (e.g. creation, protection, exploitation, dissemination) and resource-requirements for KM (e.g. chief knowledge officers' role, Intellectual Capital, KM systems). The literature on KM does contain individual remarks on the dynamic nature of knowledge and its management, but does not include the time-dependency in its frameworks. The concepts of agility and increased volatility propose that a firm's knowledge and processes on it are in a flux. Knowledge is not only accumulative but knowledge also inflates over time. Anticipation of future knowledge has rarely been inbuilt into KM frameworks. Some researchers (e.g. Kaivo-oja & Laureaeus, 2017; Rechberg, 2018) have presented reasoning as to how the futures-dimension should be incorporated into KM. Berry and Johnston-Jewell (2014) proposed a link in the opposite direction, proposing that KM approach and practices have the potential to improve futures foresight. The time-moderation (of futures) on knowledge and KM is thus a required dimension for framework building. This paper reviews the prior-art literature on the topic in the form of a brief bibliographic study. The research database Google Scholar is screened for relationships between KM and

time/future-related concepts in research titles through Boolean search. The paper summarizes the findings of the analysis with a proposal of elements and their relationships needed for a dynamic knowledge management framework, where the axis of time is interwoven into the framework. A prospective framework for dynamic KM process is depicted for further study and elaboration to continue the KM framework development further from the proposals made by Saukkonen (2020).

Keywords: knowledge, foresight, anticipation, change, dynamics

Revealing Employees' Knowledge Contribution in the Process of Innovation: The case of Latvia and Estonia

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Abstract: Today, there is a highly competitive environment because of globalization. Hence, firms are required to be continuously innovative in order to succeed in national as well as international markets. Moreover, they are forced to find additional sources of competitive advantage. Knowledge creation and its application into new products, processes and services seems to be crucial during the process of innovation creation. For this purpose, firms can use their own (internal) knowledge or they can find external knowledge sources, for example through research and development processes. At the same time, firms' employees, as one of the holders of firm knowledge, as well as the creators of new knowledge, represent key players in above-mentioned innovation and knowledge-creation processes. In this paper, we analyzed the role of different groups of firms' employees with an emphasis on their knowledge and experience (professionals with extensive theoretical and technical knowledge; technicians with mechanical or technical knowledge; employees with university degree knowledge) in the processes of innovation creation. For this purpose, we focus on the firms in Latvia and Estonia from Central and Eastern Europe (CEE), which are often referred to as lagging countries, primarily behind Western European countries. This is mainly due to the lower levels of trust, poorer infrastructure availability and a lack of social capital. The paper employs partial least square structural equation modelling (PLS-SEM) analysis and the latest edition of the data from the World Bank Enterprise Survey 2019. This paper contributes to the current level of knowledge by revealing

the role of different types of employee knowledge in the process of firm's innovations. Moreover, it allows us to propose some specific practical implications for firms.

Keywords: Innovation, Knowledge, Employees education

A Knowledge-Oriented Resilience Assessment Framework

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Abstract: Complexity and instability make it difficult to predict and deal with elements that negatively impact performance and safety in sociotechnical systems. Resilience Engineering and Human Factors are scientific and practical approaches that contribute to the design and assessment of complex systems, while considering the interactive relationship among humans, works, and artifacts. Despite the continuous interest of the academia and the industry in the relationship between knowledge, human factors, resilience, and safety, there is a lack of models that can assess resilience and identify critical knowledge to improve resilient performance and safety. This article presents a framework with elements that condition resilient responses, and knowledge engineering tools to capture and analyse workers' perceptions and to support the analysis of safety events. They contribute a new model of evaluation and development of knowledge-based organizational resilience. The results can serve as a basis for knowledge management strategies, consolidate a safety-oriented culture, improve non-technical skills, and contribute to the prevention of accidents and incidents.

Keywords: Resilience; Human factors; Knowledge Management; Knowledge engineering; Safety

Antecedents and Consequences of Knowledge Hiding: A Literature Review

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Abstract: Knowledge hiding is one of the topics that has received attention from many scholars in the fields of knowledge management and human resource management. Knowledge hiding is an intentional attempt by a person to conceal or withhold knowledge requested by someone else. The spread of this negative human behavior can have harmful outcomes for organizations, such as diminished creativity, individual and team performance, and increased employee turnover. Therefore, the managers must be aware of the causing factors of knowledge hiding and its negative consequences. The purpose of this study is to offer a model of antecedents and negative consequences of knowledge hiding. To this end, we have analyzed all studies in knowledge hiding literature between 2012 and 2020 through a systematic literature review. Besides, this paper has categorized the extracted antecedents of knowledge hiding from the studies into a Delphi panel in 8 levels using experts' opinions: "organizational culture," "personal attitude," "personality traits and behavioral characteristics," "leadership," "supervision," "interpersonal relationships," "characteristics of knowledge," and "job" related factors. This study will help organizations face knowledge hiding behaviors to gain a correct understanding of the antecedents of knowledge hiding and its harmful consequences. Finally, this paper will be helpful for the academic community in the path of further exploration in this field.

Keywords: Knowledge hiding, Knowledge hiding antecedents, Knowledge hiding consequences, SLR, ACKH model

Power, Distance and Hierarchization in Organizing Virtual Knowledge Sharing in Wikipedia

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Abstract: Wikipedia, as a flagship free and open-source software (FOSS) project, is characterized by the lack of formal structures and the resulting rigid division of labour. There is no formal authority over the performance of tasks connected with the creation of the Wikipedia content, and the users freely exchange knowledge, information and software codes. Wikipedia, as an online encyclopaedia, is an example of a project based on the ideological foundations of FOSS. So far, research has indicated that over time Wikipedia's informal structure has begun to crystallize and technical administrative rights are becoming increasingly important in the exercise of power. The purpose of this paper is to show to what extent the existence of powers leads to the creation of a power distance in the communities of selected Wikipedia language versions. The authors posed the question whether and to what extent the differences in the cultural dimension of the power distance are reflected in the functioning of the Wikipedia community. How the hierarchization of the organizational structure may influence the organization of knowledge sharing processes is also studied. The authors selected for the research the Wikipedia language versions which were mostly edited by the communities from homogeneous national cultures. The method used was quantitative analysis of the activity of Wikipedia users intended for establishing the general rules of cooperation, as well as an analysis of the distribution of user rights in the context of the social structure of individual versions. Research has shown that with the rise of the power distance, the power structure is becoming more hierarchical. However, the users with administrative rights and users without administrative rights are equally committed to joint rule-making. At the same time, it was found that in some cultures with a low power distance, the users do not show much attachment to the acquired rights. The opposite dependency was observed in countries with Orthodox and Islamic civilizations. The research results may be of interest to the communities organizing virtual forms of cooperation, especially those sharing knowledge and of a global nature.

Keywords: hierarchization, knowledge management, organizing knowledge sharing, power distance, structures of rights in Wikipedia

Knowledge-Oriented Leadership in high tech Companies on B2B and B2C Markets

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Abstract The study examines the impact of knowledge-oriented leadership (KOL) on companies operating in high tech industries concentrating either on business-to-business (B2B) or business-to-consumer (B2C) markets. The impact is measured by companies' performance. The study was conducted in Poland using telephone interviews. The analysed sample consists of 358 companies. The main method of analysis used was linear regression. In order to distinguish high tech industries, the Galindo-Rueda and Verger (2016) classification was used. High tech and medium-high tech industries were analysed. In the first step, medium-high tech and high tech companies were analysed together. For companies concentrating on the B2C market, KOL accounted for 14.2% of their performance variance. In the case of companies concentrating on the B2B market, KOL accounted for as little as 3.1% of these entities' performance variance. At the subsequent stage, companies concentrating on the B2C market were analysed in more depth by dividing them into medium-high tech and high tech groups, as their model fit was relatively high. The results showed that in the case of entities operating in medium-high tech industries, KOL accounted for 17.1% of these companies' performance variance. In the case of entities operating in high tech industries, the model was statistically insignificant. The main contribution of this article is revealing that the impact of KOL on performance is especially high among companies operating in medium-high tech industries and (mainly) in B2C markets.

Keywords: knowledge-oriented leadership, high technology, performance, B2C, B2B

Knowledge Transition on Satisfaction Perception from Clients to Health Care Service Providers

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Abstract: The perception of satisfaction on services provided may impact client's loyalty, thus favoring the competitive advantage of organizations based on the knowledge which is transferred from clients to staff members of an organization about the quality of the service. Taking this into consideration, the general goal of this study was to analyze the satisfaction base on the knowledge transition between the clients of providing health care services organizations based on their interaction. The study is of a mixed-methods nature, carried out employing a survey of health service care providers in Portugal, based on descriptive analysis; and also the analysis of open questions for a more in-depth analysis. The results showed that the clients are very satisfied with all the services and the knowledge that emerged from the interactions leads to a knowledge transition among the health care service providers and the clients. Suggestions for future studies involve the application of the survey in different countries. The practical implications involve the study of mechanisms of knowledge transition in health care services among clients and health professionals regarding the several dimensions of service satisfaction.

Keywords: Health Management, Satisfaction. Knowledge Transition, Health Professionals

How to Mobilize Knowledge-Based Innovations in Service Industries? A Tourism Example

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Abstract: Service industries as tourism, cultural industries, finance, and retail are considered as under-represented in the trade and industry portfolio. This paper centres on the tourism industry and pay particular attention to Small and Medium Enterprises (SME). The purpose of the project was to identify SMEs' need for research-based knowledge, relevant topics, and to prioritize R&D ideas suitable for innovation and/or as a cooperation between academic and industry partners. Three virtual workshops were arranged in the period May – September 2020. All participants represented Norwegian destination associations, regional businesses, and SMEs. As a result of reflections in groups and plenary, specific tourism challenges and knowledge needs were identified. The tourism industry is characterized by many small businesses with few employees, tight finances, and limited resources for development. Challenges are related to seasonal employment, high workforce turnover, lack of strategically market insight, and limited ability to exploit new technology. Businesses are generally vulnerable to changes in demand from the market, which was reinforced by the outbreak of COVID-19. Three topics were emphasised for developing mutual project concepts and joint applications as a collaboration between the industry and scientific partners: (1) Partnership collaboration, (2) Virtual Tourism, and (3) All-Year Destinations. This paper discusses potential theoretical perspectives and empirical approaches for creation of future joint innovations and studies . Discussions are related to: How suitable are virtual workshops for joint reflection on common challenges and cocreation of prioritized actions? Which challenges and needs are tourism confronted with? What should the tourist industry emphasise in face of the Covid19 pandemic? An additional result of the workshops is the establishment of a tourism network among the participants, and with an intention to incorporate even more relevant actors. Further, the project has been significant for developing a program for SMB innovations, including both the service industries and additional sectors.

Keywords: Knowledge creation, Service Industries, Tourism, Resilience, Communities of Practice

Project Knowledge Management as Part of Scientific and Industrial Consortia

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Abstract: The increase in innovativeness of global economies is intensified by initiating and developing cooperation between universities and enterprises, enabling the transfer of modern technologies from the world of science to industry. Cooperation between science and business enables the use of the basic competences of consortium members, accelerates the process of organizational learning and fosters building lasting relationships that are the basis for further joint activities. Cooperation of scientific units with enterprises combines the resources of theoretical and practical knowledge, intellectual capital accumulated in these entities as well as diverse organizational cultures. The multifaceted nature of the emerging relations, allowing to obtain a significant synergy effect on the one hand, is also associated with a greater risk of failure. One of the elements limiting this risk is the effective management of project knowledge within the consortium, which affects the quality of decisions made by individual members of the consortium. As a result of the rapid progress regarding ICT in the recent years, it has become easier to gather and share knowledge. However, this is associated with an increased risk of knowledge redundancy. This article examines how scientific and industrial consortia, being temporary structures, manage project knowledge and how they share it among consortium members. The result of the works is the identification of factors contributing to knowledge management across organizational boundaries between members of the consortium operating indefinitely and the temporary structure of the consortium. The study also indicates the causes and possible actions to be undertaken to reduce the dispersion of knowledge acquired and generated as part of the consortium after the cooperation is terminated. This paper presents the results of mixed research involving preliminary qualitative research as part of two case studies of scientific and industrial consortia completing a joint project, followed by quantitative research carried out using a questionnaire among a larger group of such consortia.

Keywords: knowledge management, projects, scientific and industrial consortia

‘At the Round Earth’s Imagined Corners’: The Power of Science Fiction to Enrich Ethical Knowledge Creation for Responsible Innovation

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Abstract: Knowledge Management (KM) can reflect an aspirational vision of how human knowledge, identity, and technology should interact. As innovations emerge, our view and expectations of the future evolve. Innovation is part of the KM process and requires the ability to imagine these mutable futures before they materialise. The imagined worlds of Science Fiction (SF) offer one way to explore possible futures and future possibilities. Indeed, some classic SF literature is strikingly prescient. These imagined worlds provide a landscape of inspirations and warnings that can support our understanding of the ethical and social impacts of working with and managing knowledge. Often presenting an extreme vector or ‘ideal type’ of how technology is shaped by, and in turn shapes, human life, SF provides a rich repertoire of imagined futures that enable us to support a Precautionary Principle in how we develop and implement technology. Drawing on classical and contemporary SF literature, this paper explores a number of SF visions of the future. It categorises the major themes of the roles played by human knowledge and technology, as portrayed in the selected texts. It then discusses how these imagined futures currently influence our discourse about knowledge, and how they might inform current and further ethical concerns on KM and technology development. Finally, it offers some new insights for how SF might inspire and influence KM, particularly with respect to the social and ethical impact of managing knowledge. We conclude that SF literature provides a repertoire of imagined future possibilities and possible futures that could inform and improve KM’s ability to ethically plan for innovation.

Keywords: Knowledge management, science fiction, innovation, ethics, education, knowledge creation, Information Communication Technology (ICT), technology, story-telling, knowledge

Development of a Corporate Knowledge Management System Using Machine Learning Techniques

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Abstract: Modern knowledge management systems are often essentially data libraries that differ only in the degree of structuring and processing methodology. From the point of view of management theory, the management process consists of such stages as analysis, goal setting, planning, implementation and control. In knowledge management, as a rule, only the analytical stage is presented. The process of management itself is limited by the difficulty of forecasting the processes of development of the system of corporate and public knowledge. In our study, we attempted to solve this problem by applying machine learning techniques. The term Machine Learning was used for the first time by Arthur Lee Samuel (1959). Machine learning is a class of artificial intelligence methods, the characteristic feature of which is not a direct solution to the problem, but training in the process of applying solutions to many similar problems. The science of machine learning itself studies methods for constructing algorithms capable of learning from various inputs. As part of this study, we will be interested only in learning with a teacher, which, in turn, is divided into the following subtasks: - Classification tasks; Regression tasks; Ranking tasks; Prediction tasks. The specific feature of learning with a teacher is that there is both a lot of data in which the model searches for patterns, and answers to the forecast of the model as part of its training. We have simulated the forecasting process in relation to the knowledge system of a company operating in the securities market. Machine learning methods have shown high efficiency in solving the entire range of tasks related to knowledge management.

Keywords: Knowledge management, machine learning, forecasting

The Portuguese Case of Covid-19 as a case of Knowledge Management

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Abstract: There are many ways in which it is possible to look at the impact of Covid-19 in societies. For us it is essentially a crisis of knowledge. First, we lacked a vaccine; second, we lacked the ability to manage our societies to minimize the costs of not having vaccines; third, even when the vaccine was developed, problems arose on how and when to implement it. In another paper we discussed the situation on Portugal in the third semester of 2020 (Tomé, Gromova, Hatch, 2020). Here we extend and update the analysis. We use a model based on technology, people and processes (Edwards 2011). We assume that there are several generic questions related to KM that explain the crisis, namely the following: 1) lack of basic scientific medical knowledge, 2) lack of social knowledge, 3) lack of information and difficulties in informing policies; 4) lack of trust; 5) relation between technology, people and processes; 6) competence and incompetency and finally 7) management of knowledge and information by politicians. We also assume there are several questions that need to be considered specifically about Portugal namely the following: 1) how big is the crisis? 2) how is the crisis explained?; 3) what kind of crisis is it ?; 4) what is the economic explanation to the „new normal“?; 5) what policies should be developed ?; 6) what will happen in politics? 7) what change will happen ? We point out that in Portugal, the massive crisis about Covid-19 happened in January and February 2021 (Worldmeter, 2021). If the cause of the descent in February is easy to find – lockdown imposed since January 16, the causes of the massive surge in January remain to be found and it is around the quest for those causes, and within the TPP framework, that we write this paper.

Keywords: Covid-19, Coronavirus, Portugal

Psychological Capital as a Driver for Engagement in Knowledge-Intensive Work

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Abstract: In response to a growing interest in maintaining sustainable competitive advantage in organizations by paying attention to the well-being of workers in a worklife which is experiencing fundamental transformations, this paper builds and tests a research model on the role of psychological capital in three different forms of engagement at work. Engagement at work has been identified as one of the most significant drivers of successful work performance. This paper takes a wider perspective on engagement at work, arguing that also organization engagement and social engagement together with work engagement are important factors for employee well-being and performance in contemporary work society. Using a quantitative research design, data were collected from 396 highly specialized knowledge workers through anonymous questionnaires. Research hypotheses were tested with linear models. Analysis results indicate that all three forms of engagement are affected by psychological capital which consists of self-efficacy, resilience, hope, and optimism, but the effect of its individual dimensions is not the same for different forms of engagement at work. It is argued that paying more attention to personal resources, such as the dimensions of psychological capital, it is possible to increase awareness of how these malleable resources can assist in building sustainable competitive advantage in organizations through worker well-being.

Keywords: Work engagement, organization engagement, social engagement, psychological capital, knowledge work

Transformations of Intellectual Capital in the Age of Industry 4.0

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Abstract: There is almost no conceptual research explicitly directed at the understanding of the systemic effect of Industry 4.0 on organizational intellectual capital (IC). However, it is getting more important, especially under the complex influence of different disruptive technologies changing the working conditions organizations experience in their daily environment. The aim of the study is to reveal essential aspects of how IC is being transformed in terms of its key components under the influence of industry 4.0 and shed some light on the management challenges organizations face dealing with these effects. To reach this aim the findings of the literature review on the essence of Industry 4.0 are discussed in the paper first. The effect of Industry 4.0 on different components of IC along with the management challenges arising from this effect are analysed afterward. The study highlights the key transformations of the human, structural, and relationship capitals taking place under the influence of Industry 4.0 by opening up new research questions relevant in the IC theory as well as in the Industry 4.0 research. Some insights in regard to maintaining a holistic approach to an organization's intellectual potential despite these transformations are argued at the end of the study. The key conclusions of the study are as follows: (I) Industry 4.0 fundamentally changes organizational IC transforming its key components and characteristics; (II) the effects on different components of IC are different, however, the most radical changes are observed in terms of human capital; (III) Industry 4.0 brings productivity and process efficiency, but at the same time leads to increasing management uncertainty and extra risks; (IV) among the key challenges posed by Industry 4.0 is the ability to comprehensively assess ongoing organizational changes in order to avoid fragmented decision-making. The main novelty of this paper lies in the demonstration of the disruptive nature of Industry 4.0 on organizational IC.

Keywords: intellectual capital, human capital, structural capital, relationship capital, transformation, industry 4.0

How a Higher Education Institute Manages Intellectual Capital and Digital Scholarship Towards Being a Learning Organisation: A Case Study

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Abstract : Private higher education institutions (PHEIs) in South Africa are managed as teaching and learning organisations and are generally for-profit businesses. The question is: are they learning organisations in the true sense of the word? Learning organisations have transformative strategies to manage capital assets towards enhancing organisational relevance, success, and competitive advantage. Among other assets, research output and scholarship are increasingly recognised as knowledge and intellectual capital present in higher education institutions (HEIs). These assets must be managed with a prospect of a return on investment. Even though PHEIs operate in highly competitive environments, research and scholarship have not been leveraged for the value they could have. Intellectual capital and quality research scholarship are pivotal in creating a competitive edge. There are around 120 accredited PHEIs in South Africa, offering undergraduate and postgraduate qualifications. Even though some offer up to masters and doctoral levels programmes, they are generally not considered to be as research intensive as their public counterparts. Yet, they are often producers of niche research, creating and adding valuable new knowledge. This paper reports on the case of a PHEI and explores if it qualifies to be regarded as a learning organisation. The methodology for this study includes a literature review of recent research on the topic, a qualitative content analysis of policy and procedure documents, as well as a case study. The findings are that the PHEI has the characteristics of a learning organisation, and that the distributed federal model of the PHEI leans itself towards functioning as a virtual research learning community.

Keywords: Private higher education; digital scholarship; research output; intellectual capital; learning communities; learning organisations

Knowledge Visualisation as a Tool to Support Complex Organisations in a State of Emergency

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Abstract: In recent years, the importance of exploiting and managing information and knowledge as a strategic resource for organisational growth and competitiveness has been recognised. Knowledge Visualisation (KV) is a very young research area that focuses on the collaborative use of interactive graphics to create, integrate and apply knowledge. Knowledge visualization is defined as the use of visual representations to enhance the creation and transfer of knowledge between at least two people. Knowledge Visualization uses graphic means to build and transmit complex knowledge. In the literature, few studies focus on KV, especially in complex organisations in the emergency phase. Organisations have had to face the pandemic situation that is affecting the whole world, but Knowledge Visualisation could be seen as a support tool that the decision-maker can disseminate to manage the emergency. In this context, the decision-maker can use Knowledge Visualisation tools (images, maps, diagrams, etc.) to transform raw data and information into accessible forms of representations to extract information. This paper is an exploratory and qualitative study based on single case study on an Italian public complex organisation. This study trying to understand how KV can support complex organisations in the emergency phases. The findings highlight the potential and importance of Knowledge Visualisation, which has been shown by their use of different tools and bodies with functions related to Knowledge Visualisation.

Keyword: Knowledge Visualisation, Emergency, People Management, Public organisations, Decision-making; Complex Organisation

Knowledge Management During a long-term Crisis: Challenges with Distributed Employees

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Abstract: The pandemic caused by the Covid-19 virus led to an extensive, and rather immediate, situation of a substantial number of employees being “forced” to work from home. Even if the technology was developed for enabling this “new” type of telework, not all employees or managers were prepared for this abrupt introduction. The pandemic represented a crisis that needed the resolving of Knowledge Management issues, while maintaining a reasonable level of production. This posed managerial issues, such as maintaining communication with the employees, as well as maintaining the focus on the production, customers and other stakeholders. Our paper shows how the management in two different organizations, one public and one private, perceived the crisis and its challenges, and how they handled the various stages of the crisis. The managers have experienced the issues described in the literature of telework, Work From Home (WFH), remote work and flexible work, such as resolving to empowering leadership (EL), installing the employees with trust and autonomy and recognizing the loss of informal communication. They struggle to acquire an overview of the employees’ well-being, at the same time as they experience a decrease in sick leaves and an increase in production.

Keywords: Knowledge Management processes, Crisis Management, Distributed employees, Communities of Practice

Change Management: Agile Business Transformation in the Hybrid Education System Management

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Abstract: The aim of the article is to determine key elements influencing the hybrid teaching system. Education system management in the era of Industry 4.0 requires redesigning it so that the model in an agile/flexible manner deals with introducing changes induced by the market need, but also in the situation of the global pandemic and a sudden adjustment of classes to the online mode. The introduced model should guarantee the highest quality of provided service and fulfil unchanged formal requirements related to the assessment of faculties by authorised institutions. Experiences of state universities of technology in Poland constitute the research subject due to the one generally binding assessment of the education process implementation. The proposed model was tested at one of them and the case study was presented. The management model was brought down to three main hypotheses directly referring to verifying system functionality. The verification was conducted on the grounds of generated annual reports including information on the education quality from the analysis of research conducted annually with system participants (internal stakeholders). The results show that the hybrid teaching system management model in the academic year 2019-2020 requires redesigning in the current academic year. It should be adjusted so that it is possible to meet the condition in the scope of a univocal statement on the improvement of the education quality. The article presents main assumptions that should characterise the agile management model of the teaching system so that it could help other universities verify the agility level or develop intercultural curricula (by the possibility of learning about national assumptions of education quality in Poland).

Keywords: management, business transformation, agile, education.

How Smart Governance is Driving the Advancement of Smart Cities?

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Abstract: Smart cities are often linked with development projects to reach the smartness level for which a city administration aims. There have been several studies on how to assess a smart city's performance using different methodologies and assessment criteria. There is no standard method for doing such an assessment, however. We observed that smart governance has been a key dimension in smart city knowledge management and driving smart city development. In fact, more than half of the studies we analysed (20 out of 30 studies between 2015 and 2020) included smart governance as an assessment dimension for measuring the performance of smart cities. Hence, we emphasize in this paper the role of governance in the development of smart cities and demonstrate how governance is being measured and assessed by various assessment tools. Smart governance is defined as how a governmental body of a city, public administration of a city, or those responsible for managing and administering a city are performing. The dimension is measured via indicators such as city vision, resources and reserves per capita, policies, knowledge management and investment levels, as well as e-government services. In this paper we shed more light on the indicators used in different assessment tools, as well as the cities that have scored high in the smart governance dimension. We follow a theoretical approach with a combination of quantitative and qualitative analyses to investigate the commonalities and correlations among top-performing cities in terms of smart governance. How does information and communications technology (ICT) facilitate and drive the smart governance dimension? What is the role of information systems in enabling e-government services and is it supported by a digital infrastructure? In addition, we want to discover the roles and expected interactions of e-citizens. The findings of this paper will help stakeholders involved in managing and developing smart cities to be more aware of a crucial dimension (smart governance) in the advancement of a smart city.

Keywords: Smart city, Smart governance, Knowledge-based smart city, E-government, Assessment framework, Dimension

New Knowledge Discovery for Creating Terminological Profiles of Diseases

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Abstract: The paper focuses on discovering new knowledge for creating and updating terminological profiles of diseases. A profile is understood as the complex of related annotations of terms describing a disease and its stages. An annotation of each term contains a structured definition of the term meaning (=concept) in which its sub-meanings can be defined, term synonyms, inter-concept relationships, links to external information resources, term contexts extracted from scientific texts on medicine and a linkage between each context and a relevant text, and term associations with disease stages. The growth of scientific knowledge in medicine results in new terms that need to be regularly added to disease profiles. Creating and updating disease profiles requires an advanced model as a theoretical basis for developing a knowledge base and information technology that support the discovery of new knowledge in large collections. The proposed model combines the automatic and expert stages of finding new meanings of existing terms and new terms representing new knowledge concepts that are not described in medical dictionaries and handbooks used by experts. The paper aims to compare our information-technology-oriented model with the spiral model of knowledge creation.

Keywords: emerging meanings, terminological profile, terminology knowledge base, information technology, models of knowledge creation

Healthcare Fusion: The Future is Here Now

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Abstract: Shakespeare famously wrote, “What is in a name?” What is healthcare fusion? Why is it important? Perhaps the ultimate goal for healthcare management is the delivery of effective patient-centered care in an equitable and timely manner. One essential tool to achieve this goal is an integrated and comprehensive pathway for healthcare data storage, analysis, and utilization. The potential exists for a centralized, cloud-based system that links together physicians, hospitals, public health agencies, insurance and pharmaceutical companies, and most importantly, patients. The envisioned system provides a way to improve clinical quality management and deliver consistent and effective treatments. Indeed, massive integration of personalized health and large-scale epidemiological and molecular data, compounded with the use of artificial intelligence and machine learning, is underway. Here, we propose the healthcare fusion framework, which unifies the stakeholders in healthcare delivery. This fusion aims to achieve culturally and demographically relevant outcomes in precision medicine and population health, in ways that appeal to stakeholders and investors. The proposed framework may prove highly relevant in informing governmental and private sector responses to public health threats or emergencies.

Keywords: healthcare fusion, big data, ROBIN, artificial intelligence, cloud computing, precision medicine

Knowledge Sharing in the COVID-19 Era of Remote Teaching: What Can Academia Learn from Business?

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Abstract: Purpose: The COVID-19 pandemic outbreak resulted at the university level in a massive transition from traditional ways of teaching to remote forms. This sudden conversion has led to changes in the patterns of knowledge sharing (from teachers to students and among students). The aim of this paper is to investigate how universities may benefit from experiences of businesses that were also forced to use remote forms of business operations. Large companies, operating in the international context may be a valuable source of information on how to improve knowledge sharing processes among university students and between students and teachers. Methodology: The paper uses a qualitative research method (in-depth interviews) to explore the possibilities of knowledge sharing improvements at the university-level teaching, based on the experiences elicited in the business sector. The theoretical sampling was used to find informants familiar with both transition to remote teaching and shift to online business operations forced by the COVID-19 pandemic. Findings: Interviews were conducted with experienced managers participating in an MBA programme. During the outburst of the COVID-19 pandemic the programme has been switched to a remote mode. At the same time, the interviewed managers had to cope with the transition to remote mode at work. Their work-related ordeals were contrasted and compared with their university-related experiences regarding knowledge sharing. Conclusions and recommendations have been formulated on the basis of evidence gathered during the interviews. Research limitations: This paper is of an exploratory character. The triangulation of findings presented here is limited. The sample consists of participants of one MBA programme only, hence the conclusions cannot be generalised. At this stage the paper may serve as a basis for further development. Practical implications: The paper presents possible improvements to be introduced by academia in the remote mode teaching. Business sector and especially large businesses may offer experience-based solutions that allow to boost knowledge sharing processes among students and increase the efficiency of knowledge sharing between teachers and students. Originality/value: The topic of the paper is very up-to-date and of considerable significance. Knowledge sharing processes at the university-level teaching have been significantly distorted by the COVID-19

pandemic outburst. Using experiences from the business sector can be very helpful in this regard.

Keywords: knowledge sharing, COVID-19 crisis, change management

Knowledge Risks in Organizations – Insights from Companies

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Abstract: Purpose: Knowledge risks are increasingly becoming a great challenge to a variety of organizations. At the same time, academic research on such types of risks, their consequences, and potential ways of overcoming them is still scarce and fragmented. To fill this gap, the paper aims to find out do companies manage their knowledge risks, what are the possible knowledge risks they face and have they observed an increase of knowledge risks during the COVID-19 pandemic. The paper is aimed to present insights on different types of knowledge risks that organizations face, and the ways organizations handle them. The paper also proposes some potential countermeasures organizations might use to mitigate the consequences of knowledge risks. Methodology: The study presents the results of a quantitative survey performed among 60 professionals dealing with management and knowledge risks in organizations. In the study, the authors also have examined what tools and methods are used to manage these risks. The study also explores the level of readiness organizations have to address potential knowledge risks. Findings: The theoretical study has allowed us to identify a variety of knowledge risks, which can bear severe consequences for organizations, such as knowledge loss, knowledge leaking, knowledge hiding, or risks related to cybercrime. All these risks may potentially reduce the productivity in organizations, thus leading to the degradation of organizational performance. Research limitations: Research results are limited to the convenience sample that was selected for the study and thus may not give a comprehensive overview of the state of the art. Practical implications: The study provides useful insights for managers and owners of organizations in need of dealing with the knowledge risks in their organizations. The paper is

enriched with a number of sample solutions that they may apply for the sake of their organization. **Originality/value:** The paper lays the ground for a better understanding of the knowledge risks that organizations need to face nowadays. As such, the paper offers food for thought for researchers dealing with the topic of knowledge risks, knowledge management, and organizational risk management in general.

Keywords: knowledge risks, knowledge management, risk management, quantitative research

Knowledge Management and its Transfer in Diverse Voluntary Groups

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Abstract: This paper used current business theory to underpin an original research methodology modified by the authors, to expose knowledge, its acquisition, management and transfer, in voluntary not-for-profit groups operating with widely differing technical purposes. The aim was to show how the methodology identified common processes underlying knowledge management, and how it was acquired, managed and transferred, in disparate organisations. The methodology first used Interpretative Phenomenological Analysis (IPA henceforth) techniques. It was used to structure and analyse the responses after full transcription, then complemented by other analysis techniques. Transcripts were made from new interviews with disparate individuals from groups in Poland were compared with earlier published results. The underpinning acquisition process is addressed in depth. IPA was used to structure and analyse the responses after full transcription. The research question is: Are there common factors about motivational and knowledge transfer processes, in disparate groups? To identify these factors, meaning units were identified and noted, and analysis of these created emergent themes, which were then addressed using other, literature derived tools. The authors also propose to use this process for new avenues of research. Finding a methodology and answering this research question has proved a challenge, and this paper describes a methodological solution. The full research technique is presented, from participant selection to outcome analysis. The results demonstrated that similar processes of organisational learning and active knowledge management occurred

in all the groups. Knowledge was transferred in and out of the organisations. Expertise from earlier experiences was applied by the groups, and transferred, becoming explicit. Existing managerial skills and methods were applied in new organisational contexts. Many similarities were found, despite clear differences in technical purpose and types of organisations. Utilisation of this technique made outcomes clearly visible. Thus, this process, although very time consuming and inevitably subjective, has allowed the authors to research extensively people's motivations, priorities and beliefs. The outcome was a strong, defensible and auditable understanding of why people got involved in the organisations, their motivation and its consequences. Their knowledge acquisition, transfer and utilisation were clearly identifiable, as was their organisational learning and subsequent usage of it.

Keywords: knowledge management, organisational learning, interpretative phenomenological analysis.

The Value of data sets in Information and Knowledge Management as a Threat to Information Security

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Abstract: The article presents an analysis of the awareness of employees at various levels in large manufacturing companies in Poland and Italy. A questionnaire was used for the research, the questions allow for adopting a 7-point Likert scale. The Servqual method was used to assess satisfaction with the applied solutions. The research became the basis for the development of a model of conduct among middle and senior employees with a large amount of processed information. The article is of a research nature. The main purpose of this survey is to identify the level of awareness of production companies' employees in the field of security of processed information and its collection in big data. For this purpose, the first part discusses information and knowledge management as components of enterprise security. Attention was also paid to the amount of information and knowledge that should be processed, which gives the potential for processing in big data. The article uses the results of studies conducted from September 2019 to March 2020. The second (empirical) part of the article presents the research assumptions,

methodology, research results and conclusions from the research. On the basis of 1263 questionnaires, it was shown that the transfer of information and knowledge is at an average level in enterprises. The study also showed a moderate safety effectiveness of the analyzed resources. The next stage of the research was the Servqual analysis, which showed that one of the examined areas: reliability of company management requires immediate improvement, and providing employees with knowledge about big data and security threats requires intervention, reflection and changes. The study also indicated that the growing availability of modern systems and the creation of a security culture gives the potential to transfer the activities of enterprises to IT systems. Information and knowledge processing and management of these resources is also possible with the use of big data.

Keywords: big data, information security risk, information security

PhD Research Papers

Tacit Knowledge Management Strategies of SMEs in KwaZulu-Natal (KZN), South Africa: A Preliminary Study

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Abstract: This paper explores existing tacit knowledge management strategies of SMEs in KwaZulu-Natal (KZN), South Africa. The research questions that guided the study were: i) What are the methods of tacit knowledge capture and transfer, and ii) What are the enabling factors that aid tacit knowledge management? The study adopted a qualitative research approach, with face-to-face interviews as the main instrument of data collection. Twenty-three (23) SME owners/managers were interviewed across different sectors of SMEs in KZN, South Africa. Themes from the collected data were extrapolated and analysed using R software for qualitative analysis. The findings revealed that to identify workers with the required expertise or tacit knowledge, the SME's owners/managers paid attention to employees' talent and skills that manifest through selling, marketing, and communication. This was mostly achieved through observation, followed by interviews. While up to 72% of the sampled SMEs had no capturing plan, the remaining 28% captured tacit knowledge through writing and video recording. Training emerged as the most commonly used method to transfer tacit knowledge from one worker to another, followed by apprenticeship, verbal orientation, knowledge sharing sessions, and what is termed as "pairing systems". Even though more than half of the respondents agreed that knowledge sharing should be rewarded, almost the same percentage did not reward knowledge sharing. Where tacit knowledge sharing was rewarded, it took the form of incentives, honours, cash rewards, gifts, and promotions. The study employed a qualitative approach and focused only on the KZN province, which means the findings cannot be generalised onto the population of SMEs in South Africa.

Keywords: Tacit knowledge, tacit knowledge management, SMEs, South Africa

The Role of An Augmented Theory of Planned Behaviour (TPB) On Recycling Behaviours in Lagos Nigeria

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There has been a rise of the word 'sustainable' used in various contexts and expressions, such as green, environmentally-friendly or eco-friendly. Most of these expressions are associated with developing countries (Khandelwal and Saxena, 2010; Minton et al., 2012). Hence, the global attention of environmental sustainability with a focus on the negative consequences towards the environment. (Holden et al., 2014; Bohner and Schlüter, 2014). The lack of environmental sustainability has led to the deliberating and conversing of solutions to extensively address the growing concerns worldwide (Greaves et al., 2013). Environmental sustainability has been executed in various ways, mainly focusing on the moral and cognitive aspect (Chan and Bishop, 2013; Greaves et al., 2013). Such as studying the behaviours associated with recycling (Goldstein et al., 2008; Bohner and Schlüter, 2014). In contrast, others focus on a more hands-on approach, such as emphasising the role of recycling or ways to implement recycling towards environmentally sustainable implementation (Oreg and Katz-Gerro, 2006; Jakovcevic and Steg, 2013).

Supporting Stakeholders Cooperation in the Rehabilitation Pathway: A Composite case of Severe Obesity

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Abstract: Designing a person-centred rehabilitation pathway requires several stakeholders, and implies sharing of information, coordination, and collective decision making. Currently, both the clinical pathways and the stakeholders' roles and communication possibilities are constrained and contested. This leads to structural, technical, and professional barriers impeding patient-centred care and rehabilitation. There is an urgent need for ICT-based support for accessing and sharing a multitude of information, and for shared decision-making with safe and secure data storage and self-evident user interfaces. Web platforms, accessible to stakeholders depending on their roles and needs, are promising solutions. This paper aims to discuss how a web platform, in the making, may be able to resolve some known barriers in clinical pathways and rehabilitation. By using a composite case of morbid obesity, challenges for sharing of information, coordination, and collective decision-making involving the stakeholders will be critically appraised. This is a first step to identify barriers, requirement guidelines, and possibilities for further development of the web platform.

Keywords: e-health, rehabilitation pathways, shared decision-making, information management

How Relational Perspectives of Work Design Influence Knowledge Sharing via Prosocial Motivation

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Abstract: Based on data collection in three companies, and using a PLS structural equation model, this paper examines the effects of relational perspectives of work design on subtypes of prosocial motivation, and the effect of these types of motivation on willingness to share knowledge. In order to be able to examine the indirect cause-effect relationships between the relational perspectives of work design and the willingness to share knowledge, the model differentiates between principism-based prosocial motivation and collectivism based prosocial motivation. The results of the analysis of the data collection regarding the relational perspectives show that social support and initiated task interdependence each exert a positive influence on collectivism based prosocial motivation. For contact with beneficiaries of work and constructive feedback no significant influence on this type of motivation was found. None of the relational perspectives had a significant influence on principism based prosocial motivation. Regarding the effects of the two subtypes of prosocial motivation integrated in the model, it was found that both exert a significant positive influence on the willingness to share knowledge. Considering all the present results, it can be concluded that social support and initiated task interdependence have an indirect positive influence on the willingness to share knowledge via collectivism based prosocial motivation. The resulting mediating function of collectivism based prosocial motivation is confirmed by the results of a conducted mediation analysis. This indicates that if organizations want to increase the willingness of their employees to share knowledge, they can do so in two ways at the level of the relational perspectives of work design. On the one hand, they can ensure that employees are surrounded by a supportive work environment, on the other hand, organizations could design the interdependencies in the work processes of their employees in such a way that employees are at least partially involved in work tasks that are characterized by initiated task interdependence. Furthermore, efforts to promote identification with the company or the value orientation of employees can generate the types of prosocial motivation integrated in the model and thus increase the willingness to share knowledge.

Keywords: Knowledge sharing, Work design, Prosocial motivation, Collectivism, Principilism

Expatriates' Knowledge Management in a Portuguese Pharma Organisation

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Abstract: With globalisation, there is an increase of investment in international assignments to gain global knowledge. The management of knowledge in pharma organisations is believed to help organisations meet regulatory requirements while obtain success in its activities, at an international level. One of the most important international assignments that allows organisations to obtain global knowledge is expatriation. Expatriates can take knowledge to other locations, and they can bring it from other locations to the home-country. Therefore, this paper aims to analyse how knowledge is being managed during expatriation by presenting a case from a Portuguese pharma organisation. This organisation had in its beginning around 250 employees. In 2019, it had more than 900 employees with subsidiaries in different countries and continents. Moreover, it has employees of 14 different nationalities including expatriates as well as foreigners who decide to work in the organisation, in Portugal, due to its reputation. To achieve its aims, this study offers a focused online search of articles and reviews in Scopus and ISI Web of Science to support the work developed. Also, semi-structures interviews were carried out, via Microsoft Teams, complemented with document analysis. This study concludes that the organisation is doing a lot of changes in the management to ensure the success of their expatriation assignments. However, the organisation does not have a formal mechanism for the management of knowledge during expatriation assignments. The knowledge is transferred via informal ways, which do not guarantee the full absorption of the knowledge by the organisation and its employees. As the organisation is expanding, can be of high importance to develop this mechanism that can contribute to the organisational development and success. The main limitations of this study refer to the reduced number of

interviews, the limited literature review and its qualitative nature. The aim is to continue to work with this organisation to achieve a more in-depth understanding of the process of knowledge management during expatriation while helping to develop the formal mechanism for its management.

Keywords: Knowledge Management; Intellectual Capital; Expatriation; Exploratory Case Study

Social Capital within Agri-Food Business Support Networks: An Exploratory Perspective

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Abstract: Developing social capital is critical to knowledge management (KM) to assist in network capabilities and the understanding of systematic interactions amongst people, individually and collectively. Social capital places value on social relationships and social structures, permitting access to resources that promote innovation, such as knowledge, funding and moral support. Various types of social capital (bonding, linking and bridging) provide different sorts of exchanges, and tailored and targeted support to those who avail of social capital initiatives and innovative activities. The purpose of this PhD research is to explore the value of social capital for innovation within Agri-Food Business Support Networks. Adopting a qualitative research methodology, an in-depth case study approach of six support network programmes across the Island of Ireland will be utilised to assess interactions and change within producer and collaborative activities. Selected cases will be representative of key areas of the all-island Agriculture Knowledge and Innovation System (AKIS). Core to the AKIS concept is that it functions by complex and systematic interactions of many actors and infrastructures. Social capital will break down these interactions with the aim of educated business support

programmes on farmer's needs, innovation capabilities and level of adaptability. Limited research to date has explored how business support programmes can aid the development of social capital and consequently lead to increased innovation capacity. This research will fulfil this existing gap. Practically, this research will support programmes to proactively assess farmer's capacities with the use of social capital. Support programmes will have further knowledge on farmer's attitudes, adaptability and attitudes towards innovative activities. This paper presents a systematic literature review and details plans of the proposed qualitative research study.

Keywords: Regional development; Social capital; Innovation capabilities; Networks; Agri-food business; Knowledge exchange

How do Companies use Knowledge Management to Strengthen their Market Position? (Based on Analysis of Fortune 500 Global Corporations)

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Abstract: The successful implementation of knowledge management (KM) in a company enables the processing, interpretation and use of information about market trends and directions. Orientation in the market using KM may also lead to a competitive advantage and enhance the market position of a company. Knowledge remains one of the main resources creating a company's competitive advantage because it is valuable, rare, and difficult to imitate. The ability to manage knowledge is a core competency of an organization as it facilitates the use of various resources and forms the foundation of a business model for success and profitability. The company must be market-oriented, which means the company should not only create, acquire, share, and use knowledge and avoid knowledge loss, but also do it taking into account the requirements of customers, market opportunities and threats, rival's actions, and so on. Knowledge can enhance the ability of a company to understand the market and to anticipate changes and trends, leading companies to a better market position. To make marketing decisions, the company receives information about customers from the retailers,

consumer knowledge from market research, and market knowledge from third parties. Using these three sources, a company may create an appropriate image and take a better market position. This study explores the relationship between knowledge management and market position and provides a framework of interaction between the company and customer to obtain meaningful knowledge. The sample used in the research is made up of companies that achieved higher revenue in 2020 (based on the ranking list of Fortune 500 global corporations). We highlight different approaches from the most profitable companies on how to strengthen market position through knowledge management, especially through customer knowledge.

Keywords: knowledge management, market position, company's image, market performance

The Influence of KM on Performance of Health Sector NGOs: Contextual Analysis

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Abstract: Studies indicate that Knowledge Management (KM) contributes to the effectiveness and efficiency of organisations leading to improved performance. Health sector NGOs in Kenya make a significant contribution to health care delivery. Besides complementing government efforts in healthcare provision, health sector NGOs act as a watchdog, monitoring the implementation of health policies and commitments, and also advocate for the rights of marginalised groups, hence positively contributing to efforts geared towards the achievement of Sustainable Development Goal (SDG) on health, as well as other national development priorities, such as Kenya's vision 2030. The purpose of this paper is to highlight the status of Health sector NGOs in Kenya through a contextual analysis of the sector based on a literature review. Though KM creates new value for organisations through the activation and use of explicit and tacit organisational knowledge, limited empirical studies have been undertaken to illustrate the application of KM in health sector NGOs in Kenya to gain these benefits. A tremendous amount of knowledge is created within the healthcare system that is of utmost importance in improving the quality of healthcare, but without empirical evidence to illustrate its usefulness. This paper brings out the key KM issues, challenges and opportunities for health sector NGOs in Kenya that would contribute to their performance. The

paper is a contribution to discussions and debates on the role of KM in improving the performance of organisations.

Keywords: Knowledge management, health sector NGOs, Kenya, context analysis

Blockchain Facilitates a Resilient Supply Chain in Steel Manufacturing under COVID-19

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Abstract: The impact of COVID-19 caused a crash in the supply chain across almost all manufacturers, retailers, and wholesalers and now dramatically impacts many of the processes in the manufacturing sectors. In particular, the steel industry, as an energy-intensive industry, is being urged to adopt digitalisation technology to achieve optimization and sustainable production. Industries are fortunate to showcase an opportunity to advance the supply chain towards sustainability to deal with such a crisis. It is acknowledged that digital technology like blockchain can provide intercession by discovering real-time problems to perform certain Sustainable Development Goals related to procurement, production and processing, logistics and transportation and the environment. However, the data structure which requires implementation by blockchain technology in the steel supply chain is restricted. Blockchain technology has the outstanding position to transform the supply chain. The main challenge is that tracing border activities in the steel supply chain has not well been monitored. The digital system is drastically required to develop advanced technology to handle the disruptions and build a resilient supply chain. Using blockchain technology can capture the goods movement across the entire supply chain to verify the quality and product provenance. Furthermore, the rapid technology innovation in the steel sector involves the continuous update of skills and personnel. This study aims to explore the role of blockchain technology in the steel supply chain industry, such as inter-organizational trust, data transparency and immutability, interoperability and product type, and social influence and behavioural intention. A qualitative research approach was adopted on exploring multiple-case studies. The study reveals that blockchain technology contributes to a resilient steel supply chain in reducing risks and uncertainties with its transparency and immutability function. In the future, an integrated technology implementation framework should be developed to deploy

Artificial Intelligence and Blockchain technology in manufacturing industries to accelerate the digital transformation.

Keywords: Blockchain, Supply chain, COVID-19, Steel, Sustainability

Work in Progress Papers

Platform Solution for Building Project Teams on the Cognitive Styles Synergy Basis

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Abstract: The paper is describing a project of a platform for online teambuilding of distributed project teams using the algorithm matching the characteristics of problems suggested by the problem owners (overall, technological and human-related uncertainty of the Problem as well as architectural and modular innovation necessity for its solving) with the problem solvers' team roles and psychological traits backing these (such cognitive styles as field dependence/independence, equivalence range width and impulsivity/reflexivity). Actuality of the project (based, e.g., on methodological gaps in existing distributed teambuilding platforms) is shown, after which the projected platform's business model, variables and formulae of the algorithm, and the project's limitations and further development directions are discussed.

Keywords: Team building, cognitive styles, team roles, online problem solving

Theoretical Model of Value Co-Creation and Sustainability

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Abstract: If sustainable practices were for a long time a differentiation tool on an overcrowded market, the creation of green regulations from governments transformed this competitive advantage into legal compliance, hindering financial

outcomes. Based on the existing literature, this study presents a conceptual framework of factors believed to create value when co-creation occurs between organizations and stakeholders in a sustainability context. Four factors appeared to be crucial to create value sustainably-oriented : (1) share of values with stakeholders that go beyond financial interests, which will highly determine their drive to engage. (2) relationship management focused on keeping a coherence with values and objectives while developing stakeholders' loyalty. (3) knowledge acquisition by using co-creation as a platform where stakeholders will be able to translate their knowledge into action. (4) innovation towards sustainable development. This paper brings a new contribution in the sense that drivers to engage into co-creation for sustainability are not based on financial interests unlike usual co-creation, directly impacting the way the relationship should be approached by firms to learn from their stakeholders and to create value. A gap remaining is the availability of measurement tools to assess value created from co-creation projects.

Keywords: sustainability; co-creation ; sustainable development ; value creation

Do the Policies Implemented in Protected Natural Areas in Europe Allow for Pro-Environmental Behaviour of Their Stakeholders?

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Abstract : Despite the expressed willingness to reduce its impact on the environment, The tourism industry is one of the main threats to 50% of the world's 252 natural world heritage sites. As Europe is the most visited destination in the world and given the intensifying pressure on protected natural areas, this article seeks to define how to improve pro-environmental behaviours in natural protected areas by stakeholders in Europe. For that purpose, this paper aims to address how European policies influence stakeholders' motivation to implement these strategies and their pro-environmental behaviours. This paper highlights that the main tools for implementing sustainable development policies in protected natural areas are information, knowledge, norms, and values. This paper reports part of the early stages of a PhD research, and the results reported are therefore

theoretical and point to a knowledge gap. These are expected to inform the empirical part of the PhD research, to be conducted during the second year of the PhD, and therefore not reported in this paper.

Keywords: Motivation, pro-environmental behaviour, policy, implementation, sustainable tourism, protected natural areas.

Intellectual Capital and its Influence on Hotel Performance: Moderator Effect of Manager's Gender

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Abstract: In a knowledge-based society, the study of Intellectual Capital (IC) has established itself as a vibrant topic in the area of strategic management. The purpose of this paper is to explore the concept of IC in the hotel industry and to assess its impact on business performance. Although hotels are not primarily seen as knowledge-intensive, they are service providers, highlight their intangibility and face unpredictable and complex environments, which has been illustrated by the current COVID-19 crisis. Therefore, both the individual knowledge of employees working in hotels and the organisational knowledge expressed in routines, systems, customer databases, etc., are considered important elements for their effective leadership and management in a turbulent environment. Empirical studies that have investigated the relationship between IC and hotel performance are scarce and offer mixed evidence. In our study we propose to introduce the role of the company leader as a key aspect in the management of knowledge and intangibles within the hotel. Specifically, the main objective of our study is to analyse the moderating influence of the gender of hotel managers on the CI-hotel performance relationship, showing that hotels managed by women have a more pronounced impact on the positive influence of CI on hotel performance. Our results have been obtained from questionnaires addressed to a sample of 212 hotels between 3 and 5 stars located in Spain. The analysis technique used was Partial Least Squares (PLS). The main contributions of this paper include the theoretical review of the concept

of intellectual capital in a sector as relevant as the hotel sector in Spain, which is going through such an exceptional situation with the current crisis. In addition, important managerial implications emerge in order to make the most of the existing knowledge resources in hotels.

Keywords: Intellectual capital, hotel knowledge, women managers, tourism sector

The Impact of Digital Transformation on Knowledge Management During COVID-19

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Abstract: Technology and digital transformations are increasingly important in today's world. The COVID-19 pandemic that the entire world has been grappling with for the last year has made this even more so. The speed at which different organisations across various sectors have had to embrace digital transformations has been unprecedented. In some sectors this has been driven by the need to simply survive during this pandemic. However, beyond just responding to crisis, digital transformation, and the use of data to drive it has over the years brought about disruptions which have led to great innovations and progress. In many instances these innovations have not only been driven by digital transformations but by a merging of digital transformations and intelligent/adaptive knowledge management systems that have arisen from it. Even before the emergence of the pandemic, digital transformations, AI, machine learning techniques and various innovative technologies had started to be used to design intelligent and adaptive knowledge management systems. COVID-19 has greatly accelerated the uptake of these technologies across a wide range of sectors. Organisations that would successfully navigate these times and be ready for the future need their knowledge management systems to be intelligent and highly adaptive. Digital transformations and innovative technologies are increasingly making this possible. In this work in progress paper, we start to explore the impact of digital transformation and innovative technologies on organisations' knowledge management systems and the changes in the factors that contribute to whether organisations adopt these innovative technologies/digital transformations in times of crisis such as during the COVID-19 pandemic. Knowledge management systems that can respond to inevitable changes that arise in crisis situations such as COVID-19 are invaluable.

These systems are positioned to naturally produce actionable intelligence resulting in competitive advantage.

Keywords: Digital transformation, COVID-19, Intelligent knowledge management, Adaptive knowledge management, Innovative technologies, Knowledge management systems

Abstracts Only

New Normal: Virtual Lessons Learned in the Real World: The European Space Agency Experience

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Abstract: The European Space Agency has been undertaking space missions for more than 50 years. In this time, it has gained significant and a unique collection of experience. This collection of knowledge, held by its experts, is now one of the key assets of the Agency, and, in the light of a current retirement wave impacting this experience resource, has recently needed knowledge sharing mechanisms to be established through robust processes allowing this experience to be captured and shared. Whilst initially configuring its lessons learned process, means and tools for face-to-face capture, supporting discussion and exchange of experience, the Agency has had to make a rapid transition to the mode of on-line capture, processing and dissemination. This was essential as the Lessons Learned process was going through the early phase of initial Agency-wide adoption and the transition of working remotely had the potential to at best disrupt and at worst derail the successes achieved. However, as a result of an organization being open to working in the remote means, and the lessons learned tools being able to enable an openness of sharing experiences, the transition was achieved in a near seamless manner. This paper will then discuss the methodology and status of lessons learned immediately prior to the adoption of remote working, and also then present the rapid transformation to the virtual environment. It will make an assessment of the effectiveness of capture and ultimate dissemination of lessons in this “new normal” way of working, and set out some reflections on the longer term implications of this e-capture approach, and its potential to be maintained as the preferred way of working. The paper will also present the dissemination means employed and present a view on how this is expected to develop in the coming years. As a result of this LL activity it is expected that the Agency will be better prepared for the loss of experts through retirement, and also then go on to foster a more positive culture of sharing experience for the benefit of other in the organization but also within the European space community, and, even, beyond

Keywords: space agency, lessons learned, e-tools, remote working

How has the COVID-19 Pandemic Affected Knowledge Sharing?

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Abstract: Previous work has identified different knowledge sharing situations that may be distinguished by the dimensions of time, place and context. Each of these may be either the same; or different but predictable; or different and unpredictable.

One research direction identified using this lens was “what are the effects of the continuing technology-enabled shift from predictable to unpredictable place, and to a lesser extent from predictable to unpredictable time?” The COVID-19 pandemic has increased the importance of investigating these unpredictabilities, and that of context, further. Face-to-face meetings have become difficult, if not impossible for many. Ideas about online training and teaching have needed to be re-thought.

The immediacy of “same time” interactions, even if virtual, has many benefits for knowledge sharing, but even with the advances in tools such as Zoom and Microsoft Teams, it may not be the only game in town.

Early indications suggest that although the COVID-19 pandemic at first reinforced the shift from predictable to unpredictable place, the places where we share knowledge are now sometimes predictable in a different way: we know our colleague is at home even if we don’t know exactly where “home” is. As for the shift towards unpredictable time, the need to balance work with other commitments, especially where those include home schooling, may have led to a more disciplined and so more predictable approach to the time when interactions take place.

Keywords: context, interaction, knowledge sharing, place, time

Towards a unified model of Science Park Development

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Abstract: A longitudinal dataset for the years 2012–2018 of firms using industrial code ‘J-62’ (programming and related industries) was collected from Swedish companies’ database ‘Ratsit.se’ for all such companies located in Skövde municipality and in Umeå municipality. Data from the two municipal Science and Technology Parks (STPs) was analysed comparing innovation factors from on-cluster firms to growth and economic prosperity of off-cluster firms and the STP itself. The relatively small and young Umeå Science Park, (founded in 2003) accounts for 11% of firms and 29% of employment in the municipality, it contains 36 firms (as of 2018), all of which are small, with on average 7.42 employees per on-cluster firm compared to 2.14 employees in off-cluster firms. The more mature STP (founded 1998) Skövde Science Park accounts for 30% of firms and 78% of employment in the municipality, in 2018 in Skövde municipality there were 21 on-cluster firms (discounting branches of 2 large companies) and 59 off-cluster firms, but the 59 off-cluster firms had only 178 employees compared to 598 employees in 21 on-cluster firms. In the case of Skövde, STP growth was strong and on- and off-cluster firms prospered. In the case of Umeå, both the STP and on-cluster firms grew slowly, while off-cluster firms proliferated. The results support the view that young and innovative STPs grow better when they can attract divisions of larger firms, which in turn improves their decision-making.

Keywords: Business Cluster, Science Park, Innovation Factors, panel data, econometric analysis

Soft Skills Matter For Data Scientists And Data Analysts For Knowledge Generation: A Study Of Gap Offer-Demand In Paraguay

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Abstract: Digital technologies offer significant opportunities to develop strategic competitive advantages through enhanced performance and productivity and delivery of higher value to customers, of special relevance in an increasingly volatile, uncertain, complex and ambiguous (VUCA) environment. Big data and its related analytics technologies are profoundly changing how organizations generate economic and social value from data. Among the most in-demand professional roles are those of data scientist and data analyst, who play a relevant role in knowledge generation, a critical ingredient for strategic design and value delivering to organizations' customers and other stakeholders. Emphasis has been focused on the technical competences for these roles, but scarce attention received their behavioral and social intelligence competencies (soft skills). This research-in-progress paper examines and discusses the gap between the skills demanded by the market for data analysts and data scientists and the skills offered by these professionals as have been trained by the universities in Paraguay. By analyzing the academic literature, the purpose of the study is to identify the skills gap demand-offer for data scientists and data analysts in Paraguay. Based on previous research on the topic, the research questions are: i) what are the behavioral competencies universities in Paraguay are covering in their curricula for students potentially aimed at working as data scientists and data analysts? ii) are there differences between public and private universities? Iii) are there differences between national and international universities based in Paraguay? To respond the research questions, this study adopts the competency-based methodology. Data is being collected through a structured questionnaire distributed to 54 universities in the country. Also, the curricula for 15 university careers are being analyzed. By responding the research questions, the paper advances the understanding on the relevant competencies required by these professionals and highlight how educational institutions can better design curricula for data scientists and analysts in Paraguay.

Keywords: data analyst, data scientist, knowledge management, soft skills, technical skills, Paraguay

Knowledge Management Practitioners' Roles and Skills Requirements in South African Organisations

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Abstract: The popularity of knowledge management has led to the creation of a knowledge management employment market requiring knowledge workers such as knowledge management practitioners. Knowledge management practitioners are employed in many different industries and sectors of the economy. These industries and sectors perform different functions hence they recruit knowledge practitioners to perform different roles. Different knowledge and skills are required in the different industries. This study investigated the roles and skills requirements of knowledge practitioners in different industries across all sectors of the South African economy. This was done because knowledge practitioners' roles and knowledge and skills requirements are not known in South Africa. This knowledge gap has denied the South African knowledge management employment market valuable knowledge about the knowledge and skills required in different industries and economic sectors. A survey of knowledge management job advertisements was conducted to answer the research question. Advertisements from newspapers and online sources were analysed. Two weekly newspapers were scanned for job advertisements and three online advertising websites were also scanned for knowledge management advertisements. In all, 250 job adverts were analysed. A conceptual framework was developed to analyse them. It consisted of five knowledge management processes; knowledge transfer, acquisition, creation, storage, and application. The personalisation and codification framework was also used to analyse the data. The results indicate that knowledge transfer, storage and acquisition are main roles performed by knowledge practitioners in most organisations across industries in South Africa. It was found that knowledge management practitioners are responsible for developing and implementing the codification strategy. It was discovered that knowledge and skills requirements differ from industry to industry, but information technology (IT) knowledge and skills requirements are the most sought after in all industries and sectors. The study concluded codification is the main task of knowledge practitioners and that skills and knowledge requirements differ from industry to industry. The study

recommends more research on skills and knowledge requirements to inform training and curriculum development.

Keywords knowledge management, knowledge management practitioners, knowledge and skills requirements, knowledge practitioner roles, South Africa

The Knowledge Management Domain – KM Centric Versus Global KM Functions

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Purpose: This poster aims to present a visualization of Knowledge Management (KM) KM centric and global KM functions.

Approach: Synthesize a systems viewpoint based on a systems approach analysis of the Unified Theory of KM's operationalized functions.

Contents: The poster compares the KM's operationalized and associated functions with ones from KM's implementing, supporting, and specialized disciplines. Organizational learning (OL) in terms of an OL learning model and ways to learn, scientific skills, and problem-solving functions are put into perspective.

Findings: The operationalized functions (accumulate, refine, organize, use, represent, store, and communicate) provide a mnemonic for what KM is. While as macro concepts they describe KM centric functions, the visualization goes further than ECKM 2020 poster, "KM in a Nutshell – Who, What, When, Where, Why, and How," by addressing global KM domain functions.

Research limitations: Other approach, inputs, and analyses could yield different results. Affective and kinetic functions KM are excluded.

Practical implications: Provides a basis to address practitioners' questions about the scope of KM not addressed by KM in a Nutshell.

Value/Originality: While as macro concepts, KM's operationalized functions provide a descriptive overview of KM centric functions, this visualization extends information provided in "KM in a Nutshell" by addressing global KM domain functions.

Keywords: knowledge management; unified theory; KM centric, global KM, organic functions

The Impact of Knowledge Management on Efficiency and Effectiveness in the Surety Industry: A case study of a multinational enterprise

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Abstract: The researcher is pursuing an empirical study of knowledge management performance at a multinational brokerage firm. The purpose of this paper is to examine the relationship between knowledge-oriented leadership (KOL), knowledge management process (KMPP), knowledge management behavior (KMB) on job performance (JP) in the surety sector. Further, the researcher plans to explore the mediating effects that employee commitment and work engagement have on the relationship between knowledge management process and knowledge management behavior. This paper focuses on organizational leadership as an essential factor in the development and encouragement of knowledge management practices within the global surety arena.

This study sets out to answer the question: How can organizations encourage their employees to exercise knowledge management behavior, through knowledge management processes and leadership to ultimately increase overall efficiency and effectiveness (individual job performance)?

The surety industry is a financial services industry highly reliant on the exchange of knowledge to find best practice solutions for bond and guarantee users (clients). In a society connected more than ever before why not leverage leadership to encourage employees within an organization to share knowledge? The era of transactional leadership is slipping away making space for a refreshed take on the complex construct that is leadership. Knowledge-oriented leadership combines transactional and transformative leadership styles with a focus on knowledge sharing as a way to lead forward. The author plans to distribute a survey worldwide within a multinational enterprise to better understand the impact of knowledge-oriented leadership and its effects on knowledge performance. The multinational enterprise to be used in this research is the authors current place of work. The

author has the full support from leadership who will distribute the survey on the authors behalf.

Keywords: Knowledge management, Efficiency, Effectiveness, Multinational enterprise, Surety

Additional Materials

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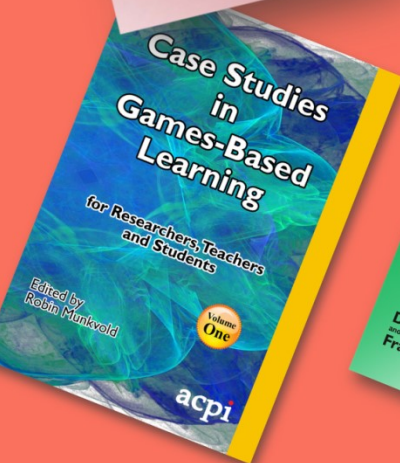
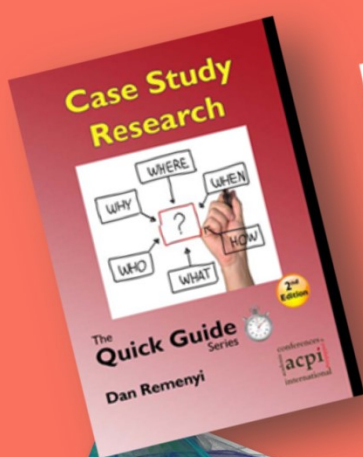
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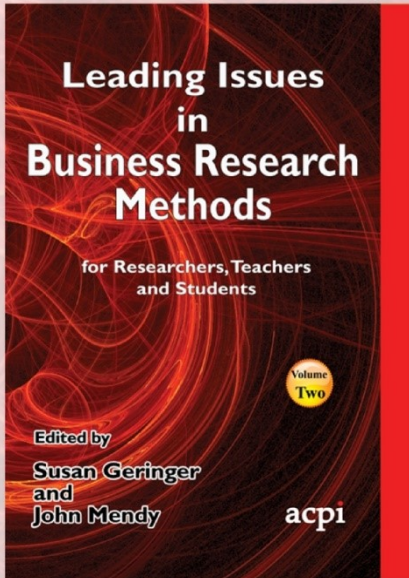
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