Abstracts of Papers
Presented at the
19th European Conference on Knowledge Management

(ECKM 2018)
6 - 7 September 2018

University of Padua, Italy

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

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The Conference Proceedings for this year and previous years can be purchased from http://academic-bookshop.com

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Preface

These proceedings represent the work of researchers participating in the 19th European Conference on Knowledge Management (ECKM) which is being hosted this year by University of Padua, Italy on 6 - 7 September 2018.

ECKM is a recognised event on the international research conferences calendar and provides a valuable platform for individuals to present their research findings, display their work in progress and discuss conceptual and empirical advances in the area of Knowledge Management. It provides an important opportunity for researchers and practitioners to come together to share their experiences of researching in this varied and expanding field.

The first day will be opened with a keynote presentation by Simone Strambach of Philipps-University Marburg, Germany who will be speaking on *"Combinatorial Knowledge Dynamics in Social and Sustainability Innovation - Context Matters"*. Antonella Padova from EY, Italy, will then speak on the second day about *"From Knowledge Management to Community Management: Turning Challenges Into Opportunities"*.

With an initial submission of 285 abstracts, after the double blind, peer-review process there are 114 academic Research papers, 18 PhD Research, 5 Non-Academic, 3 Work in Progress papers published in these Conference Proceedings. These papers represent truly global research in the field, with contributions from Argentina, Australia, Austria, Bahrain, Bosnia and Herzegovina, Brazil, Canada, China, Colombia, Croatia, Czech Republic, Cyprus, Denmark, Finland, France, Germany, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Latvia, Lithuania, Malaysia, Mexico, Netherlands, Nigeria, Norway, Poland, Portugal, Qatar, Romania, Russia, South Korea, Slovakia, South Africa, Spain, Sudan, Sweden, Switzerland, Taiwan, Thailand, Uganda, UAE, UK, and USA.

We wish you a most interesting conference.

Dr Ettore Bolisani
Dr Eleonora Di Maria
Dr Enrico Scarso
University of Padua
Italy

September 2018

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Prof. Dr. Enrico Scarso, *University of Padova, Italy*
Ass. Prof. Dr. Ettore Bolisani, *University of Padova, Italy*

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Biographies

Conference and Programme Chairs

Eleonora Di Maria is Associate Professor in Business management, University of Padova, Department of Economics and Management 'Marco Fanno', Padova (Italy). She graduated at University of Udine where she also received her PhD. Her research focuses on internationalization, innovation and sustainability strategies of firms and local economic systems, as well as on evolutionary trends of knowledge- intensive business services. Her research has been published in journals such as Research Policy, International Journal of Operations and Production Management, Business Strategy & the Environment, Journal of Knowledge Management, International Entrepreneurship and Management Journal, European Planning Studies, Industry & Innovation, Competition & Change. She co-authored 22 documents included in Scopus, where she received more than 220 citations, and she edited several books. She has co-edited the book 'Exploring Knowledge-intensive Business Services: Knowledge Management Strategies' (Palgrave, 2012) and 'Local Clusters in Global Value Chains' (Routledge, forthcoming).

Ettore Bolisani (Laurea in Electronic Engineering, PhD in Innovation Studies) was an EU 'Marie Curie' Research Fellow at Manchester University and a researcher at the Universities of Trieste and Padova. He is currently an Associate Professor at the University of Padova, school of Engineering. His research centres on knowledge management and innovation management. He was visiting lecturer at Coventry University, Kaunas Technological University and Universidad Politecnica de Cartagena. He was Chair of the European Conference on Knowledge Management (2009), and member of United Nations Expert Groups on knowledge networks and on KM in education. He is co-Founder and first President of the International Association for Knowledge Management (www.iakm.net), and Series co-Editor of the IAKM Book Series on Knowledge Management and Organizational Learning, published by Springer. He was co-Editor of "Advances in Knowledge Management – Celebrating Twenty Years of Research and Practice" (Springer, 2015)

Enrico Scarso is Professor of Engineering Management at the Department of Management and Engineering, University of Padua (Italy), where he serves as Chair of the Engineering and Management Degree Courses Council. He received a PhD. degree in Industrial Innovation from the University of Padua. His current

research interests are in the area of technology and knowledge management. He has published in several journals and has presented papers at various international conferences. He is co-founder member of the "International Association for Knowledge Management" – IAKM.

Keynote Speakers

Antonella Padova is Global Advisory Community Lead at EY. She has 31 years of experience in consulting, initially as a client serving person in system planning, software engineering and system integration projects. She then held Chief Knowledge Officer Roles in various organizations. Currently she is part of the global EY Knowledge team, leading a global program, which is part of the overall Knowledge Transformation Strategy. The program objective is to build and sustain global online communities for the Advisory practice (around 50,000 people in the world) and to serve as a strategic change agent to support and execute the globalization strategy of the Advisory practice.

Simone Strambach is professor and head of the Department of Geography, at the Philipps-University Marburg, Germany. As an economic geographer, her main areas of research are the spatial shaping and institutional foundation of innovation and the knowledge economy. Her most recent research focuses on knowledge dynamics and the role of transnational networks in the development of 'new forms' of innovation such as social and sustainability innovation in the socio-ecological transformation. Simone has published in a number of established international and national journals and her research has been based on multiple national and international projects. Her advisory activities include among others the European Commission, DFG-German Federal Science Association, VW-Research Foundation, Ministry of Education and Research Norway, BMBF German Federal Ministry for Education and Research, DAAD German Academic Exchange Service, Ministry of Economics and the State Ministry of the federal state Baden-Württemberg.

Mini Track chairs

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Constantin Bratianu is Professor Emeritus of Strategic Management and Knowledge Management, UNESCO Department for Business Administration, and Founding Director of the Research Center for Intellectual Capital, Bucharest University of Economic Studies, Romania. He has been Visiting Professor at universities in USA, Japan, Austria, Hungary and Egypt. He published over 25 books and 200 papers in international journals and volumes of international conferences. He is Associate Editor of Electronic Journal of Knowledge Management, and co-editor of the international journal of Management Dynamics in the Knowledge Economy. He is a member of the American Academy of Management, Romanian Academy of Scientists, and International Association of Knowledge Management. His academic interests are: knowledge dynamics, knowledge management, intellectual capital, and strategic management.

Dr. Maria Crema holds a PhD in management engineering and works at "Azienda ULSS 2 Marca trevigiana", which is a hospital in North-east of Italy. She received her PhD from the Department of Management and Engineering at the University of Padova (Italy). Her main research interests include project management, health care operations management and risk management in the health care context.

Dr. John Dumay is Associate Professor of Accounting at Macquarie University, Sydney, Australia. Originally a consultant, he joined academia after completing his Ph.D. in 2008. His thesis won the European Fund for Management Development and Emerald Journals Outstanding Doctoral Research Award for Knowledge Management. John researches intellectual capital, knowledge management, corporate reporting and disclosures, research methodologies and academic writing. John has written over 70 peer-reviewed articles, book chapters and edited books, and is highly cited in Scopus and Google Scholar. He is the Associate Editor of the Journal of Intellectual Capital and Meditari Accountancy Research, Editor of the eJournal of Knowledge Management, on the Editorial Board of Advice of the highly regarded Accounting, Auditing and Accountability Journal, Journal of Knowledge Management and several other leading accounting and management journals.

Prof. Isabel Maria Macedo holds a PhD from Warwick University and is currently Assistant Professor of Quality Management in the Public Sector at the School of Economics and Management, University of Minho, Braga, Portugal. Her research interests include Quality Management, Information and Communication Technology and Innovation in the Public and Non-profit Sector.

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Khaled Algahtani is a PhD researcher in the Faculty of Science and Engineering at the University of Wolverhampton. His research examines the current level of understanding and implementation of Knowledge Management Practices' in Saudi Arabian Public Sector Organisations for sustainable competitive advantage. He holds Master in Administration Management from the Wolverhampton Business School, UK.

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Irina-Emily Hansen is a PhD candidate at Norwegian University of Science and Technology. Research topic "Knowledge Management of University-Industry Collaboration within the context of Open Innovation". In addition, she is teaching and supervising BSc and MSc students that have projects with industry within Lean production. Irina-Emily has engineering MSc in product and system design.

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Keynote Outlines

Keynote Outlines

From Knowledge Management to Community Management: Turning Challenges Into Opportunities

Antonella Padova, Global Advisory Community Lead at EY

A solid Knowledge Transformation strategy can build on the foundations of knowledge management to support the vision, design, implementation, launch and sustain of online communities to execute on the social enterprise strategy of big and globalized organizations. With this presentation I aim at demonstrating that a structured and iterative approach can leverage lessons learned from the past and progressively consolidate local initiatives into broader ones, aligning to the progressive changes in the organization and supporting and accelerating its ability to adjust to changing market conditions and to emerging talent needs.

Combinatorial Knowledge Dynamics in Social and Sustainability Innovation (SSI) - Context Matters

Simone Strambach, Philipps-University Marburg, Germany

In response to complex and pressing environmental and socio-economic problems, social and sustainability innovation is gaining in stature in global change. However, these innovations differ distinctively from recognized technological and economic forms of innovation. Particularly in their formation and scaling processes, in actor constellations, and the underpinning complexity of knowledge combination. Sustainability-related problems are highly context specific and feature substantial mutual interdependencies among multiple systems and actors. The multi-stakeholder collaboration of diverse actors operating often in different technological, sectoral and institutional fields is necessary to develop innovative and context-adapted solutions. Moreover, addressing social needs imply the integration of so-called 'symbolic knowledge' held frequently by actors from civil society who are usually not involved in mainstream innovation. This type of knowledge is narrowly tied to a deep understanding of socially constructed symbols, values, and cultures of specific social groups. As cultural cognitive meanings vary strongly between social contexts, symbolic knowledge is very context- and place-specific and especially significant for the creation of social innovation.

Even though there is no unified scholarly understanding of social and sustainability innovation, combinatorial knowledge dynamics is a crucial/common feature of these 'new forms' of innovation which make their development process very challenging. In such knowledge exploration and knowledge sharing processes, actors have to cope with many different cognitive, technological, organizational and institutional interfaces to overcome barriers caused by conflicting institutional logics and the re-negotiations of settled institutions.

Research Paper Abstracts

Digital Transformation of the Knowledge Management Process

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Abstract. Nowadays, huge amount of computer power is used improperly. A case in point is the emergence of cryptocurrencies and so called "mining" operations that consume large amount of resources. To run the cryptocurrency mining algorithms, 17 % of the entire global computer power is currently used. Intellectual data processing for knowledge management process also requires large computational power. Now, at a new stage of digital technologies development, new opportunities arise for a dramatic improvement in data processing and knowledge mining. A possible solution to the knowledge management problem at big corporations is the distributed computational power currently used improperly. The amount of power used at a given point in time will depend on how much power is needed to solve a particular task. The technology of an automatic reserve deployment that is in use at manufacturing industries with respect to materials can also be applied for knowledge management at big corporations using distributed computer power. The authors of the paper propose a solution that combines traditional control principles with the most recent modern technologies.

Keywords: knowledge management, distributed power, data acquisition and processing, crypto-currency, bitcoin

Knowledge Management and Adaptive e-Learning: Iranian Schools Case Study

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Abstract: Education and training are one of the fundamental requirements of knowledge-based development, and this is the primary responsibility of the

pedagogical system of a country. Information technology has a crucial role in activities such as knowledge creation, application, haring, and the entire knowledge management system. Knowledge management can help teaching, especially modern ways of it such as e-learning because of its inherent potentials can pave the road for learning activities. Recently, students tend to use electronic tools more than ever. Hence, an electronic system and method are needed to help teachers make use of a variety of topics based on learning styles, personal characteristics, and learning goals that are called adaptive e-learning. In this research, we are to explore the role of knowledge management in adaptive e-learning and develop a model to enhance teaching. Data analysis showed that there is a strong relationship between the main components of knowledge management including creation, application and sharing; and adaptive e-learning components including management; evaluation and system security; Culture and human resources; learning paths and scenarios; learning objects and educational contents.

Developing a Block-Chained Knowledge Management Model (BCKMM): Beyond Traditional Knowledge Management

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Abstract: Knowledge management (KM) is a known discipline that follows knowledge identification, knowledge organizing, knowledge storage, knowledge sharing and knowledge application towards value creation. Organisations try to apply and embed it into their primary activities and processes. Nevertheless, there are some challenges in KM execution including knowledge storage issue, knowledge sharing problems, and motivations especially copyright. Generated knowledge in the firms is increasing, which enforce organization to employ new strategies for knowledge storage. Also, knowledge sharing among the experts is

challenging, and organizations need to ensure their experts about their rights when they share their invaluable knowledge. Above all, organizations need to provide security when experts document their knowledge and share it. The blockchain is a new decentralized technology that can potentially address the challenges above and improve knowledge management. It can overcome the knowledge storage issues when knowledge capacity increases in the organization. It can reinforce knowledge sharing. It can also address knowledge workers' copyright and security, by tracing knowledge packages throughout the organization. This research, therefore, aims to develop a block chained knowledge management model (BCKMM). It will first choose a Knowledge Management (KM) model and will incorporate blockchain concept in the model. It then develops an advanced knowledge services framework for creation, application, and sharing of knowledge throughout the organization and especially between experts in a company by providing a decentralized framework based on blockchain concepts. This framework exploits blockchain concepts to achieve a distributed and flexible network to conquer the problems of traditional centralized knowledge management models through developing the primary process of knowledge management, based on blockchain concepts.

Keywords: knowledge management, blockchain, block-chained knowledge management model

Leadership in a Knowledge Management Context: An Empirical Study

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Abstract: The Kingdom of Saudi Arabia (KSA) Government aims to reduce fiscal deficit by improving state efficiency, reducing costs, as well as its state subsidies. This often calls for the creation, use and exploitation of new knowledge. Therefore, knowledge assets must be properly managed to provide an environment for well-informed decisions. However, the key to successfully embracing these changes and guide them to transform into twenty-first century public sector organisations would require visionary, innovative, creative, and dynamic form of leadership. Therefore, there is a need to facilitate the development of leadership skills in the context of knowledge management (KM). The aim of this research is to investigate the role of leadership for successful deployment of KM related change initiatives in the KSA public sector organisations. The qualitative approach of research was adopted to collect and

analyse data. The qualitative results were derived from semi-structured interviews with 42 public sector directors and managers. It is evident from this study that there are many misconceptions of what leadership meant to them and their organisations in a KM context. Also, there is a need to re-assess the leadership skills required by the KSA public sector organisations. The paper concludes that the leadership plays a key role in implementing KM related change initiatives in the KSA. Leadership is about preparing organisation with a KM vision and values that resonate with the team, all employees, and key stakeholders. Therefore, there is an urgent need to develop and deliver a bespoke training programme to address, improve and measure the effectiveness of leadership skills in a KM context.

Chinese Innovation Ecosystem in the Context of the Belt and Road Initiative

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Abstract: This paper aims to study China's endeavors to become a global innovation powerhouse on a par with the developed industrial nations. This will mainly depend on its extensive and sophisticated innovation ecosystem. The paper proposes that when this ecosystem is taken in conjunction with the Belt and Road initiative, there will be a strong potential to create a super extended knowledge network that will propel China's cutting edge innovative prowess to unprecedented levels. The paper explores the role of policies in boosting innovation in China as it is striving to become an innovation-driven economy and how these policies are promoting innovation in Science and Technology. On conducting interviews with industry experts in innovation ecosystems, the results indicated the most significant key components and aspects for China's move towards attaining a successful innovation ecosystem. A case study of the existing knowledge ecosystem was analyzed in order to understand the present state of how china is building up its innovation ecosystem in order to achieve a global competitive edge.

A Longitudinal Study of Corporate Benefits Accrued by Firms Inhabiting a Mature Science Park

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Abstract: Business clusters are considered to be an essential part of the ecosystem of the knowledge economy and occur in many forms e.g. science parks, tech hubs etc. Local and national governments use this vision as a tool for enhancing regional development reasoning that more science parks will fostering more innovation through knowledge spill-over, inducing positive knock-on effects for the economy. Controversy exists however as to whether any particular cluster project will achieve its desirable targets or rather become a waste of resources. Indeed, there are contradictory results as to whether inhabitancy in a cluster confers any benefits to the individual firm, and if so, what benefits these are. Thus, this paper investigated Linköping municipality in Sweden which hosts a mature science park (Mjärdevi Science Park). The Swedish "Ratsit" database of firms in industry code 62 (computing related) was used and the over 300 companies were divided into two groups; those inhabiting Mjardevi Science Park ("on-cluster" firms) or those in Linköping municipality, but not in Mjardevi ("off-cluster" firms). All firms were firstly divided according to their age and size whereupon the on- and off-cluster groups were compared for innovation input/output and annual financial performance. The results show that although there are more off-cluster firms than on-cluster (47-56 as against 103-144), the innovation capabilities of on-cluster firms are much higher than off-cluster firms, and this effect was seen regardless of the age or size of the firms. At the aggregate level, the level of innovation exhibited by on-cluster firms is highly correlated with networking (expressed as outlay on social expenses), while R&D expenditure has more impact on innovation output (expressed as patents and licenses) for the off-cluster firms. At group level, on-cluster firms maintain a better financial performance up to age ~15, whereupon turnover starts to decline, and off-cluster firms over this age start to perform better. Thus our initial hypothesis is that firms grow on-cluster and innovate by networking, then either stay and decline or, if they have achieved successful innovations, they "graduate" to off-cluster, and that move occurs around age 15 or over.

Keywords: science parks, business clusters, on-cluster vs off-cluster, STPs, science and technology parks

The Relationship Between Intellectual Capital Information and Firms' Market Value

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Abstract: With the shift to the Knowledge-Based Economy (KBE), knowledge becomes a driver for economic growth and becomes more important than capital, land and labour. This shift makes Intellectual Capital (IC) and resources vital for companies to create wealth, value and gain competitive advantage. The State of Qatar, in its "Qatar Vision 2030" plans to transfer its economy to KBE. This has put a pressure on companies to depend more on IC. The companies listed on the Qatar Stock Exchange (QSE) have started to identify and report about their IC, and there is an expectation that the reported IC information might affect the market value of these companies. This paper investigates the relationship between the IC information reported in the annual reports and market value of the companies listed on the QSE. The study found that IC information has a significant relationship between IC information and firm market value. This finding indicates that companies report about their IC to help the stakeholders (including shareholders and investors) to understand the real value of the company (which includes IC values). This shows that the companies have started to depend more on IC to contribute to transforming the economy to KBE. This is the first study to examine the relationship between IC information and market value in Qatar

Drivers and Challenges for Managing Knowledge in the Kingdom of Saudi Arabia Construction Industry

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Abstract: Although Knowledge Management (KM) has been widely practiced in the western countries, there is a little evidence in the KSA especially in the construction industry. This paper primarily reports on the empirical findings of an on-going research study, which is focused on managing knowledge in the KSA construction industry for competitive advantage. This paper focuses on the key challenges construction organisations face in managing knowledge en-route to organisational competitiveness. The findings are in the main, based on semi-

structured interviews with 46 professionals from 30 construction organisations. The data analysis revealed that, the key challenges organisations facing in managing knowledge are: capturing tacit knowledge, managing stakeholders' knowledge, cultural issues, leadership support, and organisational infrastructure issues. The paper concludes that managing knowledge is an integrated and complex process. More effective knowledge-sharing within and across construction organisations is required. Therefore, the KSA professional institutions and construction industry should support and participate in the work of knowledge-sharing groups to address perceived risks and opportunities from new technologies (e.g. BIM, mobile applications) and processes (e.g. sustainability issues).

Barriers to Knowledge Creation in SMEs: Preliminary Study Results From India

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Abstract: Knowledge creation in firms gives competitive advantage, increases innovation, offers novel ideas, and makes companies more robust during dubious times. Although literature on knowledge creation has mainly been addressed to larger organizations, its importance in small and medium-sized enterprises (SMEs) remains largely unexplored with only a few authors attempting to study the barriers to knowledge creation. Even less studies exist studying Indian perspectives. Thus, this paper will investigate the barriers to knowledge creation by looking at the barriers existing towards knowledge creating in Indian SMEs and at the levels at which these barriers to knowledge creation exist. The identified barriers include lack of empowering leadership and recognition thereof, lack of monetary fairness, lack of trust, and lack of expressive ties being grouped into organizational and individual barriers for knowledge creation in SMEs. Based on these, a proposed model and four further propositions for future studies are presented, since the findings of our study are based on limited sampling. This model can be a starting point for future research.

Knowledge Management Education Standards: Developing Practical Guidance

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Abstract: The lack of standards for knowledge management education is a significant challenge for the advancement of the field, for the sustainability of institutional programs, the future competencies of knowledge workers and the effective growth of knowledge organizations. Bedford Georgieff and Brown-Grant (2017) proposed a framework to fill this gap. The proposed framework was comprised of seven learning levels covering primary through post-graduate education, and nine subject strands that are core to the field of knowledge management. To move the framework forward the authors proposed mapping the nine strands to existing curricula for Levels 1, 2 and 3 – primary through secondary schools. This research reports on the nature and extent of coverage of the nine strands in the curriculum and educational standards for Levels 1-3 in seven school systems. The research suggests that the strands are not taught to students but are generally treated as pedagogical methods used by teachers. The research suggests there is a need for a knowledge sciences curriculum for students and educators alike.

Keywords: knowledge management education standards, standards frameworks, learning strands, learning levels, practical guidance

Relationship Between Knowledge Sharing Willingness and Life Goals of Generation Z

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Abstract: The most critical area of knowledge management systems is the knowledge transfer and knowledge sharing. Several research results have emerged applying different approaches with a focus why employees and leaders of companies do not share their knowledge. Differences in social, cultural and individual values are in the background of willingness to share knowledge. Each of these attributes raise further questions. The main objective of this research is to examine the knowledge sharing willingness of Generation Z and consider the cultural determinants having impact on them. The research objective was to compare the results of Hungary and Slovakia. A questionnaire survey was conducted among the students of elementary and high schools. The electronic questionnaire included questions on a 5-point Likert scale, which were evaluated with a help of simple and complex statistical methods using the SPSS program. The study of life goals was based on the study of Aspiration Index in earlier research. The results show that cultural characteristics have significant influence on the characteristic features of behaviour related to trust, learning and knowledge. The national culture has impact on knowledge-friendly attitude of the school community. According to Aspiration Index Analysis, intrinsic goals gain more importance than extrincic goals. While getting older, the importance on intrinsic goals is increasing. The highly materialistic approach (preference of extrinsic goals) reduces the ability to coopearate. It increases competition and the self-interest, which are obstacles to knowledge-sharing. The ratio of goals (intrinsic/extrinsic) determines the decisions of young people (career choice), as well as those important skills that are relevant in the society and influence career choice e.g. cooperation, responsibility.

Keywords: Aspiration Index, extrinsic and intrinsic goals, culture, knowledge sharing, motivation

Examining Inter-Generational Knowledge Sharing and Technological Preferences

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Abstract: Generational preferences play an important role in sharing organizational knowledge. Studies suggest that this is due to the unique characteristics inherent in each generation (e.g., attitudes and perspectives on life, work, family/friends, social relationships). Generational differences also exist in information practices, communication methods, learning styles, and social networking practices. Moreover, younger generations acquire knowledge differently from their older counterparts. They have different perceptions of, and approaches to, gaining new skills and using ICTs in the process. However, only a few studies were found that look at inter-generational preferences and ICT savviness. This is a significant research area, since organizational knowledge is routinely shared between crafty veterans and younger colleagues. Also, no studies compared preferences in and outside the workplace, which is important in today's dynamic and interconnected work environment. The objective of study is to gain a better understanding of inter-generational preferences for knowledge sharing using ICTs, both at and outside work. This paper presents the results of an MTurk survey (N=126) of US and Canadian managers across three generations: Millennials, Generation X, and Baby Boomers. The inter-generational preferences were explored using one-factor and two-factor analysis of variance (ANOVA and linear regression analysis. The most significant finding is that there were no inter-generational differences for knowledge sharing preferences, either at or outside work. Furthermore, there was no significant difference in generational preferences for using any of the ICTs tested (i.e., forums/discussion websites, wikis, blogs, instant messaging, email, telephony, and video-conferencing), along with in-person sharing. Interestingly, the top four preferences, in order, both at and outside work, were: email, in-person, telephony, and instant messaging. For ICT savviness, Baby Boomers were found to be significantly less proficient in blog use compared to Generation X, but there was no difference between Generation X and Millennials. There was also no significant difference in any other ICT, or in overall ICT savviness. Moreover, there was a higher preference, across generations, to share knowledge in writing, at vs. outside work. This was also found for email, in-person, and video-conferencing, for Baby Boomers and Generation X (no significant difference for verbal sharing or for any other ICT).

The Influence of Knowledge Dynamics on the Managerial Decision-Making Process

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Abstract: Research on the decision-making process in economics and management has focused mostly on the rational or intuitive thinking, ignoring the influence of knowledge dynamics. The most known models of decision-making are based on the hypothesis that action is a consequence of a rational choice. Since managers do not dispose of complete information and knowledge in most practical situations, the decision-making models incorporate a bounded rationality approach and a probabilistic thinking. There is also a stream of research showing that decision-making is based on individual experience of managers, experience which is filtered and structured as intuition. Many managers consider themselves intuitive decision-makers, especially in those domains of activity where the time is critical and there is no practical value of using the rational constructed decision-making models. The purpose of this paper is to bring into analysis a new perspective, which is based on the multifield theory of organizational knowledge and the entropic knowledge dynamics model. Cognitive scientists demonstrate that decision-making is neither a full rational process, nor a full intuitive one. It is a complex thinking process which is based on the contribution of rational, emotional and spiritual knowledge, and on their continuous dynamics. Based on the energy metaphor, the organizational knowledge can be conceived as a spectrum of rational, emotional and spiritual forms of knowledge. Our research aims at evaluating the relative influence of the knowledge dynamics on the decision-making process as compared to the bounded rationality and intuition dimensions, setting the premises for an integrative and multi-factor conceptual and structural model. The qualitative component of our research focuses on critical analysis of the literature background and identifying the key factors in the decision-making process, while the quantitative component is based on a research model composed of seven factors and eight inferred relationships, on processing data obtained from 138 questionnaires distributed online to middle and top managers from over 100 companies. The results obtained so far confirm the importance of the entropic

knowledge dynamics within the complexity of the managerial decision-making processes.

System Integration of Security Maintenance Processes in Knowledge Management

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Abstract: Without a methodological basis for solving the problems of security processes in knowledge management in the form of process conditions, management cannot guarantee the achievement of the goal of the activity. This situation gave rise to a fundamental problem: "The results of activities to address the problems of security management processes in knowledge management do not meet the expectations of the decision-maker". The decision maker acts based on three categories. This is a system. Model.Goal. Therefore, it is necessary to solve two problems. Two approaches are known for the development of the system. Development of the system based on analysis. Development of a system based on synthesis. To solve this problem, it is proposed to use for synthesis - the law of preservation of object integrity (LCIO), which ensures the achievement of the goal of security processes in knowledge management. (LCIO is a stable, objective, repetitive connection of the properties of an object and the properties of its actions for a fixed goal.) To solve the second problem needed to understand fact, that the decision maker performs security maintenance processes in knowledge management based on the model. For this, one must be able to synthesize adequate models. Decision makers conduct security processes in knowledge management based on the model. For this, one must be able to synthesize adequate models. Achieving the goal of security management processes in knowledge management is possible only based on a correctly constructed system (PCS) and an adequate model. In the publications of the prior art, this approach to security management systems in knowledge management is lacking. Therefore, the entire PCS design is implemented based on LCIO, which confirms the desirability of considering LCIO as a condition for the existence of security management processes in knowledge management. The model of security management processes in knowledge management is based on the system integration of the three processes. Formation of a threat. The process of

recognizing the threat. The process of eliminating the threat. The level of security management processes in knowledge management is the likelihood that each threat will be detected and eliminated. The modeling results confirmed the main trends in the process of maintaining safety in knowledge management. This approach is necessary to build a model of a knowledge management system. An adequate model will ensure sustainable management.

IT Practices, Intellectual Capital and Organizational Performance

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Abstract: Previous studies have demonstrated that utilization of information technology (IT) in company operations has the potential to significantly augment a company's performance. Knowledge, too, as a key performance driver has been brought to the fore in recent discussions, has been suggested to bring an additional explanation of the role of IT in boosting performance. This paper combines these perspectives so as to address the question of how intellectual capital impacts customer value (as a specific type of organizational performance) directly or as moderated by IT practices the organization employs. We also investigate how customer value affects market performance. The research model is based on survey data collected from a cross-industrial sample of companies with at least 100 employees in Serbia. The data is analyzed by structural equation modeling with the partial least squares technique (PLS) to examine hypotheses concerning key causalities between the study variables. The results demonstrate that intellectual capital has a significant impact on market performance, and that this impact is moderated by IT practices. The paper contributes to the academic discussion on intellectual capital, and provides useful information for managers concerning investments in intellectual capital and IT practices.

Knowledge Based Economy: Where Does North Cyprus Stand?

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Abstract: The study aimed to compute the Knowledge Economy Index and Knowledge Index values for North Cyprus and to make comparisons with other countries. The study also aimed to measure the overall level of preparedness of North Cyprus economy for the knowledge economy with calculating Knowledge Economy Index (KEI) and Knowledge Index (KI) of the country. The main methodology used to compute these index values was Knowledge Assessment Method which was developed and still using by World Bank. 12 indicators have been used to compute the four pillars of the Knowledge Economy Index. Each pillar separately measured with the procedure based on the simple average of the normalized scores of all four pillars. Necessary data was collected from government offices, statistical department of prime ministry. According to the KEI value, North Cyprus is in 78th place with an index value of 4.61, while the KI value of North Cyprus puts it in 59th place out of 147 countries. North Cyprus has a KEI value, which is less than Turkey and South Cyprus, but more than the average index value of lower-middle income countries. The KI value is also less than Turkey, South Cyprus and Europe, but more than the lower-middle income, upper-middle income countries and global average. The KEI of North Cyprus is below but close to the global average, while the KI value is above the global average. The Education Index and ICT index value of North Cyprus is above its rivals and the global average, but the economic incentive and institutional regime index and innovation index of the country is quite low.

Keywords: knowledge economy index, knowledge index, knowledge economy, North Cyprus, knowledge assessment method

Knowledge Alignment in Small and Medium Enterprises: A Novel FST Method

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Abstract: This paper proposes a novel fuzzy logic method to evaluate the level of alignment between an enterprise's knowledge and knowledge management

systems (KMSs). A given enterprise's knowledge is identified from the epistemological and ontological perspectives. KMSs are divided into two groups: knowledge management practices (KM-Practices) and knowledge management tools (KM-Tools). The proposed method is implemented by means of a field analysis based on semi-structured face-to-face interviews involving a sample of small and medium enterprises (SMEs). The paper highlights that the process of alignment goes beyond the dyadic convergence of the enterprise's knowledge and KM-Practices or KM-Tools, being in fact a process of triadic alignment, where changes in one of the three components (the enterprise's knowledge, KM-Tools and KM-Practices) are reflected in the level of alignment with the other two components. The paper also highlights that even though on average there is a low level of alignment of an enterprise's knowledge with KM-Practices and KM-Tools, there is an ample variety of behaviours. On the one hand, there are enterprises that are completely misaligned, and then there are enterprises with a high level of alignment.

Knowledge and Innovation Differences in Baltic Countries

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Abstract: By using a panel of the Community Innovation Survey (CIS) data based on the Oslo Manual (OECD, 2005) which gives methodological guidelines and defines the innovation concepts, this work contributes to the literature on knowledge and innovation (i.e de Felice et al, 2012; Landry et al., 2002; Barrutia and Echebarria, 2010). We investigate how the channels of knowledge transfer create different kinds of innovation (product, process, marketing, organizational) with reference to the manufacturing sector. The aim of this paper is to observe the relationship between Baltic countries- Estonia, Latvia and Lithuania. These countries present common features and a similar history as they regained their independence from the Soviet Union in the early nineties before joining the EU in 2004 and more recently in 2011 the euro area (Poissonier, 2017). In addition, they show major similarities in terms of geography, size, economic structure. In terms of economic structure, these countries have undergone many transformations

over the past year- particularly in the industrial sector, in which an important role is played by external geographic market compared to their small economies.

Big Data, Knowledge Management (KM) and Case-Based Reasoning (CBR)

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Abstract: Case-Based Reasoning (CBR) utilizes the specific knowledge of previously experienced, concrete problem situations (cases). A new problem is solved by finding a similar past case, and reusing it in the new problem situation. CBR can extract or mine a large amount of data (Big Data) from databases and knowledge-based systems. "Big Data" refer to dynamic, large, structured and unstructured volumes of data generated from traditional data sources, machine generated data and social data. Big data comes from many sources, in many formats. "Big Data Management" is the organization, administration and governance of large volumes of both structured and unstructured data. "Knowledge Management (KM)" is the process of creating, sharing, using and managing the knowledge and information of an organization. Case-Based Reasoning could be considered as a methodology for knowledge management. This paper describes the role that play Big Data and Knowledge Management for building a CBR system. We will discuss the Big Data phenomenon and its benefits and challenges.

Do Industry 4.0 Technologies Lead to More (and Better) Knowledge?

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Abstract: Industry 4.0 technologies promise to increase the knowledge potential of firms as smart factories that exploit larger amounts of data than ever through intense dynamics of process codification and data generation related to markets and product use. Present research has emphasised the implications on the

transformation of manufacturing processes and supply chain management. At the same time, studies on smart products suggest the possibility to trace consumption activities and provide new services. However, little research has been done from a knowledge management perspective. It is necessary to determine the real impact on knowledge creation through the adoption of such technologies in manufacturing firms and on how those firms may translate more data into more knowledge. Under which strategic, organizational and technological conditions do Industry 4.0 strategies lead to knowledge creation for firms? Based on an original dataset of about 200 Italian manufacturing adopters, this paper investigates the relationship between strategies of technological investments and knowledge outcomes, while also considering networking dynamics, types of technologies adopted and firm internal resources.

Evaluation Indicators of Knowledge Management in the State Service

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Abstract: The research results based on data from a survey conducted in 2016 among civil servants, representing the municipal, regional and federal levels of public administration in Russia. The survey involved 500 civil servants. The survey showed that civil servants use a limited set of tools when working with knowledge at the individual and organizational levels. The KM process is unregulated in public administration in general. KM process involves the general organizational approach that promotes learning and information sharing as well as the implementation of specific methods and tools aimed at addressing KM tasks. This includes responsibility at the organizational and individual levels, and to be reflected within the KM indicators. Since KM is an information process, the IT approach to evaluating the information process effectiveness is taken too. The scientific novelty consists of the proposed the indicators and evaluation tool for identification the KM level at state service. There are the goals of KM system: the integration of the collective knowledge of civil servants so that they are constantly learning, feel their belonging to the development and success of the public administration; the short and effective way to tackle new professional challenges. The practical significance of the research lies in the fact that the obtained results demonstrate the weaknesses in the KM process at the public

administration. The developed system aims to serve as a basis for the building of dashboard for KM monitoring. The competence management is the part of a KM system, which ensures timely assessment and training of civil servants to the task. For the successful creation and implementation of a monitor system for civil servant competences it takes a lot of work connected with changes of organizational culture and creation of new organizational structures as a learning organization. Key indicators to measure the KM level of the civil service needs to assess the levels of competency, continuity of learning, intellectual activity.

Nature and Effects of Knowledge Sourcing in a Competing Environment

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Abstract: Location in clusters (spatial concentration of firms representing selected economic areas, in Italian economic literature known as industrial districts) gives firms special possibilities to acquire external knowledge, which can be used in creating value for customers in development (manifesting itself in the growth of sales, export or simply higher profits) or adaptation to market changes. Many studies indicate that knowledge flows or spillovers (among firms or between institutions and firms) are approved phenomena of clusters. Therefore, from the knowledge management perspective, a cluster should give lots of opportunities for formal and informal knowledge sourcing: a basic stage for knowledge development and utilisation in a firm's activity. However, it seems that the more demanding the market becomes because of evolutionary changes (like technological progress) or unexpected events or processes (like the economic crisis), the higher the competition between firms and therefore – the propensity to hide and protect knowledge. The empirical research was conducted in the form of a survey among firms in two furniture clusters (districts): Livenza near Treviso and Pordenone (Northern Italy) and Kępno (Western Poland), with different history and characteristics. The study allowed to state that commonly available knowledge sources (internet, professional press/magazines) in the analysed clusters are perceived as more useful than external sources connected with 'cluster advantages': nearby business environment firms and institutions. This suggests that the importance of possibilities created by clusters for knowledge sourcing and knowledge generation should not be overemphasised. Additionally, informal contacts and cooperation agreements are less important in knowledge

sourcing than comparisons to other firms without contacts with their employees. Moreover, most valuable and efficient for innovativeness of firms are the creativity and ideas of workers as well as participation in fair trades or events. This leads to the conclusion that the competing environment in clusters creates conditions for firms to acquire or develop new knowledge, but this knowledge is most often a protected added value of firms, too precious to be even slightly revealed or partially shared with others. The results might have been influenced by the specificity of the low-tech furniture sector in which the investigated firms operate as well as by the time of the study (adaptation after the worldwide economic crisis in 2008-2009).

Applying a Knowledge Evaluation Framework in the Nigerian Public Sector

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Abstract: Effective knowledge management requires available, complete knowledge that can be readily accessed when undertaking organisational processes and functions. In most organisations in developing countries, knowledge is frequently paper-based, however, there is increasing digital provision. The Nigerian public sector aims to use Information Technology to manage digital knowledge and, in doing so, improve organisational performance. To streamline digitalisation, existing knowledge used by staff in fulfilment of their duties could be digitised. Before digitising, we created an approach to assess existing knowledge, a five-stage Knowledge Evaluation Framework. This used task decomposition to identify and assess knowledge use in task fulfilment, with interviews, task walkthroughs and observation used to gather task data. The framework merged established approaches including Hierarchical Task Analysis, Skills-Rules-Knowledge Framework and Swimming Lane Sequence Diagrams to diagrammatically represent knowledge use in tasks. Using these diagrams, knowledge walkthroughs assessed knowledge availability, completeness and correctness in the Nigerian public sector reviewing the documents identified as the knowledge sources. The final stage, outcome assessment, focuses on the typical results of task fulfilment reviewing historical data from completed activities. The Knowledge Evaluation Framework was successfully applied in the Nigerian Public Sector, with tasks decomposed and knowledge tasks, actors and

sources identified. Staff believed that knowledge was available and of high quality, however, contrary to these expectations in the knowledge walkthroughs we found that knowledge was often missing, obsolete or incorrect. Further, we found that whilst tasks may be knowledge-based, typically staff in the Nigerian public sector used their own, implicit "Guess Knowledge" rather than accessing organisational knowledge. The outcome assessment highlighted that there were significant problems with inappropriate, often guess knowledge use resulting in project delays and increased costs. Use of the Knowledge Evaluation Framework enabled us to explore existing knowledge provision and in doing so, to identify that there are significant knowledge gaps requiring knowledge creation. In addition, we identified that cultural change is needed, with knowledge valued and used rather than largely ignored. These findings have significant implications for the future design of a knowledge management system and highlight the potential of this method to explore knowledge use in an organisation.

Inter-Project Knowledge Sharing in Public Organizations in Poland and Norway

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Abstract: Projects provide opportunities for combining various types of knowledge bases and expertise. Sharing knowledge and best practices through projects can improve an organization's ability to make the learning organizational, and become a learning organization. Earlier research studies show that, though the positive effects of knowledge sharing are recognized, it is still challenging to implement inter-project knowledge sharing and harvest the desired benefits from it. There is increasing focus on leveraging learning and reusing knowledge across projects. The need to focus on learning and knowledge sharing is important for organizations in the public sector too. Several researchers indicate that progression of projectification of public policies, public organizations, and individuals working in public sphere has an impact on actions undertaken for delivery of public services. As social, economic, political and technological changes happen in a faster pace, there is a need for public sector organizations to become more effective and efficient in order to deal successfully with the changes and address the emerging challenges timely. The focus of this paper is on inter-project learning processes in public organizations. This paper is based on a brief literature

study and a case study of two public organizations, concerning public sector project management and project knowledge management. The research question that we ask is: What characterizes processes of inter-project knowledge sharing in public organizations? The research is of preliminary character. It is our first attempt to address the issue of inter-project learning in public organizations in our collaborative endeavor – collaboration between researchers from Poland and Norway. Therefore, we illustrate our deliberations with limited data – a case study of two public organizations: Trondheim Municipality (Norway) and Municipality of Kraków (Poland).

Lessons Learned on Lessons Learned: Gathering Knowledge on Energy-Efficient Rehabilitation of Buildings

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Abstract: Sustainability and energy efficiency are topics that have gained much attention recently in many industries, including building and construction. Many national and international research projects have aimed at both developing technology and efficiently using existing technology over the course of last twenty years. Yet, the industry is lagging far behind other sectors with regards to putting available technology to good use. One important reason for this is the gulf that exists between the research as expressed in the scientific literature and the practice-oriented world of building construction and rehabilitation. This paper describes an application of two methods for conducting literature review and collecting experiences from real-world application in order to efficiently synthesize knowledge from "both worlds". The methods are: structured literature review (SLR) of scientific articles and narrative literature review (NLR) of recommended, practical solutions. In this paper, (1) central characteristics of these methods are presented, (2) Usage of these methods is described, and (3) how these methods can be seen from the perspective of knowledge management / acquisition is discussed. As examples, few findings obtained from SLR and NLR are provided in order to complement the whole discussion. This paper aims to make two major contributions to research and practice: The first contribution is that it addresses certain methodological issues related to gathering knowledge from both the scientific realm and practice. The other contribution is developing a knowledge base: The process through which the two literature review methods

are applied, will result in a collection of knowledge / "best practices" regarding construction and renovation of energy efficient buildings. This knowledge will then be shared with others, and hence contribute to accomplish greater benefits. This paper looks at one of the aspects of "best practices" – namely, key performance indicators (KPIs). This paper is connected to an EU-project called "Rezbuild", which focuses on developing decision and planning support for accomplishing near zero-emission in refurbishment of dwellings. One of the tasks in this project is to collect existing knowledge on better energy efficient solutions for near zero-emission buildings.

Understanding the Role of Knowledge Management in Higher Education Partnerships Through Experts

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Abstract: This paper presents a Knowledge Management (KM) conceptual model that seeks to guide and facilitate the composition of partnerships in the Higher Education (HE) sector. Although the KM field includes a wide range of topics this article seeks to extract KM literature related to organisational studies and synthesise its understanding by evaluating a conceptual model developed in the context of HE partnerships. The model aims to provide insights on collaborative projects and treats educational institutions as living organisms that need to communicate, grow and change in order to best benefit from the available knowledge found at an individual and institutional level. Ontologically this research is based on a subjective approach thus leading towards an interpretivistic epistemological perspective which makes use of a qualitative approach seeking to elicit knowledge and expertise from individuals who have extensive first-hand experience in managing educational partnerships. This research used an expert panel composed of eight academics and practitioners working for UK HE institutions where the researcher discussed the relevance, robustness and applicability of the conceptual model in the context of HE partnerships. Afterwards, the researcher presented a list of five questions which were deemed important for further discussion with panellists (see appendix 1) in order to further improve the development of the conceptual model. The expert panel was concluded with two group activities between panellists to further extract relevant knowledge and expertise from the panellists. The findings of this

research indicate that KM has a positive impact on the development of HE partnerships and highlighted that strengthening the support for KM behavioural constructs (the roots of the tree) is essential. Findings infer that conceptual model should reflect the potential partnership outcomes related to performance and/or growth presented as the fruits of the KM Partnership Tree.

Assessing Competitiveness With Knowledge Metrics

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Abstract: Research over the past decade has established that managing knowledge assets can be a strategic choice, as different types of knowledge demand different sharing techniques. Indeed, in some cases extensive investment in knowledge management (KM) systems may be necessary to compete while in others it may not be worth the expense. With the advent of other intangibles of value such as big data systems and business analytics/intelligence, intangibles different from knowledge, the strategic choices have become even more complex. Whether a competitive situation calls for systems for managing knowledge, big data, intelligence or all of the above can vary dramatically. Metrics have developed to assess these different competitive situations, giving us a general idea of the levels of data, explicit knowledge, tacit knowledge, and intelligence in any given industry or industry sector. Thus, we know that industries such as pharmaceuticals require competence in managing all intangibles. Others, such as financial services, seem to develop very little knowledge even though big data and intelligence requirements are very high. Alternatively, branded consumer goods often have high levels of knowledge but little intelligence. We also have some evidence of what the nature of the critical intangible might be in given industries (e.g. in operational efficiency, in customer relationship management). What we don't necessarily have is a lot of hard evidence about the nature of those intangibles. This paper will explore some additional metrics (key personnel, brand equity, social media sentiment), seeking to add to our explanations of the actual intangibles reflected in the more general metrics. The point is to develop some more specific, more objective metrics allowing us to take a deeper look inside organizations with the aim of better understanding how intangible assets, especially knowledge, contribute to competitiveness.

Integrating Knowledge Management and Business Interoperability: A Scenario Framework

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Abstract: In today's dynamic and competitive environment, businesses become increasingly complex and knowledge-intensive. Knowledge is believed to be a potential asset that could secure sustainable competitive advantage to an organization. While, to gain value from the knowledge, an organization should be able to manage it effectively. How organizations manage their knowledge is known as Knowledge Management (KM), which represents a combination of both technical and human aspects. KM authors claim that the major challenge of managing knowledge is less its creation and more its capture and integration. Managing knowledge in an organization expects the collaboration between a broad spectrum of contributors that ranges from people and processes to supportive technologies. Business Interoperability (BI) is defined as the organizational and operational ability of an enterprise to cooperate with its business partners and to efficiently set-up, conduct and develop digital business with the objective to create value. Knowledge Interoperability (KI), as part of BI, is the ability of two or more different entities to share their intellectual assets, gaining primary advantage of the mutual knowledge and use it, and to more significantly extend them through cooperation. Interoperability at knowledge level should be the compatibility of the skills, competencies and knowledge assets of an enterprise with those of another enterprise. KI concerns three distinct levels: organization level (organization roles, skills and competencies, knowledge assets, human resources management, laws and regulations, legal obligations and relationships with government institutions); technical level (knowledge data); and semantics (knowledge ontologies). This paper will focus narrowly on the organizational level. While most of the present research focuses on technical aspects of interoperability, a systematic analysis of strategic and organizational issues of interoperability lacks currently. This paper is conceptual in nature and aims to open a debate about the integration of KM into BI.

Examining the Mediating Effect of Co-Workers Trust between Tie-Strength and Effective Organizational Knowledge Sharing

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Abstract: Numerous factors have been shown to influence organizational information and knowledge sharing, but perhaps none more than tie-strength and trust. Within the tie-strength literature, there are decades of research on the knowledge sharing benefits of both strong and weak ties. Moreover, it is commonly accepted that trust has a strong influence on tie-strength, as well as on knowledge sharing. However, only a few empirical studies have controlled for the influence of trust when considering whether weak or strong ties are more beneficial for knowledge sharing. The objective of this paper is to re-examine the relationships between tie-strength (weak and strong ties), trust, and effective knowledge sharing. Specifically, the study investigates the mediating effect of trust between tie-strength and receipt of useful knowledge. Data were collected at one of Canada's largest law firms with six offices nationwide. The firm manages a large number of project teams consisting of legal professionals, whose work requires reliance on co-workers, in and across offices. In total, 275 surveys were collected from knowledge workers engaged in shared legal project work. Tie-strength was based on co-worker interaction, frequency, and feelings of interpersonal closeness (measured *while on* and *prior to* working on a project). Trust was considered across three dimensions of perceived trustworthiness (i.e., competence-, integrity-, and benevolence-based) and the shared knowledge was considered useful when it had a perceived positive outcome on projects. Hypotheses were tested using linear regression and mediation analysis. The first finding was that strong ties led to the receipt of useful knowledge. A second finding was that both competence- and integrity-based trust fully mediated the link between strong ties and receipt of useful knowledge. Moreover, the mediating effect from integrity-based trust was of comparable importance to competence-based trust. A third finding was that when perceived trustworthiness was taken into account, any positive effect of strong ties on the receipt of useful knowledge was removed. Therefore, in this study it was trust, not weak ties, that led to the receipt of useful knowledge.

The Perspective of Human Resource Management Practices as Determinants of Knowledge Management Processes

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Abstract: This article aims to present the results of our research focused on the study of organizational processes related to knowledge and on their operational dependence on the nature of assumptions operating in processes of human resource management (HRM) in organizations, framed by the issue of intellectual capital (IC). It concentrates particularly on practices related to job analysis and description, recruitment and selection and integration. It aims to access knowledge of the representativeness of application of the processes referred to and understand their relational dynamics. The empirical study of a quantitative nature, aiming to respond to the central matter of investigation, according to which the perspective forming the HRM practices implemented in an organization has an impact on how knowledge management (KM) processes operate therein. The sample is made up of 5306 collaborators in 634 organizations belonging to a public Portuguese economic group in the banking sub-sector. Data were collected through two questionnaires: HRMP – Human Resource Management Practices and KM – Knowledge Management. This article intends to contribute to the IC literature in public sector organizations analyzing the relationship between HRM and KM.

Knowledge Management Processes Interrelation Into Strategic Decision-Making: Towards an Integrated Model

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Abstract: The paper aims to present the methodological framework used to design a conceptual model for knowledge management processes integration into strategic decision-making at research and development organisations. The framework structure includes four sequential stages based on both quantitative and qualitative data, which define the main factors and relations of integration. First, a sequential methodology between a systematic literature review and qualitative content analysis is used. Second, a matrix relation scheme of knowledge management processes into decision-making phases is applied. Third, a standardised representation of integrated processes is developed using business process model and notation and business process integration model methods. Finally, the integrated knowledge-based decision-making process aligned with corporate strategy definition for R&D organisations is presented.

What Influences Knowledge Hoarding in Postgraduate Students? An Empirical Research in Universities

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Abstract: As Knowledge Management (KM) studies evolve, concerns regarding counterproductive sharing behaviors such as withholding, hiding or hoarding knowledge have emerged. Despite attempts by researchers and practitioners to understand what motivates people to share knowledge and organizations adjusting their practices to enhance Knowledge Sharing (KS), there is still a need to understand the undesired behaviors that negatively influence efficacy in diverse organizational contexts. Knowledge Hoarding (KH) cannot be considered

the opposite of KS. Nevertheless, it does not contribute positively to KS. The study aims to investigate if well-known intrinsic and extrinsic KS motivators – enjoyment in helping others and reputation - help reduce Knowledge Hoarding. Higher education institutions are knowledge intensive and therefore constitute an important environment to research KH. For this purpose, a survey was applied to postgraduate students (master's and Ph.Ds.) attending public and private universities in Brazil. Following snowball sampling, the valid responses, from 295 students, were analyzed using Structural Equation Modelling (SEM). Two perspectives were considered in this research – the student's perspective related to own hoarding behavior and their perception regarding colleagues' hoarding behavior. In terms of intrinsic KS motivation, our results indicate the more the students enjoy helping others, the less they tend towards hoarding behavior. On the other hand, the KS extrinsic motivator 'reputation' demonstrated inverse influence on student knowledge hoarding behavior, suggesting there is a perception that by retaining some part of their knowledge, exclusive, they will enhance their reputation. Another finding from this research concerns the high influence of the behavior of others on a student's own behavior, i.e. when the student perceives his/her colleagues hoard knowledge, he/she will also hoard. Although enjoyment in helping others and reputation are significantly related with KH, they explain a very small part of KH variance. As future research, the authors suggest conducting qualitative research in order to identify the KH barriers.

The Relationship Between Trust and Knowledge Exchange in Russian Organizations

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Abstract: This study is devoted to identifying the role of interpersonal trust in the process of searching and sharing knowledge in Russian organizations. Theoretical analysis shows that previously conducted studies in this research field are mainly focused on revealing the relationship between interpersonal trust and the willingness to use knowledge. This study is focused on the willingness to establish contact between economic actors for the purpose of knowledge exchange. The effects of two different types of interpersonal trust (cognition-based trust and affect-based trust) on willingness to share explicit and tacit knowledge between individuals have been separately examined and tested. The analysis conducted is

based on data obtained from surveying 295 employees from large organizations in Penza region, Russia. To validate the survey, a confirmatory factor analysis using structural equation modeling was undertaken to verify advanced causal hypotheses. To test the hypotheses, a multiple correlation-regression analysis was used. Results reveal that both types of interpersonal trust positively correlate with the willingness to share both explicit and implicit knowledge.

Knowledge Management in Action: A Case Study from Norway

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Abstract: Organizations may experience a knowledge gap and the most common way of covering the gap is to either hire the competence needed or educate the existing work force. In this paper, we present a case study of a training executive that experienced a knowledge gap regarding his own execution of his job. The case study shows how learning by doing, doing by learning, assimilating, developing and sharing knowledge in an organization can enhance and develop ones work and induce changes in ones workplace. This paper will present how this approach has contributed to develop routines for training new staff, and how it has enabled the co-workers to take part in developing these routines, and execute them. The result is a dramatic reduction in the time it takes new staff to be operable.

The Moderation Role of Board Interlocking on the Relationship Between Intellectual Capital and Firm Performance

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Abstract: This study aims to investigate the relationship between board interlocking and intellectual capital as well as firm performance. This study was conducted at 131 firms from Saudi Arabia financial market for the period 2017. To measure intellectual capital VAIC Model was adopted and Return on Assets ROA to measure the firm performance. Board interlocking was measured using number of interlocks and number of interlocks per board member. The study findings supported by evidence illustrating the relationship between only one factor of intellectual capital and firm performance which is Human Capital Efficiency. Results also manifest the board interlocking does not affect the relationship between intellectual capital and firm performance.

Keywords: intellectual capital, board interlocking, firm performance

Sentiment Knowledge Discovery: People Versus Technology

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Abstract: Diplomatic correspondence provides a wealth of unstructured textual data for application of sentiment knowledge discovery services. However, there are no proven evidence-based guidelines for their application. Therefore, the goal of this study was to evaluate the suitability of different technology and people-orientated approaches to classification of sentiments expressed in diplomatic letters. In particular, the research compared the performance of two different types of automated algorithms (lexical and non-lexical) and two different groups of human raters (graduate students). The study found no differences between

different types of automated algorithms or between different groups of human raters. However, the results provide significant support for human raters over automated algorithms. Such results confirm the contingency view of knowledge management. They also suggest that the informating (instead of automating) approach to evaluative judgements may be a plausible way forward.

Ethical Concerns of Artificial Intelligence, Big Data and Data Analytics

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Abstract: An overview of current trends and laws that addresses the *ethical problems in Big Data and AI* is researched in this paper while recommending an ethical knowledge management strategy and direction for these activities. AI, data analytics and Big Data are technologies that are affecting the management of knowledge world-wide and a code of laws and practices that extends worldwide is needed. A literature review investigates the connections between the use of Big Data, AI and Analytics and the ethical considerations. The use of a stated data protection code of conduct backed up by legal constraints is developing but in its infancy. Academic researchers and business practioners of knowledge management should be interested in developing an ethical approach to this new set of technologies that puts access to knowledge on the desk of every knowledge worker while protecting the individual from unethical and illegal misuse of their data. This paper presents a set of principles for governing this new frontier of ethics and legality from the literature. Knowledge management needs a seat at the table for this new technology of knowledge acquisition and used to further develop knowledge management strategies for ethical AI and Big data use.

Technology Adoption Failure Through the Prism of an Organizational Regulation Model

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Abstract: The understanding of the need for using computer simulation in training the emergency officers is mainly based on the growing complexity of emergency scenarios and the inability to organize important learning practices in real-life environments. After organizations responsible for emergency management training procured computer simulation tools, experiences show that using the same tools can yield varying results. There are some organizations arguing for unique benefits of the new tools, while other struggle with adoption and abandon the tool after the introductory period. This paper investigates potentials for value creation and hindrances for using computer simulation tools after the procurement across same-type organizations, where the use of this technology is promising to deliver significant organizational outcomes. Data comes from interviews and participant observations from a multiple case study. This data was examined through the lens of Trifecta model of IT-based organizational regulation (de Vaujany et al., 2018). The chosen model and the analysis help explore differences in knowledge between different organizational stakeholders due to different views on the role and function of technology in delivering organizational outcomes. The findings suggest that differences in technology- and process-related knowledge between different groups and organizations lead to varying outcomes of IT adoption decisions even in the same organization. Divergent knowledge may hinder the development and use of learning scenarios within computer simulation technologies. We discuss the obtained results in order to provide suggestion on what knowledge sharing- and stakeholder- relevant factors have to be considered when making technology adoption and implementation decisions.

Keywords: ontology of knowledge, IT-based organizational regulation, multiple case study, exploratory analysis, emergency response, technology (non-)adoption, learning, simulation, serious games

Facilitating Knowledge Sharing: Improving SOP Adaptation and Cross-Sectional Collaboration

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Abstract: Due to a lack of cross-sectional collaboration and standardization in job performance in a 'Finance and Accounting department', at a large public Danish University, the management decided on two interventions: Firstly, eight operations employees participated in a ten-hour Training Within Industry – Job Instruction (TWI-JI) course and secondly a trainer Community of Practice (CoP) was established. The study followed the case in a ten-month period. Qualitative data for the employee perceived organizational change and the employee-assessed causes of the change shows that TWI-JI was mostly related to changes in training and less to knowledge sharing. Analysis of the time trainers used on training and on the development of job instructions (JI's) shows that trainers performed activity related to the change causes. The study documents that the case company experienced a substantial positive change within the organizational capabilities 'Training' and 'Knowledge sharing', and that the TWI-JI intervention has played an important role. We propose that TWI-JI could play an important role in organizational knowledge sharing because the method can improve the organizational capability to develop knowledge through JI development and share knowledge through training sessions. The lack of data describing process change and by this being a single organization case study limits the results.

Keywords: knowledge sharing, process standardization, training within industry, TWI-JI, cross-sectional collaboration

Best Knowledge-Based Human Resource Management Practices: Findings From Finnish Firms

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Abstract: Given the fundamentally human-related nature of knowledge, human resource management (HRM) must be regarded as a key enabler of knowledge management (KM, see Hislop, 2003; Soliman and Spooner, 2000; Yahya and Goh, 2002). Accordingly, many authors have called for conjoint analysis and better

integration of HRM and KM research avenues (e.g. Kang *et al.*, 2012; Minbaeva *et al.*, 2009; Swart and Kinnie, 2013). However, literature so far has not been able to point out examples of concrete managerial or organizational practices utilized to manage human resources from the KM perspective. Following the conceptual model of knowledge-based HRM practices (Hussinki *et al.*, 2017), i.e. those HRM practices that are purposefully designed to enhance knowledge processes within an organization (López-Cabrales *et al.*, 2009; Minbaeva 2013; Kianto *et al.*, 2017), we empirically studied such practices in six Finnish companies. We identified the companies through a rigorous longitudinal process as forerunning companies with higher-than average KM utilization and economic performance. We interviewed 3-4 directors in each firm during autumn 2017 and conducted content analysis on the interview data. For managerial audiences, the paper provides executable real-life examples of best knowledge-based HRM practices developed in these successful firms. It contributes to the academic discussion on KM by identifying the state-of-the-art KM practices in well-performing companies and by that demonstrates the recent developments of KM in practice.

An Effective Approach to Collaborative Knowledge Creation in Manufacturing Industry

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Abstract: This paper describes research carried out to investigate and address the problems associated with knowledge creation through collaboration between diverse stakeholder groups of a manufacturing company project. Collaboration is an emerging necessity for organisations and has been influenced by the evolving need for gathering segmented groups with diverse knowledge and experience in developing new solutions to support addressing complex problems in a domain. Use of new technologies, to some extent, assists interaction and collaboration between segregated stakeholders. This approach has been a feasible solution for real-time communication in virtual environment, however, stakeholder boundaries influence the recognition of the problem-related factors affecting different stakeholder groups in a domain and results in conflicts of perspectives and ineffective interaction between stakeholder groups. A collaborative leadership approach was used in this project. Leading collaborative knowledge creation involves setting up an environment in which members of different stakeholder groups in a domain meet and collaboratively find solution to the

problems that they could not find individually. Lack of effective and efficient leadership of knowledge creation in such environment could result in significant exchange of data rather than problem-centred knowledge. This paper describes the method called Effective Problem-Solving (Ep-s) which was developed, by the authors, as practical process of collaborative leadership for implementing successful collaborative knowledge creation in manufacturing industry.

Keywords: knowledge creation, collaborative knowledge creation, leadership, stakeholder engagement, manufacturing industry

Do They Perceive Themselves as Knowledge Workers?

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Abstract: What does it mean being a knowledge-based organization? Does it involve possessing the main features of knowledge management or having a functioning knowledge management system? Perhaps, this '*being'* is about employing staff as knowledge workers, or, on the contrary, employees who assume voluntary functions of knowledge workers may empower the organization to operate as a knowledge organization? The aim of the paper is to determine whether the staff employed in the positions not described as knowledge workers perceive/realize their work as characteristic for knowledge workers. In other words, what KM functions not listed in their job descriptions are assumed by employees on their own initiative? How do they perceive their organization: does it support their initiatives as KW? What understanding has the organization from the KM perspective? Research methodology relies on the mixed strategy – a combination of quantitative and qualitative approaches. Empiric research on 23 employees of different organizations has been conducted. Research methods included a semi-structured written survey and a narrative. The empirical study revealed that the majority of the researched employees who could sufficiently professionally evaluate their performance recognized the functions of knowledge worker in their work. The employees seem to assume these functions voluntarily, i.e. they are not indicated in job descriptions. The questions such as what it means to *perceive*, *be* and *act* as a knowledge organization are tackled in the discussion. The value of findings lies within the empirical proof that employees can perceive their work as knowledge work and act as knowledge workers, even when their managers do not consider the organization to be knowledge-based organization. Hence, questions for further discussions arise: can an organization that does not formally recognise knowledge management functions really be referred to as knowledge-based? What are the possible perspectives for such organizations?

Therefore, the findings of the research as well as the questions posed by it are relevant not only to researchers, but also to the executives.

Knowledge Dimension in Smart Development

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Abstract: Until recently, smartness and smart development were mainly subjects in popular usage rather than genuine academic concepts in their own right. The conceptualization endeavours are further hindered by the two-facet approach to smartness/smart development – technological and social. The former is mostly related to IT application and the latter to the decisions made by people. The conceptualization of the social approach to smartness constitutes probably the biggest challenge to the researchers in the field. Even if knowledge management theory is taken as a basic theory, the question of the role of knowledge in "smartness" and smart development is still unclear. It seems to be particularly challenging when dealing with complicated and especially with complex social systems. They may vary from small specific communities to the state, region, economy, education, etc. The *aim* of the paper is to discuss the role of knowledge in achieving the qualities of a smart social system. The paper is based on the results obtained from the extended research project "Smart development of social systems". The state, region, city, community, economy, public governance and culture have been taken as the research object. In our working definition, a smart social system is such a system of communications wherein people and other social agents are able to envisage the features critical for the environment or the particular system, to which they quickly and innovatively react by adjusting to these environments with adequate decisions assuring its further development. Eight dimensions of a smart social system and key principles of smart development of different social systems are considered and will be discussed in the paper. Discussing the research results with the researchers representing different fields of knowledge will contribute to better understanding of the phenomenon. The ideas presented in the article might be of interest to researchers from the field of innovation, entrepreneurial ecosystems, education, strategy and others.

Integrating African Traditional Medicine and Biomedicine for Improved Public Healthcare: Prospects and Challenges

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Abstract: Using a case study approach, incorporating secondary and primary data, the paper shares the experiences of the initiative of the DST-NRF Centre in Indigenous Knowledge Systems (CIKS) at the University of KwaZulu-Natal, Durban, South Africa, to integrate African Traditional Medicine (ATM) with western biomedicine for improved public healthcare. It is based on the following arguments: first, there is increasing realization that global health challenges are getting complex and necessitate knowledge and technology systems to become complementary rather than competitive in order to mitigate public healthcare challenges, especially in the developing countries including South Africa. Second, instead of universalizing solutions to global public healthcare challenges based on one dominant western knowledge system, sustainable solutions to these challenges should build on the global diversity of cultural and ecological experiences facing healthcare prospects and challenges; third, currently the initiative to integrate ATM and biomedicine including the pharmaceutical sciences in Africa and South Africa in particular, tends to be driven by western trained academics and researchers. There is limited concerted effort to solicit the perspectives of African Traditional Healthcare Practitioners (ATHPs) as community knowledge holders. The integration of ATM and biomedicine including the pharmaceutical sciences is a new area of inquiry. The paper discusses the prospects and challenges faced by the CIKS and its partners in this process with regard to: building a critical mass of relevant human capital; cross-cultural knowledge transfer of ATHPs; facilitation of drug development in pharmaceutical industry based on ATM knowledge. In the effort to drive this process the CIKS and its partners have undertaken a number of programme activities which include: conducting multi-disciplinary research; organizing stakeholders' workshops to create a common understanding of the initiative and process; facilitating under and postgraduate training to create a generation of scientists conversant in the two public healthcare systems; expanding the scope of research and development (R&D) to include neglected diseases; creating platforms for interfacing the two public healthcare and knowledge systems. The limitations of the paper are based on the fact that the findings cannot be universalised. They emanate from the knowledge and experiences of ATHPs and biomedical practitioners who are associated with the CIKS. The findings need to be complemented with

comparative research in other cultural and institutional settings. This takes into consideration of the multi-cultural and racial character of the South African society.

A Critical Perspective on the Nonakian Paradigm

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Abstract: For more than 20 years, the concept of knowledge management (KM) has developed to settle as a subject of its own. As many reckon that the field has reached a stage where it has stalled, a critical reflection in this area is timely. Indeed, the founding principles and theories pertaining to KM kept being applied and further investigated while their kernel and meaning remained unchallenged. Considering the foundations of KM, the Nonakian paradigm is of particular interest as it has indisputably shaped the field. Nonaka and Takeuchi (1995) have had a decisive influence on the definition of KM and how the speciality has evolved. Beside being credited for introducing the concept of 'organisational knowledge' and suggested the only complete theory of knowledge creation to date, Nonaka and Takeuchi have also defined the semantics of KM with phrases such as tacit and explicit knowledge, delineated concepts like the SECI and the knowledge spiral, and put forward precepts such as the knowledge conversion. These contributions that have substantially influenced the literature and help the field thrive may also hinder its progress today. This conceptual paper proposes a critical reflection on the foundations of knowledge management as they have been shaped by the Nonakian paradigm. The discussion concentrates on the nature of knowledge in organisations, the difficulty to grasp such an elusive concept and its treatment by organisational researchers. Against this ontological and epistemological probe, the Nonakian paradigm is critically examined, and its flaws underscored. This task is achieved in relation to specific principles but also on a more philosophical level. Finally, opportunities enabling to overcome the limitations borne by the Nonakian paradigm are presented.

Why Knowledge Management Fails

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Abstract: Nowadays, scholars and researchers emphasize the role of Knowledge Management and Intellectual capital in a modern society and their influence in an economy. Intellectual capital creates new ideas how to use the restricted resources in the best way to gain the competitive advantages and be profitable. Knowledge management helps to establish an environment of creation, development, transfer and share intellectual capital. At the same time, some companies and enterprises do not use the latest theoretical and practical achievements in the fields of knowledge management and intellectual capital. Purpose - to study the objective reasons of knowledge management failure in companies in general analyzing case studies of failure and present a framework in which the failure factors are linked to the different stages in the cycle of KM implementation (provided by P. Akhavan and A. Pezeshkan). Design/methodology/approach – Data for research was collected from authors own working experience in a real business. After a detailed study – applying grounded theory method – the results categorized and analyzed in precise stages of implementing KM systems indicating the main failure factors. Findings – Through analysis of case studies, two main results were achieved. First, the main critical failure factors of KM projects were identified. Second, identified factors were traced along the KM implementation cycle showing how different failure factors may effect in each specific stage of the KM cycle. Research limitations/implications – The results of this research are based on cases from author's work experience meaning that for other cases the conditions and results may be different. Practical implications – The findings are combined into a framework of failure factors in KM projects. Based on it, practitioners may apply the strategy how to avoid factors or decrease the number that lead to the passing of KM systems in each stage of the KM project development cycle. Originality/value – Due to the fact the organizations do not publish proper reports of failure in their projects because of their policies, the image of their organization, and privacy, we provide and analyze the real examples of Knowledge Management Implementation.

Keywords: applied knowledge management, knowledge management success factors, knowledge management, knowledge management failure, knowledge management cycle, critical failure factor

Content Evaluation in Knowledge Management Systems

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Abstract: The paper considers questions of development of the knowledge management concept and enhancement of enterprise business processes based on a virtual information environment and a network model of cooperation provided by professional communities. An important aspect of using professional community portals is an opportunity, within this virtual environment, to connect to and cooperate with not only corporate employees themselves, but also any external users who would be given access rights, or a part of the portal would be made public. This opens vast opportunities for realization of network cooperation of users, but also sets a relevant task to evaluate materials posted on the portal. A rationale is noted for using integrated rating evaluation of content to enhance the quality of information search and help users achieve their goals while working in the virtual information environment. To speed up search for required information and optimize workflow, an integrated system for rating evaluation of materials has been devised. It is an embedded virtual reality instrument for data analysis and processing, a neuroevolutionary system that interacts with various components and services of the virtual reality. It has allowed to automate content processing in order to acquire relevant and quality information, generate new knowledge and apply results of intellectual activities to scientific researches. Based on the values of the content parameters, the integral score is calculated for making decision on how to process the materials, and the results of user search requests are rated. Multi-criteria calculation of integral rating score is needed for optimization of operations of the information environment. Its application simplifies a number of tasks, including processing of unrequested content, transfer of content with due characteristics to storage, quality search for and rating materials, accumulation of statistics for modification of the scope of information in the information environment. The proposed algorithm of intellectual data processing can be used in any project that requires rating evaluation, automation of decision making process, intellectual search and ranking content.

Keywords: knowledge management systems, virtual information environment, intellectual data processing, rating evaluation of content, decision making support

Knowledge Sharing in Defence and Security Organisations: Insights Into Particular Practices

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Abstract. Globalisation, economic, social, cultural and technological changes influence various organisations which have to adapt to the turbulent environment. In a knowledge-based economy the knowledge appears to be the main source of sustainable competitive advantage. Thus, knowledge management (KM) attracted a considerable attention of scholars, investigating the contribution of KM to the success of organisations. Though majority of studies reveal the importance of KM to the business organisations, the significance of KM in public sector's context is undeniable. Notably, defence and security organisations take the exceptional place in the public sector's context due to the unique accountability and responsiveness. However, investigations, focused on the processes of KM in the context of these organisations, are scant and require separate attention of scholars. While a number of studies were performed in the UK, Canada, the USA, India and Malaysia, the investigations in Eastern European countries are scarce. Thus, the authors of the paper seek to address the following research question: what are the best practices and barriers of knowledge sharing? The paper aims to investigate the processes of knowledge sharing being deployed as best practices in the selected defence and security organisation's unit of Lithuania. The research is based on data collection from five interview sessions. The study provides the insights into integration of KM processes, engagement of individuals and the areas of improvement. The research demonstrates the crucial role of leadership, training and development, information technologies and organizational learning. Meanwhile, turnover and job rotation are seen as the barriers to knowledge sharing. The investigation enabled to elaborate the areas of improvement and proposals for future investigation.

Keywords: knowledge management, knowledge sharing, knowledge management system, barriers, best practices, defence and security organisations

Teaching Organizational Learning to Undergraduates: Applying Design Thinking in Problem-Based Learning

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Abstract: We report about the design and implementation of an undergraduate course on organizational learning in an Austrian business school. Using problem-based learning, this course enables students to put theories on organizational learning into practice. In a live case study, a case partner from industry provides an unstructured and ill-defined problem which students try to solve. The design and implementation follow a recent call to complement rational-analytic with creative and design-oriented thinking in business schools and leadership education (Glen et al., 2014). The design thinking framework serves as a scaffold to apply theories from organizational learning to the problem. From a researcher's perspective, the course implementation reflects an action research cycle addressing how problem-based learning and design thinking can bring theory on organizational learning into practice. As the course evaluation shows, the proposed course design and implementation are well recognized by the students and are a viable way to teach organizational learning. With this paper, we contribute to the discourse on how design thinking can be applied in business schools and practically outline how it can serve as a scaffold to teach organizational learning.

Keywords: organizational learning, business school, problem-based learning, didactics, design thinking

The Role of Intellectual Property Rights in Growth Aspiring SMEs

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Abstract: Small and medium sized enterprises (SMEs) are significant innovators in the economy. The competitive advantage of the firms depends highly on successful knowledge management. According to earlier studies on growth seeking innovative firms, company performance and measurement should be connected to the management of intellectual capital. However, the open innovation paradigm, lack of resources and rapidly evolving technologies are

challenging to both managerial decision making and the conventional protection of intellectual property rights (IPRs). Hence, good management of IPRs, knowledge sharing and future technology anticipation are the decisive driving factors for the international growth and wealth of the firms. In addition, a better integration of innovation processes to business models is required. Previous academic research indicates that this could be achieved by connecting those processes to the performance and measures of the firm by other management functions, such as human resource management. The aim of this paper was to explore the current trends of human resource management (HRM) in identifying and managing the increasingly complex issue of IPRs. This research attempted to find answers to the question of what perceptions the managers of SMEs have of IPRs and, furthermore, of how they recognise those individuals, teams, projects or processes that they need to engage in order to implement and communicate the pursued strategies. Six representative executives or HRM managers from technology driven SMEs in Finland were interviewed by using semi-structured interviews. The primary data was analysed by using content analysis. The findings indicate that the IPR knowledge base in firms is often key person centric and that the recognition of IPR is not made explicit in the company. The management of IPR is not aligned with the business practises, and the shortage of resources can lead to the outsourcing of strategically important activities, such as IPR processes or sales. It can be claimed that IPR management should be seen as a core and mission-critical process for growth aspiring SMEs, and well planned human resource processes would be here the natural contributors.

The Mediation Function of job Satisfaction Between Organizational Culture Dimensions and Knowledge Sharing

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Abstract: It is commonly acknowledged that organizational culture is a valuable element of intellectual capital and as a hidden source of competitive advantage can considerably affect the achieving of strategic business goals. The axiological dimension of organizational culture is mostly identified with a set of shared assumptions and values, while its behavioral dimension is mainly defined by work

practices. Both these dimensions influence, among others, the individual propensity to share knowledge which is crucial for the improvement of company performance. Knowledge sharing as a dynamic social process characterized by profound human interactions is determined by both organizational and individual factors. The links between them are worth exploring because of their importance for knowledge sharing. Knowledge sharing behavior is shaped by an organizational culture which creates an organizational context for social interactions. Among the individual factors, in turn, job satisfaction plays a key role. The willingness to share knowledge certainly depends on a subjective well-being that influences employees' commitment, loyalty, and trust necessary to achieve organizational goals. The aim of the article is to examine how job satisfaction influences the relationship between organizational culture, perceived through the prism of its dimensions, and knowledge sharing. For this purpose, a study among 910 Polish employees with different roles and experiences and across different industries has been conducted. The data were analyzed with a structural equation modeling method (SEM).

HRM, Group and Individual Level Variables on Knowledge Activities in South Korea

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Abstract: This study suggested the factors that influence employees' knowledge activities (i.e., knowledge creation and sharing) as gauged from organization, group, and individual level variables, and tested the study hypotheses on South Korean workers. The empirical results were that the factors that facilitate knowledge activities are human resource systems at the organizational level, developmental leadership and quality of one's relationships with one's co-workers at the group level, and the need for achievement and emotion-focused coping strategies at the individual level, all of which showed a positive correlation with the employees' knowledge activities. Particularly, human resource systems facilitating knowledge activities showed a positive impact on the group and individual level variables.

Expression of Creativity Factors in a Scientific Organization

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Abstract: Creativity is one of the key factors in the process of effective human capital management. Nowadays in order to survive and succeed a scientific organization must flexibly and quickly respond to the environmental changes and diversity. It must be creative in order to harmonize the needs of stakeholders, to adapt to rapidly changing conditions and social innovations. Only creative organizations, that are able to bring together creative teams, to generate new ideas, to develop and promote the creative potential of the employees, can become leaders. This paper focuses on the scientific organizations and what factors of creativity are the most important there? Therefore, it was performed a theoretical research in order to validate the problems occurring in the expression of creativity and an empirical study has been carried out in order to clarify the most significant creativity factors for the staff of the scientific organization. Qualitative and quantitative research methods have been employed for the empirical research. The qualitative study involved a focus group discussion method, and the quantitative investigation was performed through survey using the SPSS 20.0 software package and descriptive statistics. Based on the research performed there was created a structured model of creativity factors in a scientific organization at individual and organizational level. The main findings from the quantitative study has revealed the existence of statistically significant strong correlation among personal qualities, skills, knowledge available and internal motivation. As well as there is also a statistically significant strong correlation among the factors of an organization: climate, culture, processes, direct and top-level managers. There must be paid a growing attention to the aspects of creative behavior, because the improvement of one factor leads to the improvement of another one. And all the problems related to the lack of creativity in the scientific organizations can have a significant impact on the knowledge society and its adaptation to the modern environment.

Knowledge Capture From Manual Workers: The Case of Floor Layers Working in Very Small Businesses

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Abstract. *Background*: Investigations and interventions with floor layers (FLs) began 15 years ago. From one project to another, knowledge capture, organisation, management and transfer was a preoccupation, however the basic aim was always to examine: "what can be done and how to improve the FLs' work conditions or situation", knowing that they work essentially in very small businesses (VSBs). In the last project – the development and implementation of a website – both aims were narrowly intricate. *Goals*: (1) Explore the process of analysis targeting the objects of knowledge and the relationship (or rationale) linking these objects. (2) Find a way to better capture the FLs' points of view on various issues as a source of *savoir* (*i.e.* body of knowledge and experience). *Method*: (1) Three verbal databases (solutions, problematic situations, and tools and equipment) collected during the previous projects were analysed. (2) Interviews (video recorded) conducted with 7 FLs were analysed as verbatim material and reorganised into 28 clips. (2) *Results.* Four main objects were retained in structuring the knowledge capture (body, performance, context, solutions) and their relationships (impact, associations, limits) are both functional and efficient. The categories used (solutions, problems, tools-equipment) showed a good complementarity. The strategy used to capture the FLs' body of knowledge and experience gave interesting results. *Discussion:* This section examines what we learned about knowledge and the capture process.

Keywords: object of knowledge, relationship between knowledge objects, point of views as *savoir*, occupational health and safety, website development

A Functional Transformation of Intellectual Capital

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Abstract: While gaining dominance over traditional production factors, complexity has become the most notable trait of Intellectual Capital (IC). Similar to land and capital which became important in previous stages of the economy and were monopolised, IC is shielded too. Human knowledge that is unscalable and arbitrary, and buried logic in applications that is difficult to change, lead to wasteful data processing in value chains. The drawbacks of protection, however,

did not emerge so quickly as in the E-business economy: IC is already reaching levels of complexity that its monopolisation becomes financially unaffordable for enterprises. A recent question in the IC dialogue is why research does not lead to practical outcomes. It appears that IC research neither led to an incorporation of scientific ideas in practice, nor to a changed view on how to conduct IC research to have practical impact. Suggestions to alter bookkeeping systems to explicitly account for IC and trigger operational use, are not acted upon as preceding proof of the practical value of IC is lacking. In turn, evidence can only be obtained if the value is recognised and there is willingness to free resources resulting in a circular lock. The objective of this article is to contribute to the IC debate in theoretical and practical sense by presenting the functional paradigm to transform hidden IC and breach the circular lock. The functional paradigm entails a theory of complexity to analyse whether, to which degree and how IC is formalisable and to accordingly offer strategies, modelling principles and technology. By advancing AI beyond knowledge representation and machine learning and advancing databases beyond records and semantic schemas, it helps to unravel complexity and valorise IC in E-business value chains. The beneficial impact of the functional view on the management of IC is showcased in the financial and governmental sector.

Knowledge Management in Micro and Small Enterprises in Poland

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Abstract: Micro and small enterprises are the predominant category of enterprises in the modern market economy, accounting for more than 96% of all businesses. Their number notwithstanding, compared to small and medium-sized enterprises, organisations of this size rarely become the subject of separate research. A number of specific qualitative attributes of micro and small enterprises largely affect their operation. For instance, as company size decreases, their owners assume a unique role of becoming increasingly engaged in decision-making. As a consequence, the specific knowledge and experience that are available to the entrepreneur determine the quality of business. The knowledge and experience of employees are also of great significance. In a knowledge-based economy, managerial knowledge and skills are key factors for the competitive advantage and market success of all enterprises, no matter what size. New challenges for enterprises result additionally from internationalisation

and globalisation. By trading their products internationally, companies can increase their market reach. However, to operate successfully on international markets, both entrepreneurs and their employees need additional knowledge and skills. The aim of the article is to present selected aspects of knowledge management in micro and small enterprises in Poland. The article employs statistical data published by Bank Pekao S.A. in its "Report on the situation of micro and small enterprises in 2010" and "Report on the situation of micro and small enterprises in 2016". The study utilises a sample of 6,853 and 6,903, respectively, Poland-based micro and small enterprises to gather data in 2010 and 2016. The analysis addresses multiple aspects of knowledge management in micro and small enterprises. The results of our own research are presented in tabular form using mathematical analysis tools to describe the structures and processes selected for research. Our research has helped identify differences in knowledge management in micro and small enterprises in Poland. It is worth noting that both business owners and employees are aware of their knowledge deficits and of the need to remedy them promptly to ensure that their enterprises can function effectively. Considering that the literature rarely addresses knowledge management in micro and small enterprises, research findings in the field provide valuable novel insights into the subject matter.

Knowledge Management in SMEs: In Search of a Paradigm

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Abstract: Knowledge management in business organisations is a complex process, which includes (1) managing the intellectual potential of workers, (2) managing knowledge resources, and (3) relevant IT support. In addition to training, professional development, participation in workshops, trade fairs and conferences, the process inevitably includes the gathering and identification of knowledge, data analysis and sharing, database creation, adequate software, and compatible and adapted computer networks. The exponential growth of processing power is further accelerated by globalisation. Knowledge has become a product in itself while its resources are considered immeasurable. The rise of network technologies, growing consumer awareness, heavy market penetration by knowledge-related products and services, and change, as one of the key

factors, manifested both through employee turnover and technological development and innovation, are attracting ever more interest to the issue. The article seeks to present selected aspects of knowledge management in Poland's micro and small enterprises and the ways in which it is evaluated by management practitioners. The article presents the results of the authors' 2016-2018 group administered questionnaire among a sample of 600 prospective and existing entrepreneurs in Poland against the background of a literature review. The desire is to broaden knowledge and help increase business efficiency. The results are processed using mathematical analysis tools and the chi-*squared test*, and presented in tables and graphs. The results reveal diversity in knowledge acquisition and management. This applies to both the ability to select the right training to improve manager and worker competencies and, importantly, the recognition that such training is essential for the progress of enterprises. *The author's own research has shown that small and medium-sized enterprises are oriented towards knowledge and are aware of its importance in their development. At the same time, the findings suggest that knowledge category management processes are in place, and the entrepreneur's sex has been found to be irrelevant when it comes to decision-taking in this respect.* While knowledge management literature tends to focus on large enterprises, it often neglects the unique potential of customising large-enterprise solutions to the capacities of micro businesses. Therefore, any proposed variants should also apply to SMEs, whose primal effect on micro- and macro-economic indices extends to the regional, national, continental and global levels.

Keywords: small and medium-sized enterprises, SME, knowledge management, intellectual capital, progress

The Impact of Knowledge Creation, Acquisition and Transfer on Innovation in the Healthcare Sector

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Abstract: This study sought to analyse the impact of the creation, acquisition and transfer of knowledge on innovation in the healthcare sector. The innovation process relies heavily on knowledge (Gloet and Terziovski, 2004), especially tacit knowledge (Leonard and Sensiper, 1998), whereby new and important knowledge

is created and converted into products, services and processes (Choy et al., 2006), thereby transforming general knowledge into specific knowledge. According to Nonaka (1994), knowledge is considered one of the main requirements for innovations leading to competitiveness. Thus, investment in the development of innovative products and services related both to medical equipment and management is a key element of growth in the healthcare sector. Porter and Teisberg (2006) point out that the promotion of strategies based on innovation generates real value for clients (i.e. users) and that this is quite highly rewarded in extremely competitive markets. The cited authors also argue that, although technological innovation in healthcare is often viewed with suspicion and its adoption blocked by financial constraints, innovation is a crucial part of healthcare development. The present analysis was conducted based on variables included in the Community Innovation Survey 2014 database, to which multivariate statistical tests were applied. The data were analysed with IBM's SPSS Statistics 24 software. The results reveal that knowledge processes have a positive impact on innovation in Portugal's healthcare sector. More specifically, knowledge acquisition has an impact on technological and non-technological innovation and knowledge transfer affects marketing innovation. Thus, healthcare organisations mainly promote knowledge creation and acquisition processes that have a higher impact on non-technological innovation. This study's findings contribute to validating the importance of investing in knowledge as a way to understand trends, as well as planning and defining innovation strategies that contribute to healthcare organisations' performance and customer satisfaction.

The Effect of Women's Knowledge in a Footwear Firms' Internationalisation and Innovation

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Abstract: This study sought to use qualitative analysis to explore the role that female entrepreneurs' knowledge plays in footwear firms' coopetition and innovation, as well as these strategies' effects on internationalisation in this industry. Data were collected from entrepreneurial women holding more than 50% of the capital – and with active participation in the management – of footwear firms operating in the international market. The interview transcripts were subjected to content analysis using NVivo software. The results indicate that creative processes, including knowledge creation, have an impact on these firms' innovation and coopetition. In addition, innovation has a positive impact on the businesses' internationalisation. Thus, firms that promote knowledge creation and acquisition and implement coopetition strategies can innovate and increase their internationalisation. This study's findings contribute to a deeper understanding of the role played by each female entrepreneur's acquired knowledge and training in the footwear industry's definition of internationalisation and innovation strategies.

Keywords: knowledge, female entrepreneur, internationalisation, innovation, coopetition, footwear industry

Technology Assimilation, Absorptive Capacity and Organisational Agility: Their Combined Effect on Firm Performance

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Abstract: In the current dynamic context, organisations have to focus their management expertise on finding effective ways to create a sustainable competitive advantage. Investment in information technology (IT) is often perceived as a solution to successful business strategies. However, research and practice have shown that a considerable percentage of IT systems have failed to sustain any competitive advantage because managers have been focused on the IT infrastructure, leaving in the background its integration in the strategy of the company. One of the most common barriers to the effective use of technologies consists of the technology assimilation capability of its potential users. This research responds to the need for investigating the mediating role that such capabilities may have in the relationship between IT assimilation and firm performance. To achieve its aim, this study investigates how IT assimilation can encourage potential and realised absorptive capacity and how these can, in turn, facilitate organisational agility and organisational performance. A research model was developed and tested using a sample of 110 Spanish firms that employed more than 100 individuals and also made use of Editran tool, a platform for communications over data networks and the Internet. The data collected was analysed using a PLS approach. Our results suggest that IT assimilation support the development of both potential and realised absorptive capacities within the firm and this, in turn, have a positive effect on organisational agility. Thus, potential and realised absorptive capacities mediate the influence of IT assimilation on organisational agility. Furthermore, organisational agility has an effect on firm performance. The findings highlight the critical role of IT assimilation in improving firm performance through complementary relationships with absorptive capacity and organisational agility.

Keywords: technology assimilation, absorptive capacity, organisational agility, firm performance

Overcoming Environmental Barriers Through KM Practices

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Abstract: There is a lack, particularly in relation to SMEs (small and medium sized enterprises), of managerial mechanisms to overcome environmental knowledge barriers. Some of these barriers are related to resource shortages or outdated knowledge, which can impede the utilization of Knowledge. In the following paper, we consider that if environmental knowledge barriers are present then specific knowledge management practices are required to stimulate the utilization of knowledge and, hence, provide for the assimilation of knowledge. Thus, in this paper, we focus on socializations practices as a method to counteract the problem of environmental knowledge barriers. We have analysed the relationships between environmental knowledge barriers and the SECI model using an empirical study of 87 Spanish SMEs in order to identify whether the impact of environmental knowledge barriers on knowledge utilization can be mitigated through socializations practices. Our results confirm that when environmental knowledge barriers take place, the relationship between socializations practices and the utilization of Knowledge is weaker than it otherwise would be.

Keywords: environmental knowledge barriers, utilization of knowledge, socializations practices

Intercultural Knowledge Management

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Abstract: The scope of intercultural knowledge is the study of the differences between the national and foreign cultures. This paper's main objectives are to understand how employees assigned internationally perceive the cultural

differences they are faced with, the factors which influence intercultural adjustment during an international assignment and with what type of support they are provided in their home companies. Admittedly, cultural differences between home and host countries could negatively impact the success of international assignments inasmuch as the former may create a set of barriers which expatriates need to overcome. Thus, this study also examines how organisations could develop their employees' cross-cultural competencies by means of their intercultural knowledge management practices. A total of forty-five semi-structured interviews with Portuguese international assignees (26 in Angola; 19 in United Arab Emirates), who were immersed in the host country culture for at least six months, allowed for a qualitative approach to data collection. Results from collected data suggest the process of intercultural adaptation of Portuguese assignees to the Angolan and United Arab Emirates context is not standard. On the one hand, the results emphasize the fact that there are (1) contextual factors; (2) idiosyncratic factors and; (3) factors of an organisational nature. These are the main types of factors which help explaining why international assignees find intercultural adjustment difficult. On the other hand, the study suggests that organisations should take heed of intercultural knowledge management practices which facilitate their future international assignees' intercultural adjustment. Most assignees consider the organisational support insufficient. We discuss theoretical and practical implications of the intercultural management process, and explore avenues for future research.

Evaluation Model for Knowledge Transfer in Research Centers

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Abstract: Knowledge management (KM) can be understood as a process to facilitate the creation, transformation, transfer and use of knowledge. One of the objectives of KM is to develop the concept of a learning organization, which evaluates, stores, uses and commercializes experiences and authentic knowledge given by employees of the organization, adding value to each component that constitutes it, to make it more competitive. Research centers and institutions from Colombia's coffee triangle are developing a series of processes that seek knowledge transfer, reflected on various results related to commercial and non-

commercial, in this sense an evaluation model for these research centers and institutions was designed and validated. The proposed model starts from a qualitative research and considers a holistic and integrating development, that is, it does not only contemplate the results of the exercise of knowledge transfer, but also the internal processes that can lead to the consolidation of a transfer that is integrated to the needs of the environment. This model is defined from the most important categories and variables at the moment of making the transfer a reality, Organizational direction (strategic direction, structure and rules of intellectual property), Organizational culture (values and organizational climate), Learning (orientation, strategy and competences), Standards (roles and methods) Technologies (information and communication technologies). With these, the categories and variables that are usually considered in the knowledge transfer are generated. such as: networks (organizations, research, contracts and alliances), services (consultancy, advisory and coaching), commercial production (patents-licensing and entrepreneurship) and intellectual production (articles, books, thesis, creation of study programs for undergraduate and graduate, and papers). It also links each actor of the research center or institute, which accesses from a complete and updated perception of their work in the organization and the importance of the results that are offered to the environment, thanks to the integration of the model that reach the individual and collective.

Keywords: knowledge management, knowledge transfer, learning organization, research centers

The Relation Between Companies' Investments in Intangibles and Innovation

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Abstract: Measurement and valuation of Intangible Assets play, nowadays, a vital role in the knowledge economy. In this context, it is admissible to formulate the hypothesis that the countries' aggregated companies' willingness to invest in intangibles reveals something about those countries vision of future, risk-taking attitude and beliefs that future results will be related with Intangible Assets. From this idea, it would be, theoretically, expected that the aggregated decisions of such entrepreneur attitudes would manifest itself (negative or positively) in the

countries' economic results, expressed through an adequate index, an innovation index, for instance. The aim of this paper is to analyse the Intangible Assets in some countries of the European Union, namely Sweden, Denmark, Finland, Germany, Portugal, Spain, Italy and Check Republic, and to understand the impact of these assets in the innovation of, and productions of benefits for companies. Data sources used for this research where: "Flash Eurobarometer 369" (investments in intangibles). In terms of originality, this empirical study aims to contribute and stimulate data-driven discussions about the relation between the investment in intangibles and the innovation of the countries, aiming the formulation of national investment policies on intangibles.

Relational Capital in a Mexican Social-Rural Venture

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Abstract: **Statement of the topic**. Social ventures pursue the explicit aim of benefitting communities, while engaging in commercial activities to sustain their operations by means of selling products and/or services. Since 2012, the economic and legal framework of Mexico has acknowledged social enterprise as an alternative to address the problems of poverty, unemployment and migration. The intellectual capital approach is particularly relevant to address the relational capital of social ventures and the potential links to accomplish their social mission. **Research question**. What are the manifestations of relational capital in a social venture composed of female dairy-production units in a context of poverty? **Design/methodology/approach.** Data of this descriptive case study came from direct observation, participant-observation and a group interview. For data analysis, a list of issues regarding relational capital was produced, as well as a matrix with external/internal factors and formal/informal development processes for creating relational capital. **Findings.** We found several demonstrations of nuanced trust and cooperation built on the relationships of the social venture with their members´ families and neighbours, and also with suppliers and customers. **Value.** The value of this research hinges on detecting the elements of relational capital of a social venture with a view to strengthen its future performance and viability. Particularly, we expect that daily practices of relational capital are (or become) a valuable resource for the social venture to achieve its social purpose and its financial self-sufficiency in a rural context.

Transformative Demands for ERP Functionalities: Knowledge Management in Customized Manufacturing

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Abstract: Customized manufacturing requires completely new technological solutions and long and careful prototype development and testing. The new requirements increase production costs, extend manufacturing time and entail frequent errors in the product quality. So far, knowledge management framework provided by ERP systems still has not responded to the customized needs even though ERP's provide plenty of innovation solutions for prognosis, trending, etc. Additionally, high uncertainty of customization could be managed better by employing diverse expertise of employees if their knowledge could be empowered together with rigid knowledge about the customized order. The goal of this paper is to determine customized manufacturing demands for functionalities of knowledge management systems that can be incorporated in ERP. The research is based on a case study conducted in an SME type company settled in Lithuania. Extended interviews on different issues, including the decision making system, problem solving, strategic decisions and ERP implementation and use, have been conducted during the last 2 years (from June, 2016 to March, 2018) with company leaders, managers, constructers and production workers. Although, one may expect to accrue experience and improve abilities with every new order, the company is still facing difficulties in coping with uncertainties of incoming orders even after ERP was implemented and launched. In conclusions, customized manufacturing is intensively looking for new knowledge management solutions that meet strictly defined requirements with new ERP functionalities that could be explicit as system based on employee participation and machine learning. The main functionalities could be listed as following: 1.) to make prognostic price estimations for customized and unique orders; 2.) to classify new orders specifying what additional capacities are require to develop the product; 3.) to recognize and accumulate any data that can be stored in the system for future solutions; 4.) to provide guidelines for knowledge management at all stages of knowledge acquisition, transformation and application.

Industry 4.0: Human-Technology Interaction: Experience Learned From the Aviation Industry

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Abstract: The paper discusses human-technology relationship in the Industry 4.0 environment. The combination of information technology with operational technology creates a cyber-physical environment that brings new challenges and requirements on management and management systems including different aspects of work with knowledge and knowledge management. Human-technology interaction represents an interesting factor of Industry 4.0. The aviation industry is the field where Industry 4.0 started many years before the term was officially formulated. The idea to equip aircrafts with intelligent systems that help pilots to operate them safely changed planes from relatively simply engines to complicated systems and transformed them to cyber-physical environment typical for Industry 4.0; a highly qualified human with a huge portion of tacit knowledge meets and cooperates with fast operating technology based on sophisticated information system (explicit knowledge). The objective of the paper is to explore this relationship between human (tacit and explicit) and technical (explicit) factor in Industry 4.0 aviation environment. To do so, we use examples of situations (cases) when cooperation between both systems failed; the objective is to explain the role of human and technology protagonists and their relationship and role in the development and solution of a problem situation, and capture lesson learned applicable to different Industry 4 environments. As the aviation industry is very sensitive to mistakes, accidents are investigated to prevent them in future and results of investigations are published. Examples of situations (cases) come from this secondary data.

Keywords: Industry 4.0, knowledge, mistake, skills, decision making

Knowledge Sharing in Further Business Education: Russian Experience

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Abstract: The Paper presents the results of research aiming to identify the barriers that hinder effective knowledge sharing (KS) among the participants of business retraining and upgrading programs (FBE - Further Business Education) and to devise methods of overcoming such barriers. Knowledge sharing is

understood as a process, in which FBE learners create new knowledge in collaboration with each other by exchanging their explicit and implicit knowledge. Participants in such programs have a number of distinctive features, which determine the special quality of the KS processes within this type of community of practice (CoP). Quite often, they are the leading specialists in particular management issues and have unique knowledge and experience. As highly professional individuals, they detect and respond to the most acute problems arising in business activities, which is a powerful incentive for them to keep learning. The empirical base of the research is formed by the survey of participants in FBE programs at Lomonosov Moscow State University and interviews with directors of the leading Russian business schools, conducted in 2017-2018. The research has shown that the existing potential of collaborative generating of new knowledge through active exchange of explicit and implicit knowledge is far from being fully realized although favourable conditions for effective KS are created. The Paper analyses the main KS hindering barriers, which may rise owing to teachers' insufficient skills in managing expert group discussions and teacher-centered habits, as well as learners' lack of openness or reciprocity, their competing priority and other factors. Overcoming such barriers is facilitated by the introduction of team qualification projects instead of individual graduation work and by the increase in the share of educational interactions aimed at small groups of learners, rather than individual participants. This, however, gives rise to new problems, among which is the contradiction between the group format of the studying process and individual approach to knowledge assessment that dominates the system of control. It is suggested that KS can be promoted by the development of tools that will help synchronize the knowledge exchange processes in the corporate and educational contexts.

Keywords: knowledge sharing, knowledge barriers, knowledge exchange, further business education, Russian experience

Change in Knowledge Representation in the Digital Economy

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Abstract: The emergence of machine learning inevitably entails the emergence of machine knowledge. Furthermore, the rate at which the latter arises in certain cases is considerably higher than what people are accustomed to. There are both similarities and differences between human and machine knowledge, which requires an update of the concept of knowledge. The similarity that is particularly

relevant for the epoch of digital economy is the decision-making process, which inevitably accompanies knowledge. In all cyclic models describing knowledge production, beginning with the Shewhart-Deming cycle (PDCA), the decision making is presented, in one way or another. At the same time, knowledge management has yet to duly adapt promising neuroscience developments that offer higher accuracy in formalization of processes that determine a human-made decision. In a digital economy, we can observe growing demands on the speed and complexity of the decisions made, as well as substantial increase of the share of decisions made by robots (autonomous algorithms). For example, in large retail networks, a human no longer interferes with the pricing decisions for the goods sold. It is currently unknown which parts of the knowledge acquired by machines are unavailable to a human. A disruption in knowledge exchange between humans and machines can be unnoticeable and would not necessarily cause a loss of knowledge at an organizational level. However, safety control in this case is to provide a guarantee against errors for new machine-made decisions. In knowledge exchange between humans, new additional feedback factors arise that reduce the risk of erroneous decisions. But similar mechanisms are not currently provided for machines. Building upon existing approaches to knowledge exchange – stock and flow approaches, – it is proposed to adopt, for knowledge management purposes, a multi-agent approach made known, inter alia, through works of M. Wooldridge. One premise for an application of a multi-agent approach is the definition of knowledge as a network (usually, neural) created to represent the reality and interact with it. Because networks should merge for a more accurate representation of the reality, the carriers of such networks – agents – create an interaction environment. Application of a multi-agent approach assumes establishment of rules at several levels. Basic level – an "attestation" of an agent for operations in the environment and a resolution of disputes. Level of statuses requires an agent to be in one of the conditional states for knowledge exchange. Also, the rules can define resource limits for exchange and create stimuluses for agents to perform. Finally, indicators and a monitoring system will allow to timely identify problem areas of exchange where resolution is required.

Innovations and Knowledge Transfers in Aquaculture Production in Norway and Chile

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Abstract: In this paper we will focus on the interaction between innovation as a process and knowledge transfer and management. We use a model with three drivers of innovations, communication, competence and culture, and these drivers influence innovative behaviour which again kicks off the innovation. The empirical part of the paper builds on data collection at two aquaculture firms, one in Norway and one in Chile, where we have focused on the links between the innovation process and knowledge transfer and management, and how this can be built into the production and managerial system. First, we discuss what characterises knowledge flows and how this can be related to innovative initiatives, competence and culture. Second, we discuss how innovative ideas can transform into actual innovations. Third, we discuss how innovations are integrated in the production procedures and how this challenges knowledge management. We find, as do most studies, a link between successful knowledge management and innovations, but this link does not have the same structure in Norway and Chile. Differences in communication patterns, innovative behaviour and cultural characteristics are the most important factors to explain the differences.

Keywords: innovations, knowledge management, knowledge transfers, harvested salmon, Norway, Chile

The Significance of Knowledge-Based Networking Tools Among Hungarian Leading Family Businesses

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Abstract: One of the key factors behind the success of an organization lies in its ability to manage the constant effective "renewal" of knowledge. The exchange of knowledge among employees is a vital component of knowledge renewal and hence, also of knowledge management. Hence, organizations have an urgent need to pay attention to effective knowledge sharing, and concomitantly to develop an understanding of what encourages individuals to share knowledge. As social media tools have become mainstream, they have modified personal

relationships, and have generated new possibilities for sharing knowledge and hence facilitating collaboration. The majority of people uses these tools to develop their personal networks, gather information and, increasingly to access organizational resources, manage business processes and generally to engage in regular business activities and achieve business objectives and goals. As a result organizations are finding the way to integrate social media tools into the essential infrastructure and fabric of the organization. In 2014 an exploratory survey investigated how social media were being used for knowledge sharing and whether their usage were supported by the organizations. As a continuation of this survey, the new research reported in this paper focuses on Hungarian leading family businesses as their economic and societal value creation is extremely important. In particular, these enterprises, produce 30% of the GDP of the country and employ one-third of all employees. The purpose of the research is to examine the characteristics of the knowledge-based social media tools used by family businesses. The research methodology involves qualitative research with data being collected trough semi-structured interviews, observations, personal experience and literature review. The research was conducted between September 2017 and June 2018. The results indicate that social media provides a great opportunity to give exposure to family businesses at low cost. It can be seen that the most popular social media tools used by family businesses are Facebook, LinkedIn and Instagram. The paper concludes with a practical implication, the "Social media roadmap", which is an innovative approach that contributes to the development of marketing communication for family businesses.

How to Manage Knowledge With Domain Specific and General Conceptual Modelling Examples

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Abstract: Knowledge management is the concept that can turn the tide in the context of market competitiveness and competitive advantage in any area of organised activity. The benefit knowledge management may bring to an organisation is not tied to human organisations only though, as artificial agents, initially created as an imitation of humans, can benefit from organised and accessible useful knowledge as well. This paper covers a number of conceptual modelling examples following the theoretical settings presented within the paper.

These examples emphasise the importance for clear and non-biased definition of knowledge management concepts and contents, with the goal of fostering knowledge sharing culture in organisations, as well as creating knowledge accessible to artificial agents and applicable to various situations where artificial intelligence can be of service utilising the concept of systems comprising agents both human and artificial. Therefore the main quest of this paper is to argue towards demonstrating the benefits of conceptual modelling in knowledge management using domain specific and general cases, respecting the concept of fair argument, thus providing reasoning both in favour and against the basic topic of this paper. The main method of achieving the set goal is based on theoretical overview and analysis of the proposed cases and already published research. The results that are presented in this paper are a good addition to both the research areas of knowledge managements and multiagent systems. The combination is a welcome addition in the modern world where distributed computing is gaining power and informatisation is a global and omnipresent process. Emphasising the importance of developing systems that help bridge the communication between human and artificial agents, especially if they happen to be working in the same organisation, is an interesting problem with rising significance, since artificial agents are increasingly present in historically human organisations. An interface fostering the communication process between human and artificial agents that suppresses the necessity for direct interaction of the included entities, but increases the importance of knowledge modelling and management towards effortless cooperation of said entities, certainly is a welcome concept towards the rising popularity of artificial intelligence in general.

Keywords: conceptual modelling, knowledge management, organisational knowledge, metamodel, organisation, agent, multiagent system, ontology

The Direction of Knowledge Management Research: Making the Research More Creative, Engaged and Relevant

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Abstract: The purpose of this paper is analysing and comparing all the academic papers in the proceedings of the ECKM conference in Barcelona 2017. We classified the papers according to five chosen philosophy of science frameworks. The chosen frameworks are analytical tools accepted for all social sciences. The

methods indicate the direction of the knowledge management research. The validity and reliability of this direction are secured in the variety of frameworks and by that an evaluation of each paper from five scientific perspectives. The analyses based upon an emphasis upon the knowledge, the problem or instruments indicate that most papers concentrate upon existing knowledge and accepted methodologies and less related to new problems. The results indicate a conference based upon as-is-knowledge and existing methodology and less upon new problems like sustainable businesses, regions, and societies. Most papers are concerned with what we already know and how to improve the existing situation. The papers are less concerned with what we do not know and the intuitive what we do not know that we know. There is by that little progress or accumulation of new knowledge. The researchers do not agree on a school of knowledge management or familiar paradigms or common perspectives. The theoretical foundation has a high degree of similarity across the papers. The construction of data or stories asking what is adequate or inadequate for a good business story or the criticism of research as acceptable versus nonacceptable is not dominating. Most papers analyze definitive concepts verifying existing research as valid and are to a smaller degree falsifying existing research as invalid. We classified most papers to be within an empirical paradigm, fewer papers within a materialistic paradigm and a clarified subjectivity paradigm. Most papers define themselves as objective and in harmony with existing results while some papers are in harmony with the existing results using subjective methods. We classified a few papers within a clarified subjectivity or an action paradigm. The research concepts are accordingly definitive and deductive explaining existing worldviews while much fewer are using sensitizing inductive concepts exploring and exploiting worldviews. The practical implication is to get more engaged research. To move ahead for better quality in the research it is necessary to break free from the tremendous empirical paradigm and the materialistic paradigm and move into the clarified subjectivity and action paradigm. Paradigmatic ecumenism will tend to a fiercer, but an idea-generating debate. This pluralistic approach might give more engaged research representing more sustainable societies and businesses. We propose a model for a more engaged, creative and relevant knowledge management research.

Keywords: paradigms, concepts, perspectives, knowledge management, knowledge creation, knowledge accumulation

Assessing the Integration of new Types of Capital in the Three-Pillar Intellectual Capital Model

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Abstract: This paper presents the first step towards the objective of assessing to what point emergent kinds of capital (such as participatory, innovation and entrepreneurial, to mention some) relate to the traditional intellectual capital framework consisting of individual, social and organizational capital. Ways in which the traditional framework should be updated were also investigated. Content analysis on literature of new kinds of capital is performed and analyzed in conjunction with bibliometric methods applied to the intellectual capital field. The study shows that the new kinds of capital are often still based on the traditional pillars of the intellectual capital knowledge domain. Participatory capital publications were found to have the strongest adherence to the traditional framework and entrepreneurial capital, to present the lowest. The study findings suggest that the traditional Intellectual capital framework can and should be updated with notions and elements important for the understanding of the new kinds of capital.

Keywords: intellectual capital model, participatory capital, innovation capital, entrepreneurial capital, knowledge domain analysis

Classification of Guided Expert Systems According to their Accuracy, Domain Resolution and Range

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Abstract: An "Expert System" is based on "trial and error". The configurations' classification is difficult for the human user, however such categorization may be performed with the assistance of an human experts. The random configurations generated by the computer may be classified and for further computer expert system interrogation by the user. Imparting knowledge can be performed as follows: *Transferring the knowledge* – the instructor shows the collection of elements $A=\{e_1, e_2, ..., e_n\}$ to the learning entity, and each value v_i is assigned to the corresponding element e_i $(i=1,2,...n)$. *Using the knowledge* – the learning entity receives an element e, $e \in U$ for consideration, where $A \subset U$, and assigns to e its corresponding value, v. The learning entity scans the values; e_i, finds the

element e_j, the closest to e, and joins it to the value v_j. The computerized system is used as a model, enabling formalization and deduction for humans. In the computerized case, it is possible to observe a series of *Expert Systems* in the ascending orders of complexity, defined as follows: *Binary* case – the elements may receive only one of two values: '*yes*' or '*no*', without the possibility of attaching two different values to the same element. *Ternary deterministic* – the elements may receive one of three values 'yes', 'no', and 'maybe'. *Ternary nondeterministic* – here the same element may appear with various values that are statistically supported. *Canonization of elements* - here collection A is defined

as $A=\{A_1, A_2, ..., A_k\}$, where A_l (l=1,2,..., k) represents: $A_l = \left\{e^l_1, e^l_2, ..., e^l_{n_l}\right\}$;

the computerized system deduces, based on the element e^l_m, the corresponding value, v_l. *Element-ranged canonization* – here the collection of elements A is defined as follows:

$$A_l = \left\{\delta_1, \delta_2, ..., \delta_{n_l}\right\} \text{ (l=1,2,...k), } A = \{A_1, A_2, ..., A_{k,}\}$$

$$\delta_j = \left[\alpha_j, \beta_j\right]$$ is an interval of integer numbers; the computerized system deduces the corresponding value vl, relying on elements from the interval Aj. The following examples, graded according to their complexity and their level of uncertainty, represent the above *Expert System's* classification:

- ***Determining*** correct blood transfusion;
- Teaching the ***Traffic Light*** rules in two modes*:*
- **Deterministic**
- **Nondeterministic**
- Identifying ***Deductive*** characters
- ***Recognizing Color Hues***– based on the colors' RGB ranges.

Keywords: expert system, knowledge transferring, SQL – structured query language, determinism, OCR – optical character recognition

Developing Regional Intellectual Capital Through Future Workshops: A Case Study From Germany

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Abstract: Since the concept of intellectual capital (IC) has been established at the corporate level, less research has been undertaken to capture IC also at the regional level. As a consequence, the approaches not only differ with regard to the operationalization of IC but also to their levels of observation – and thus, the process for drawing up a regional IC statement is not unified (Kohl et al., 2015). Therefore, the article is aiming to analyse and compare the content, procedures and indicators already used for regional IC statements. From the different models, a generic approach is derived. In addition, the article outlines the approach of the future workshop complementing the regional IC statements already used. In doing so, it will be illustrated how the future workshop can contribute to the identification, assessment and development of IC at the regional level.

Keywords: intellectual capital, regional development, stakeholder participation, future workshop

KIBS, Pilot-Customers and Lead-Users in the Digital Transformation of Manufacturing Firms

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Abstract: Literature has recently reminded the importance of Knowledge Intensive Business Services (KIBS) as knowledge intermediaries and innovators facilitators, renovating a school of thought that has gained a acknowledged positioning in the KIBS literature. It's equally recent the profound change facing manufacturing companies: they are being involved in a digital innovation process that is transforming their organizations and business models, where – especially for small- and medium-sized firms - the worst scenario is represented by strategic disruption. Notwithstanding the stakes, manufacturing firms – even minor ones - are not alone in this risky transformation: our research shows that in confronting with pervasive digital technologies (IOT, Cloud platforms, smart products and

services) manufacturing firms always can count on local KIBS firms, that advice, assist and help them to approach this complex transitional phase. For SMEs, KIBS firms frequently represent also a knowledge bridge with global suppliers of platforms and layer technologies otherwise out of reach. This paper is aimed at exploring the role of KIBS firms - with special attention to technology-based firms (T-KIBS) – as knowledge intermediator and innovation triggers in medium-sized Italian manufacturing companies' digital transformation processes. The topic is quite recent, and to our best knowledge, little research has been devoted to this specific perspective. Thus, the paper adopts a quantitative method, describing and discussing information coming from a number of personal face-to-face in-depth semi-structured interviews with acknowledgeable respondents in selected firms. Interviews have been done in the second half of 2017 and the beginning of 2018. Our research reveals that Kibs may act as facilitators of business model innovation in medium-sized manufacturing firms involved in digital transformation and servitization processes, but that the role of lead users demand is crucial in determining the commitment of the manufacturing firms to the transformation, that in turn becomes a pilot customer for the KIBS firm. We envisioned a circular process of evolution of the offerings of the involved firms, in which tasks, activities and knowledge management capabilities change depending on the step, involving both dyadic and network relations, crafting business ecosystems where small and medium technology and consulting firms, system integrators with specific knowledge on applications and customer needs interact with international technology MNEs.

The Effect of Intellectual Capital on Corporate Performance in High-Technology SMEs

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Abstract: The paper aims to investigate the impact of Intellectual Capital (IC) on corporate performance in high-technology Italian Small and Medium-sized Enterprises (SMEs). The research question is the following: does intellectual capital affect corporate performance in high-technology SMEs? The Value Added Intellectual Coefficient (VAIC) has been employed to determine how human, structural and physical resources affect corporate performance and value creation. The research sample includes 2,442 enterprises operating in the high-

technology sectors (Manufacture of basic pharmaceutical products and pharmaceutical preparations; Manufacture of computer, electronic and optical products; Manufacture of air and spacecraft and related machinery). The empirical analysis is relative to the period between 2012 and 2016. The findings show that the effect of both human capital efficiency and physical capital on operating profitability is positive, but the impact of physical capital is stronger. While the structural capital efficiency has a negative effect on corporate performance. The time variables negatively affect corporate performance, with an increasing coefficient in the five years. The main limitation derives from disadvantages of VAIC: it is based on historical data, it does not consider the synergy effects between tangible and intangible assets and the employee training; it does not include relational capital. The study tries to fill the gap in the IC literature by providing insights into the relationships between IC, SMEs and technology. The managerial/entrepreneurial implications are relevant; in fact, physical resources represent the principal lever of performance for managers in high-technology sectors. Human capital efficiency probably has a greater impact in the long period, scarcely significant in the medium term. Finally, the negative effect of structural capital could be caused by an inefficient use of this resource. Moreover, the employed variable could not be adequate to effectively measure this IC component. The interaction among IC components could better explain the impact on corporate performance.

Keywords: intellectual capital, SMEs, high-technology, VAIC, performance

The Impact of Digital Transformation of the Russian Economy on Knowledge Management Processes

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Abstract: This paper demonstrates regional (Russian) specificity of knowledge management, describes development trends for digital society in the Russian Federation and their effect on the general level of preparedness and capacity for knowledge management at the level of companies and at the personal (individual) level. Trends and current performance of digital transformation of Russian economy are explored. On this ground, the analysis is performed of the potential for development of knowledge management in the Russian Federation in digital economy environment. As a result of the measures taken by the Russian Government, substantial shift in labor market has been recently observed (including emergence of new professions and change in forms of employment and

in relations between employers and employees). At the same time at the state level, active and broad-scale deployment of information technologies in socially significant spheres (education, medicine, state services) is taking place. Consequences of these changes have radical implications for preparedness of companies and individuals for positive perception of processes and tools of knowledge management. Of particular significance to this effect is the growth of prevalence in Russia of mobile devices with Internet access, which causes deeper "submersion" of individuals and companies into various Internet-environments of social networks. Conclusion is drawn from this academic research that Russia's transition to a higher level of digitalization of society allows companies to extend their range of sources of knowledge and make further arrangements for exchange of knowledge with the most numerous category – citizens, clients, users. Recommendations are provided for assessment of preparedness of companies, their employees and consumers for more extensive application of KM tools in their activities, and for raising the level of preparedness to dissemination of knowledge among ordinary citizens.

Keywords: KM in digital economy, regional aspects of KM, digital economy, digitalization of society

Rethinking Forms of Collaboration for Creating Sustainable Innovation and Novelty for a Thriving Future

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Abstract: While being confronted with a hypercomplex, unpredictable, and disruptive world and economy, we are still applying relatively traditional and past-driven approaches to innovation as to how to tackle these new challenges of dealing with a highly uncertain future. One of the main assumptions of these approaches is that (social) *collaboration* and working *together* is key in such innovation processes. This conceptual paper will not challenge this assumption, but we will show that this notion of "together" (understood as social collaboration) is far to narrow. Rather, it is suggested to go beyond this understanding and investigate alternative and wider concepts of "together". Three forms of "together"/"co-" will be developed: (i) Being/working together and collaborating with others (socio-epistemic dimension), (ii) being together, interacting and corresponding with the material/world (co-becoming dimension), and (iii) being together with the future as "learning from the future as it

emerges". These concepts will be discussed on an conceptual level and we will develop implications concerning new skills and mindsets on an individual and organizational level.

Mobile and Ubiquitous Knowledge Management: Lessons From the Transportation Sector

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Abstract: In organisations marked by very high levels of mobility of resources and tools, the implementation of a mobile knowledge management (MKM) system might generate significant benefits in otherwise challenging knowledge-sharing environments. To explore potentialities and constraints of an MKM system based on tablets and smartphones in highly distributed workspaces, an applied research cooperation was carried out between the Swiss Federal Railways SBB and two Swiss Universities. The mobile app allows train maintenance workers to access prior solutions and to consult specialists when they face more challenges. In addition, they can also use the multimedia features of their smartphones to document problems and new solutions and make them accessible to a wider circle of colleagues. This paper reports on the findings from an interview study which explores the additional affordances offered by the new mobile knowledge management system (n = 11) vis-à-vis the challenges of the pre-established information system - as perceived by the maintenance workers. The interviews were audio recorded, transcribed verbatim and analysed using thematic content analysis. The initial findings underscore the value of a MKM system in overcoming spatial and temporal constraints in highly distributed workspaces, and, at the same time, allowing for the substantiation of multimodal information (images, videos) by the maintenance workers in workspaces characterised by more complex, visual, topological and procedural knowledge. Beyond the perceived potentialities regarding knowledge creation and exchange, the defragmentation of human and material resources and the development of a wider, and more collective, knowledge system triggered tensions relating to power, rewards and

politics, which need to be proactively addressed in the ongoing development of the system.

Knowledge Transfer From Business to Public Administration in Smart City Development

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Abstract: In the digital age of everything connected, conventional managerial wisdom is challenged both in the business environment and in the public administration field. In some cases, business models are reshaped or replaced and public opinion's expectances change accordingly. The impact seems even more profound in urban areas, where technology and digitization tends to be associated with one of the most efficient solutions in terms of efficiency and environmental protection. Considering that technology gives specific solutions to practical problems, but they must be correlated strategically to develop genuine smart cities, our paper emphases how the best business management practices could be considered by civil servants when designing smart cities strategies, such as auditing the digital maturity of the involved players (both public and commercial), human resources' training or passing from paper strategy and random actions and projects to real program management. The focus of the paper is on presenting how specific knowledge is transferred from business to civil servants in the process of developing smart cities, based on content analysis and qualitative interviews with experts in the field.

Ready for Future International Challenges: Promoting Intercultural Competencies

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Abstract: Over the past years, the increasing networking of the global economy as well as the internationalization at school and work make the need for intercultural competences obvious. While studying or going abroad is often linked with prospects of personal or career growth, many people struggle when it comes to risk associated with operating in unfamiliar markets and cultures, problems that go beyond the conversational level. Especially engineering practice is characterized by an increasing internationalization of work, both through the expansion of multinational organizations and increasing mobility of engineers. Hence intercultural competence is becoming a skill of growing importance of future engineers. The Project – "Excellent Teaching and Learning in Engineering Science" at RWTH Aachen University developed an intercultural training to address this challenge. "Excellent Teaching and Learning in Engineering Science" (ELLI 2) is a collaborative project by the RWTH Aachen University, the Ruhr-Universität Bochum as well as the University Dortmund to continuously improve teaching quality and studying condition. The goal of this two-day extra-module intercultural training which is was introduced in 2013 to train German students for their foreign exchange as well as for foreign guest students. Thereby the training takes a multi-dimensional look at the cross-cultural issues faced by practitioners working across the greatest cultural distances with the aid of different methods and strategies. It focuses on the key step of translating cultural awareness into systematic problem diagnosis in cross-cultural teamwork and interactions. Hence, the focus lies on teaching learners how to transform culture knowledge into logic to generate alternative causal explanations for unexpected events and behaviour in cross-cultural work interactions. This paper describes the design of the intercultural training as well as the effectiveness of it, which is assessed in an experimental pre-post design, before and after the workshop. Based on the results, it can be concluded that intercultural training can improve students' perception of intercultural competence.

Keywords: intercultural competencies, professional qualifications, workshop, evaluation

Knowledge Management Research Trends: An Analysis of an Academic Journal

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Abstract: This paper discusses information and knowledge management (IKM) research trends, based on the abstracts, titles and keywords of original research articles published in the South African Journal of Information Management (SAJIM) between 1999 and 2017. Leximancer, a natural language analysis software tool, was employed to examine the titles, abstracts and keywords of articles published in this journal. The findings of this paper report on the evolution of the field of IKM research over 19 years of publication, and compares the findings to global trends in IKM research. Analyses of trends in academic journals are used to guide researchers in identifying pockets of abundance, emerging focus areas, and topics in need of more rigorous exploration within a field of research. This paper will aid researchers in the field of IKM to identify topics that have been popular and thus frequently investigated. Furthermore, the findings of this study enable researchers to identify areas in need of exposure to advance the research field, while also highlighting contemporary issues identified by the data analyses and literature review. Founded in 1999, SAJIM is an open access IKM journal that has served as an international platform for discussion and debate in this dynamic field. The journal has published 49 issues since its inception, with topics ranging from corporate culture as a foundation for successful knowledge management, to e-mail overload and the emergence of crowdsourcing. Not surprisingly, a recent shift to include the social media phenomenon and its effect on information sharing is clear when the findings are reviewed. Artificial intelligence, especially when considering big data analysis, is revealed as an underexposed topic within the journal's publications. The research is moreover valuable to industry stakeholders in the field of IKM, as the paper gives an impression of the evolution of, and current trends within the journal, while comparing these trends to the global IKM environment. Therefore, the findings are valuable not only to the journal's governing body, but those academics and practitioners interested in the field of IKM.

Keywords: information and knowledge management, research trends, academic journal, natural language analysis, Leximancer, The South African Journal of Information Management

Impact of Innovation Activity on Enterprise Productivity in Russia

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Abstract: Interconnection of innovation activity and productivity growth is rather discussed topic, but there is still no consensus on this issue. We study the determinants of enterprise productivity using unique micro level data of the Russian firms augmented with city and regional data. We are aiming to shed light on how knowledge accumulation, human capital, and other external factors affect productivity of Russian firms. Used dataset covers such groups of factors as micro-indicators of firm performance, innovative activity indicators, human capital and education, spatial indexes and others. The paper considers not only Russian enterprises in general, but also their individual subgroups, divided by the type of goods produced, location and size. We conclude that there is a positive impact of the number of patent applications per capita and technology imports on company productivity, with greater effects observed for more "traditional" industrial groups, while for high-tech industries these indicators are insignificant. This, as well as the negative impact of spending on innovation on the productivity, suggest that level of development of basic industries is inadequate, which in turn slows the growth rates of technologically intensive industries. Among the Russian firms, there is a stable positive impact of city specialization on productivity of firms, which indicates the possibility of successful formation of industrial clusters and mono-settlements. There are number of significant differences observed between federal districts as well, confirming an argument for the diversified and region-specific innovation policy. We find that import of technologies has significant positive effect on productivity only for firms in less developed federal districts, while for others it is insignificant. At the same time effects of sending on innovation is effective only for the Central federal district, the most advanced one. The obtained results may be used as a recommendation when constructing and improving the regional innovation policies across Russia.

Keywords: innovation, labour productivity, regional innovation policy, spatial effects, econometric analysis, knowledge accumulation

Knowledge Management to Compete in the Digital era: Skills Evolution of Enterprise Systems

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Abstract: National Industry 4.0 Plan is contributing to introduce new digital industrial technologies within the enterprise sector. This has brought the researchers and the experts of the sector to study as the business equilibriums are evolving and what new emergent professionalisms can be. On this basis, the paper aims to identify these skills and analyze professional's dynamics, in order to achieve a higher level of competitiveness on the national manufacturing sector 4.0 stage. National Industry 4.0 Plan provides significant incentives aimed at strengthening R&D investments and incentivizing new technologies investments, as well as developing new skills among the professionals who will play a primary role in the "new 4.0 companies". Therefore, Industry 4.0 does not only intend to promote investments in new machinery and technologies, but, in parallel, to modify both, the productive and organizational paradigms, to effectively manage the indispensable and delicate process of cultural and organizational transformation. In other words, the goal is to transform all the processes into a continuous sequence of interconnected inter-digitally phases, which will be managed by an inter-functional group that has complete responsibility for it. This target is to be considered as a result of a training process across all company levels, which, according to a bottom up approach, stimulates a process of new skills creation and increases the sense of belonging to the company. This process also accompanying the profound changes of non-technological nature, which, however, are a presupposition and consequence of technology. In this perspective, the paper intends to set up a desk analysis - where the main focus are the national SMEs - aimed at better identifying the necessary skills to achieve a higher competitiveness level in the landscape 4.0 and, consequently, analysing the evolution of the professionalism that are characterizing the evolution of the enterprise systems.

Keywords: digital era, National Industry 4.0 plan, skills evolution, knowledge management, digital process, SME competitiveness

How to Utilize Student Input in Crisis Management Education

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Abstract: The focus on planning for managing potential crisis has increased during the past years. The incidents that one experiences in different countries and in our own country has led to regulations that instruct companies and organizations to develop and train on plans for emergencies and crisis. These regulations and the organizations realization of a need to have plans to handle potential crisis and train for handling situations, have created a demand for educational initiatives to aid the process back in their organizations. As a respond to this, The Inland Norway University of Applied Sciences has developed a bachelor study in Crisis Preparedness and Crisis Management. The target group has been wide and include all organizations; private and governmental. The students attending range from first responders to office workers, what they have in common is the organizational need of learning more about the curriculum that is offered in the Bachelor degree (such as e.g. Crisis Communication). This paper will present a way of getting the students to utilize their own and others backgrounds and experiences into the learning situation. The students are given a mandatory assignment of planning, execute and evaluate an exercise. This includes constructing a scenario for handling a form of crisis or rescue operation. These scenarios are programmed in a gaming platform (VBS3, HoloLens or RAYVN), and then played like a simulation. In order for the scenarios to be playable, it requires a quite intensive and extensive collaboration and cooperation between the group members. Our early attempts (with two groups) on this was so successful that we now expand to eight groups. The paper thus also present results from a survey, interviews (group interviews and individual interviews), and observations, both from the development phase and the simulation phase. Our main goal is to investigate on how the students perceive this approach in order to support their learning outcome from the study and how they see this to be useful and relevant for their work.

Keywords: enhanced learning outcome, games, simulations, student input, prolonged reflection processes

Knowledge Management in Turbulent Times: Combining the Soft and Hard Issues

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Abstract: Our research question is: How can firms differentiate between multiple and different sources of knowledge without becoming inflexible and bureaucratic? In todays increasingly, knowledge-intensive and turbulent economy organizations are facing new levels of uncertainty and ambiguity. Businesses have to become more flexible and adaptive to survive in such an economy. However, they face an oxymoronic situation where effectiveness calls for flexibility and bespoke solutions, while efficiency calls for standardization and routinization. These two subjects are often treated as separate streams of knowledge. For example, the KM literature has a bias in considering knowledge as a useful resource representing a fact on a subject matter, or a receipt for dealing with a phenomenon. To a large extent, the literature assumes that such "things" should be distributed through digitalized processes to gain efficiency through standardization and sharing. On the other side, the literature about professional service firms (PSFs) pays attention to expertise and knowledge where diagnosis, innovation, and unique solutions are desirable. Here, the management and organization of knowledge often become a synonym for leading professionals. However, professional judgments can also rely on "KM systems." Each of these fields provides insights into aspects of KM, but alone, none provides an integrated framework. Our examination renders KM in different organizational contexts. We differentiate the use of codified and personalized knowledge in three different contexts, characterized by pooled, long linked, and reciprocal dependencies between organizational entities. The discussion shows that the primary differentiator for the use of KM strategies is the characteristics of the input /output factors and the degree of standardization in the production processes associated with the three different organizational technologies. The paper is purely theoretical, based on but not restricted to strategy theory, organization theory, theories about PSFs and KM. However, we use practical examples to support our argumentation.

Keywords: coordination, organizational technologies, personalized knowledge, codified knowledge

A new Method of Inventive Knowledge Generation, Formalization and Visualization

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Abstract: Innovation is driven by innovative company filing patents, but how to extract inventive knowledge from patents? Are automated search tools in patent databases able to create knowledge? From our point of view, automated tools drilling patent applications are limited to the information level, cannot reach the knowledge level and are unable to assess the depth of inventive activity of individual patents. So the need for a new method comes from the assessment of the depth of inventive activity at both levels of individual patent, and of an R&D domain of a company. Two separate approaches, first one dedicated to the analysis of individual patent and the second one dedicated to the global analysis and mapping of inventive activity were previously developed respectively for the level of individual patent and for the level of global inventive activity of a company. The main purpose of this paper is to discuss the interest of combining these two approaches for the benefit of global technical strategy of the firm. The approach of the means tree represents a powerful tool able to formalize, extract and represent the novelty and the characteristic principles of an individual invention. It's a fruitful preparatory work for the analysis of the depth of inventive activity. The approach of analysing and mapping the inventive knowledge is a structured method able to assess the dematerialized characteristics of the Inventive Intellectual Corpus of an organization based on the in-depth analysis of its patents portfolio. The implementation of this double approach on the scale, not only of an individual invention, but of the R & D activity of an organization through its patents portfolio, corresponds to a profound cultural change. The synthesis of the resulting inventive activity is a powerful management tool.

Keywords: creation of inventive knowledge, tree of means, inventive knowledge map, inventive knowledge analysis, metacognition

Trust Restoration and Knowledge Processes: A Qualitative Study Within Leader-Follower Relationships

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Abstract: The paper discusses and explores trust development focusing on restoration of trust after trust violations or breaches within leader-follower relationship and focusing on the follower's view in the empirical qualitative study. Trust is an important intangible asset, knowledge resource growing or diminishing in organizations and their leadership. Trust is a multi-level, dynamic and complex concept in nature embedded in abilities, skills, knowhow, insights and relations enabling human capital growth and improved performance. In the trust research within managerial context, trust forms a foundation for cooperation in workplace relations. Knowing and sharing knowledge play a role in trust and its restoration. The paper aims to increase understanding of trust restoration in workplaces searching for decisive incidents, moments and phases in the process, and followers' perceptions of the most significant issues. The purpose of the paper is two-fold; first, to produce new empirical findings from trust restoration in workplace relationships that are still scarcely studied empirically, and second, provide insights into current and further research, and implications to practice. A need for studying and understanding trust and trust restoration more in-depth is well grounded, as the prior studies show that trust development process appears rather complex, multi-form and unpredictable boosting even unintentionally "the dynamics of evil". Trusting in workplace resource and activity is largely about communication and sharing knowledge by multi-channel and presently more and more technology-mediated, which may lead to misunderstandings and even violations of trust. The empirical qualitative data consists of interviews and written accounts of followers' experiences of trust restoration in leader-follower relationship. The findings reveal three phases within the trust restoration process discussed in more detail in the paper. Implications are made to avoiding mistrust development and trust breaches highlighting e.g., trustworthiness and communication.

Keywords: follower, HRM, knowledge, leader, process, trust violation, breach, restoration, work relationship, qualitative

Knowledge Management in the Human Resources Recruitment and Selection Process

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Abstract: Human resources management is related to a strategic and provisional vision of the organisations. Several authors have pointed the need to understand the human resources practices and the way different organisations implement these practices. On the other hand, it is also important how the information is managed during the several human resources practices. The main objective of the study is to understand the perception of human resources consultants during the recruitment and selection process. It also aims to understand how the recruitment and selection process is conducted, to comprehend the motivations of the recruiters during the process, to characterize the soft skills measured, and how the information is managed. In this qualitative study, participated 12 recruiters, of both genders, with mean age of 36 years (SD=7.98). The participants fulfilled a demographic questionnaire and it was conducted a semi-structured interview. Data were verbatim transcript and analysed according content analysis. The main results showed that recruiters have a positive perception of their activity. The online recruitment was identified as a source of excellency to attract candidates. Regarding to the assessment techniques the interview is the most frequent technique used during a recruitment and selection process therefore the competence of the recruiter conducting these interviews is pointed as very important. The recruiters referred that all the process is focused in the soft skills, and they reported a large degree of confidence in the evaluation methods used. The motivation of the recruiters lies essentially in the scope of knowledge of their function and development opportunities. Thus, it can be concluded that recruitment and selection is a very complex process with several features and all the information related to these processes should be managed very carefully. We discuss the main practical and theoretical implications, and offer some suggestions for further studies.

Keywords: human resources, recruitment and selection, knowledge management, qualitative study

Intellectual Capital Disclosure: A Study Applied to the Shanghai Ranking

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Abstract: In the so-called knowledge economy, organizations' value is mostly a consequence of the development of their Intellectual Capital (IC) and Higher Education Organizations (HEO) are not an exception. Such organizations are considered crucial agents in this type of society due to their main role in the creation and dissemination of knowledge. HEOs have been pressed, by their different stakeholders, to disclose more flexible, transparent, competitive and comparable information. The focus of most IC literature is on its measurement and management. This paper addresses a rather different topic, the voluntary disclosure of HEOs' IC through a specific channel of communication: their web pages. This goal of this paper is twofold. First, it aims at assessing the extent of IC disclosure. Second, it also seeks to assess the quality of such disclosure. Data wer collected from the web pages of the top 40 HEOs belonging to the Academic Ranking of World Universities, the Shangai Ranking, and a Content Analysis technique was adopted to codify such data. Results suggest that Structural Capital is the dimension of IC regarding which HEOs disclosure levels are higher and qualitatively better, followed by Relational Capital and finally Human Capital. This paper contributes to a better unerstanding of how HEOs' IC is disclosed through web pages, terms of both extent and quality of such disclosure. Furthermore, it contributes to raise awareness among both researchers and practitioners regarding research on IC disclosure through web sites. This study is not without limitations. Specifically, it should be noticed that Content Analysis involves judgement, something which can be subjective. The size of the sample is also a limitation. Therefore, future research should use larger samples.

Keywords: intellectual capital, higher education organizatons, voluntary disclosure, non-financial report, content analysis

Towards Verifying Knowledge Management's Operationalized Functions Using Classic Articles' Verbs

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Abstract: This paper continues verification of the Unified Theory of Knowledge Management's(KM) operationalized functions by looking for sufficiency when comparing them to verbs used in 100 KM articles. Multiple methods (qualitative approaches, mixed methods, and text analysis) were used to compare verbs from 100 classics identified by Serenko and Dumay in 2015 to sets of verbs constructed from knowledge disciplines organic functions (and other similar concepts). Synonyms and related words of the verbs from thesauri were identified to create verb concept supersets to evaluate how sufficient these concepts were in summarizing verbs used in the classics. Other relationships were used to create macro verb concepts. This paper explains the methods used to create verb concepts and compare them to verbs in the 100 KM classics. It builds on Sisson and Mazzuchi's 2017 organic verb concepts by identifying other verb categories, such as knowledge state verbs. It discusses how verb collections can explain activities in article collections, presents summaries of the comparisons of these supersets to the verbs in the KM classics, and suggests next steps for further investigation. The commonality of concepts across KM, represented by partitioning verbs in articles, based on collections of verbs, is demonstrated. Selected thesauri and alternates may not represent a complete collection of verb synonyms and related terms for constructing a verb concept. The analysis also assumes that KM classic verbs that do not show up in five articles (or multiple times in fewer) do not represent significant concepts and are not evaluated; although, results relaxing that assumption are shown. Other sources reveal other verbs. This paper demonstrates the idea of using verb sets to explain a domain. The commonality of concepts across KM is demonstrated supporting the idea that a set of common functions can be used to describe KM. Partitioning verbs based on macro verb concepts reveals the remaining verbs that need to be considered for additional KM operationalized functions.

Keywords: knowledge management operationalized functions, organic functions, multiple methods

National Intellectual Capital and Smart Growth of EU Countries

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Abstract: The concept of intellectual capital was developed at the organization level, where intellectual capital is recognized as an important factor affecting the improvement of competitiveness. The idea of national intellectual capital (NIC) has emerged as a new category in academic research. NIC is defined as the hidden values of individuals, enterprises, institutions, communities, and regions that are the current and potential sources of wealth creation. The notion of smart growth, its factors and measuring methods are also new categories which emerge from the strategic development objectives defined by the EU. Smart growth is one that is based on knowledge and innovation. The purpose of this paper is to examine the relationships between NIC, its components: national human capital, national social capital, national structural capital, national relational capital and the level of smart growth in the EU countries. Research into this kind of dependencies is extremely difficult since many of the phenomena involved in them are intangible and requires advanced methods from the field of multidimensional analysis. The first part of the paper presents selected aspects of the notions of NIC and smart growth. Then, empirical studies are conducted into the construction and estimation of a model describing the relationships between NIC and its components, as well as those between NIC and the level of smart growth. The research uses the method of soft modelling developed by Herman Wold. Soft modelling allows users to examine links between variables which are not directly observable (latent variables). The conducted research has demonstrated that NIC and its components had a significant, positive impact on the level of smart growth in the EU countries. The obtained results also made it possible to create rankings of the examined countries according to the stock of NIC, the stock of each of its components, as well as the level of smart growth.

Keywords: intellectual capital, human capital, social capital, smart growth, soft modelling, European Union

The Involvement of Students in the Formation of Intellectual Capital in Latvia

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Abstract: The theme of the research is topical in the light of the present situation of new changes being made to the Higher Education Establishment (HEE) in Latvia. This research focuses on the formation of intellectual capital (IC) during study process at the HEE in Latvia. The subject of the research is the analysis of the efficiency of the involvement of students in the formation of IC. The approach to the research was to study the integration process of culture of educational technologies and methodology and IC formation problems. Authors elucidate the teaching methods influencing the involvement of students in the formation of IC. In conclusion of the research authors work out proposals for solving of problems and for IC management mechanism at the HEE in Latvia. The research was conducted by:-identifying the concept of the efficiency of the involvement of students in the formation of IC and their main economic indicators; conducting analysis of the factors influencing the formation of IC in the process of culture of educational technologies and methodology integration; carrying out analysis of indicators characterising study effectiveness. The research methods are used in the paper include: abstract analysis, economic and statistical analysis, and interviews. This research period: The statistics of HEE in Latvia are analysed starting from the year 1980 till 2018; The ratings of HEE in Latvia are analysed from 2007 till 2014; The ratings by the efficiency indicators of the students involvements in formation of IC at the HEE in Latvia are analysed from 2007 till 2014; The 6 interviews used in the research were held in march 2018.

Keywords: efficiency, involvement of students, formation of intellectual capital, higher education establishment

The Impact of Big Data on Knowledge Management Systems in Romanian e-Commerce Retailers

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Abstract: *This main goal of the paper* is to analyse the concept of big data in the theoretical framework of knowledge management and assess the implications of developing such a connection. We present the most important conceptual definitions and characteristics of big data and assess the possibility to integrate this concept within the traditional theoretical models of knowledge management. *A secondary objective of our paper* is to lay out the prerequisites of developing new knowledge management strategies according to the needs of the digital economy. Authors draw from the *e-commerce experience* in using *big data for improving the decision-making process*. We have collected data from a number of *e-commerce SMEs* that are acting on *the Romanian online fashion retail market*. An analysis of the impact of demographics and sales data on firms' growth strategies was conducted. Simultaneously, our study looked *at how business intelligence systems used by SMEs were applied in order to analyse the aforementioned data*. Conclusions drawn from the study show the most important and relevant benefits and best practices concerning *the integration of big data into SMEs knowledge management strategies*. The main focus of our paper is on identifying the best ways to improve net results through proper use of knowledge obtained from big data. We consider that our paper might be of interest for other people attending *ECKM 2018*, mostly for those participating with paper presentations concerning this exciting and challenging topic of big data.

Keywords: knowledge management systems, digital business, electronic commerce, big data, business intelligence

Development of Effective Knowledge Management Systems: Review and Open Research Issues

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Abstract: Research in the field of Knowledge Management Systems is still inconclusive, particularly with regards to building blocks for the development of effective Knowledge Management Systems. A significant number of ineffective KM solutions inundating the marketplace adds to the conundrum. The purpose of this research is to examine the existing studies on Knowledge Management Systems to uncover its theoretical underpinnings. We aim to present open research issues given the shortcomings plaguing the prevailing Knowledge Management Systems. To begin with, an exhaustive literature review of seminal studies of Knowledge Management Systems were conducted. Searches included articles from Elsevier, IEEE, Springer, ACM, ScienceDirect, Scopus and the Web of Science databases from 2008 to 2018. We further examined 42 mainstream Knowledge Management Systems deployed globally across various domains. The findings were augmented using two recent global surveys on Knowledge Management carried out in 2017. We report that many scholars view Knowledge Management Systems as a category of Information Systems. Additionally, mainstream Knowledge Management Systems were examined and the investigations revealed that the solutions focused on elicitation of explicit knowledge as opposed to facilitating the conversion of tacit to explicit knowledge. We highlight that scholars have pointed out the need for a renewed direction, i.e. key characteristics that must be considered in the development of Knowledge Management solutions. The findings affirm the claim from studies on Knowledge Management Systems that most Knowledge Management solutions were developed based upon principles of Information Systems (IS), rendering prevailing Knowledge Management Systems ill-suited for organisation-wide Knowledge Management initiatives. The outcome of this research also revealed a significant disjoint between research and practice of Knowledge Management Systems. The research also pointed out gaps in the body of knowledge in relation to the development of effective Knowledge Management Systems and espoused how addressing the former could be a panacea to address limitations plaguing the prevailing mainstream Knowledge Management Systems.

Improving Innovation Capacities Through Efficient Knowledge Transfer Within Development Cooperation Projects

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Abstract: With the advancement of the knowledge economy, objectives of development cooperation have to be revised as well emphasising the importance of building not only absorptive, but also innovation capacities of human resources in partner countries. Both capacities can be improved in the process of transferring knowledge from experts to novices while implementing different activities such as conferences, seminars, workshops etc. The purpose of this paper is to identify factors that can enhance the efficiency of knowledge transfer within development cooperation projects in terms of the improvement of innovation capacities of novices after their interaction with experts. This is an empirical research carried out in the form of a case study. The data are collected from instructors and participants of the events organised in the frame of one development cooperation project by means of documentary analysis, content analysis, and structured interview. Various statistical and regression analyses are provided to find the impact of the interaction intensity, the event organisation and relevance, instructors' and participants' intellectual capital on the the improvement of innovation capacity of the target audience in partner countries. Both absorptive and innovation capacities are linked to Bloom's Taxonomy that is used as a framework for defining objectives of capacity building activities. It is expected that the positive impact of the interaction intensity and intellectual capital of instructors on the improvement of innovation capacities of participants will be confirmed. Based on these findings, features of the efficient design of capacity building activities can be defined. A longitudinal study covering more projects in different regions is necessary to draw conclusions concerning causality. The novelty of this study lies in providing a consistent and simple approach to enhancing the efficiency of development cooperation projects in terms of building individual innovation capacities.

Keywords: development cooperation, knowledge transfer, capacity building, innovation capacity, intellectual capital

Knowledge Management for Operations Management Within Health Care

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Abstract: The aging population of the western world poses a medical challenge for the society of today and of the future. In hospitals, healthcare professionals manage health care with the objective to provide care of high quality using the limited available resources. The decision-making in production and capacity planning decisions requires coordination and management of knowledge in different hierarchical levels and in different time-frames. Thus, this knowledge management is also needed between various health care services within a hospital, as well as with other healthcare providers, at a horizontal level. This paper is based on a qualitative study, conducted as a case study at a hospital in western Sweden. Eleven managers together with their production controllers were interviewed. This paper aims to analyze the challenges the health care at the hospital face related to the knowledge management in the production and capacity planning and control of activities performed. The difficulties found refers to limitations in knowledge management according to three different themes identified. These themes are the influence of political decisions, coordination and participation, and methods and IT-systems.

Application of Knowledge Management Tools in the Environmental Policy of the Region (Case of St Petersburg)

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Abstract: Natural capital is one of the key components of regional development. In view of the increasing competition for human capital the environmental problems of megacities have taken on even greater significance. Highly qualified

personnel impose high demands for the quality of the environment. Regional authorities face a set of challenges related to the reduction of technogenic and anthropogenic loads on the environment. The established practice for territorial administration is based on the program- and goal-oriented approach and does not correlate with the complex tasks being solved frequently. Modern tools including the system of balanced scorecard and various intellectual capital navigators are currently being tested, which raises strong objections from regional authorities. To solve the problems of environmental development effectively, we should reach a balance between the interests of policymakers, population and business. Current contradictions require developing a special mechanism for finding common ground. The choice of management methods and development of management decisions should be based on the principles of systematic approach and feedback. The organization of knowledge and information flows as well as ensuring efficient knowledge exchange are of great importance for delivering an adequate regional policy. As part of the study, the authors have substantiated the possibility of applying knowledge management methods and tools for regional environmental development management and have undertaken the research of key regional stakeholders' response to the management activities aimed at improving the environmental situation as well as the impact both prior to and after applying knowledge management tools.

Critical Knowledge Management: An Insight Into the Literature

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Abstract: In this paper we analyse the literature regarding Critical Knowledge Management (CKM). We define CKM as a branch of the Knowledge Management science that deals with marginal and controversial social matters like race, gender, sexism, LGBT and so on. Critical KM is therefore a "twin sister" of Critical Human Resource Development (CHRD) in the bigger field of the analysis of Intangibles. We perform a Literature Review based on the Systematic Literature procedures and using the B-On Database. We conclude that the analysis of issues related to Critical KM is still very scarce and very recent. It seems that being KM a relative new science, social issues have been slow to be addressed; furthermore, KM science has been too much linked with companies and even corporations and

with productivity and efficiency. All this creates a bias in the field and makes that, for now Critical KM has been virtually inexistent. We believe that as long as KM will become more and more an important scientific field social issues as those addressed in the CKM field will become major fields of research.

Enhancing Local Knowledge Uptake Through Stakeholder Engagement in Dutch Dike Redesign

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Abstract: Participatory approaches in water management have their limitations, despite their promise to overcome challenges related to power, uncertainty, and misunderstanding. To better understand why participatory processes work or fail, we have conducted an action research project where we observe, diagnose, and intervene in participatory processes through an elaborate sender-receiver conceptualization of knowledge transfer and uptake. Aiming to incorporate local knowledge in the redesign of the dike between Gorinchem and Waardenburg, our client, the Dutch Regional Water Authority, opted for novel stakeholder engagement in the visioning phase. The RWA facilitated several working groups of local residents to develop their vision on the dike, and designed communicative interactions to ensure that the local residents had sufficient knowledge on how dikes are designed and can be integrated in their surroundings. Repeated iteration through a plan–act–reflect–re-plan cycle allowed us to assess whether our sender-receiver framework facilitates action-oriented support in "live" situations, notably diagnosing problems, making real-time adjustments, and (re)designing interventions to enhance knowledge transfer and uptake. We observed several cognitive barriers, ranging from unclear definitions for residents to inapt tone and language, leading to loss of trust in the RWA. Our suggestions to use definitions closer to the participants' perceptions, to focus in oral presentations on practical reasons to strengthen the dike, and to use more easy-to-understand visualisations, restored trust during subsequent meetings. We also observed individuals' propensity to revert to former beliefs and behaviour, necessitating our client to continuously emphasize how the process differs from a more traditional participatory dike redesign approach. In each step of the process, the beliefs concerning the necessity of dike strengthening, pairing all dike sections, and meeting all technical and financial constraints, needs to be

internalised (understood and trusted to be valid). The conviction of all parties that this knowledge is indeed actionable, is paramount. Being situated and socially constructed, this knowledge must be actively shared whenever participants (especially RWA staff members) are replaced. Our client confirms that the framework affords monitoring knowledge transfer and uptake (in two directions), and provides practical handholds for tailored process interventions.

Customer Knowledge Management and Potential Risk Identification: Does Customer Feedback Have any Impact on Product and Service Safety Improvement of Japanese Organizations?

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Abstract: Customer Knowledge Management (CKM) is a term describing a business-level strategy used by organizations, in collaboration with their customers, to capture, share and disseminate customers' knowledge about their needs, wants and expectations. CKM is recognized as one of the most important product and service improvement strategies of the manufacturing and service sector. In many business fields, including healthcare industries, customer feedback contributes to service improvement. Relating to this paper, there are two research areas: the first area is customer feedback and service improvement in the field of healthcare; the second area covers risk management in the field of healthcare. This empirical study builds on existing research by focusing on the links between customer feedback and potential risk identification which results in product and service safety improvement, mainly in the healthcare field. As a comparison, CKM is also examined in the transportation service field. The first purpose of this study is to specify risk-related customer feedback in pharmaceutical and food industries, hospitals, and transportation service industries. The second purpose is to investigate whether risk-related customer feedback has any significant impact on potential risk identification of products and services. The third purpose is to analyze how organizations assess the severity level of risk, based on a risk matrix. The severity levels are categorized as high, medium and low risk. The research results provided examples of specific cases where risk-related customer feedback has resulted in implementation of product and service safety improvements, or risk mitigation efforts in Japanese

organizations. Typical risk-related customer feedback included requests arising from product design, material, labels, packaging, and facility maintenance and services. The questionnaire survey showed that customer feedback departments recognized the value of customer feedback for both service improvement and risk identification. In almost all industries which were included in this study, customer feedback departments recognized that customer feedback contributed to potential risk identification of low severity-level, rather than potential risk identification of medium or high severity-level.

Knowledge Creation in Engineering Education (University-Industry Collaboration)

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Abstract: This paper is an effort to develop an effective engineering education model in the university for a continuous Knowledge Creation (KC) and utilization. Universities are facing new issues due to the increase in distance & online education. Therefore, they are trying to attract and retain students by providing facilities like learning factory (LF). Learning factory being a platform for knowledge creation & learning, it also creates an environment for interaction between students, academics, and industrial participants. It is essential to understand how knowledge creation takes place within learning factory settings. Knowledge creation is a process of generation of new ideas, and studies are broadly within industrial organization thus ignoring educational context such as within university. Therefore, it is crucial for the university to take this challenge and address these gaps, which is above mentioned, i.e., identifying a model and its applicability. We have conducted qualitative research, which includes a detailed literature review, workshop, informal interview and focus group with participants. A literature review has shed lights on the advanced model of knowledge creation, and this model is based on a framework of the unified theory of dynamic knowledge creation through SECI mode, 'Ba,' knowledge assets, and Leadership or simply known as Nonaka's model. The workshop reports on knowledge creation and applicability of this model in learning factory setting. The finding shows that a unified theory of dynamic knowledge creation model fits our existing learning factory setting with minor adjustments to serve our local industries. In summary, this paper applies the unified theory of dynamic knowledge creation model for the learning factory settings and from findings; it highlights the importance of the

application of the knowledge creation to develop the education system and the role of management in learning factory settings. The results of this research should interest both management of university and industry for shaping their learning process and continuous knowledge creation.

Efficacy of Competition-Based Financing

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Abstract: Competition – based research financing is one of the necessary elements of knowledge-based economy functioning as targeted knowledge generation happens in competition – based environment. Competition based system of research and academic grants allocation is an instrument of selecting perspective projects by means of qualified academic evaluation of applications. Besides that, when making decisions on allocating new grant experts consider success degree and publications level of the previous projects conducted by the given researcher. The objective of the research is the dependence of scientific effectiveness on the volume of competitive financing. The purpose of this research consists in revealing regularities of the influence of various forms of competitive financing on the number of published articles on fundamental research results and to offer a method of assessing efficacy of competition-based financing. Authors used economic and statistic methods of collecting and processing information, correlation – regression analysis, differential calculations. Informational basis of the research is formed by report data on conducting fundamental research by institutions – members of the Ural Branch of the Russian Academy of Sciences for 2010 – 2015. As a result of the conducted research authors present Science Result Index that demonstrates the dynamics of changes in knowledge generation level depending on changes in financing. Authors provide empirical evidence of the fact that there is the stronger correlation dependence between financing dynamics and the number of published papers within the project. Therefore, the increase of competition-based financing for research allows for increasing publication activities of the researchers.

The Role of Business Information Systems in Thai SMEs' Market Knowledge Construction

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Abstract: Business information system (BIS) plays a substantial part in the process of knowledge construction and implementation of knowledge management in an organization. BIS helps constructing new knowledge and positively affect organizational learning, performance and knowledge management practices. However, majority of small and medium size enterprises (SMEs) assume that employing BIS is the implementation of knowledge construction. The paper aims to investigate the role of business information system as a mediating factor in market knowledge construction. The study was conducted on 209 SMEs in Thailand using questionnaires to collect the data. Sequential Equation Modelling (SEM) using Partial Least Square (PLS) for analysis. The result shows that business information system becomes a mediator between customer along with supplier and creating products (CP), innovative process (IP), identifying a new market (INM) and changing organizational behaviour (COB). However, business information system (BIS) does not become a mediator between market environment (ME) and identifying a new market (INM). The analysis also shows that the model has a predictive power.

NGO Knowledge Management Challenges and Investment Priorities: A Sectoral Case Study

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Abstract: Non-Governmental Organisations (NGOs) are an important and growing 'third' sector. They possess certain distinguishing characteristics which must be considered when seeking to apply management research. While the idea of knowledge management has currency, there is a need to operationalised and embed key concepts in these organisations. A particular issue for NGOs is securing donor funding, typically requiring a good track-record of service delivery. These

factors have made it difficult for NGOs to identify how well they are progressing with knowledge management initiatives as well as providing some support for each other on common problems. This research reports on a workshop facilitated by the authors that brought 25 representatives from 8 NGOs together to discuss knowledge management in their organisations, focusing on themes around key challenges and areas for investment identified.

Creating a Knowledge-Pull Framework for Project-Based Risk Management in the oil Industry

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Abstract: In order to promote economic and social sustainability in these insecure times, it is important for people at all levels in an organization to deepen their understandings of risk. Risk management must be proportionate to the complexities of organizational activities, and must be continually updating to meet changing needs and activities. A joined-up, integrated approach across the whole value web is therefore desirable. It is not a matter to be left to 'experts' but must be embraced by all stakeholders and ideally it must cross organizational boundaries to include external partners. Effective knowledge-sharing (and also considering when knowledge should not be shared) underpins any risk management strategy. Understanding critical issues before threats arise empowers people to act swiftly and effectively to ameliorated their impact, and this is best achieved through team working and knowledge-sharing. In the oil industry this is of particular importance, as the results of poor risk management can be catastrophic, not just for the company and its customers but for the environment more generally. The current study is based in an oil company. It explores the literature of the field in order to discuss good practice in knowledge-sharing, then 20 past organizational projects within the company will be analysed, in order to identify both examples of good practice and knowledge-sharing gaps. A review of relevant literature suggests that promotion of effective knowledge-seeking behaviour is key to establishing a knowledge-pull framework for project-based risk management.

Selecting Between Animation and Printed Comic for Transferring Knowledge to Rural Schoolchildren

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Abstract: Animation and 3D comics are the most widely used mediums for transferring scientific information to schoolchildren. This study aims at comparing the students' loyalty to 3D animation and printed comic. This paper answers the following research questions: (1) What are the criteria of animation that influence students' decision to keep watching and share the experience to their peers afterwards? (2) What are the factors in printed comics that affect students' willingness to keep using the media and share it to their friends? (3) Which media appeals more to rural schoolchildren? The paper employed questionnaires with the Likert test for collecting data. This paper ranked the criteria of 'sense' and 'think', which influence the students' loyalty to the media. The number of respondents was 139 students grade 7th and 8th, who live in Sedanau and Tanjung Batang village, the district of Natuna, Indonesia. We applied Friedman test to measure the criteria and the media of choice. This paper highlights that the media of choice is critical in the process of transferring knowledge successfully to the schoolchildren living in remote areas in Indonesia.

Knowledge Transfer in the Post-Acquisition Phase: A Case Study

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Abstract: Ineffective integration is commonly given in the literature as one of the reasons mergers and acquisitions fail to meet expectations. Efficient knowledge transfer in the post-acquisition phase contributes significantly to the ultimate success of the acquisition. This is more pronounced when the geographical distance between the acquirer and the acquired company is great. Therefore, the research in the field of knowledge transfer is mostly undertaken in an

international setting. This research uses a single case study approach to examine knowledge transfer in the post-acquisition phase in a technology multinational company which is a leading enterprise office solutions provider. Specifically, it focuses on barriers in the areas of knowledge sharing, culture, language, communication and technology in the Czech-Australian global virtual teams. Results from an in-depth interview and four questionnaires, both from respondents in the acquiring and acquired companies show the key challenges that the company encountered in each area. On the basis of the findings, the authors propose solutions for future acquisitions. The findings might be of considerable interest to medium-sized companies acquiring entities abroad, as well as benefiting future research into knowledge sharing in the post-acquisition phase in multinational enterprises.

Goal-Oriented Creation of Individual Knowledge: Model and Information Technology

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Abstract: The paper focuses on a fundamental problem: developing a model that describes the iterative process of goal-oriented creation of new individual knowledge, and information technology that provides this process. It is assumed that a linguist creates a personal knowledge system as a cross-language typology. We proceed from the notion of a goal-oriented knowledge system. A linguist creates the typology to fill a knowledge gap in contrastive grammar. This gap can be identified through observation of the subject area. Our study arose from a need to fill the gap in the cross-language knowledge system for machine translation. Here, we suggest a model and information technology that facilitates goal-oriented creation of a new personal knowledge system by linguists as a typology. The proposed model consists of two submodels, one representing the formation of annotations of the studied language units, which is performed by a group of linguists, and the other representing the creation of a cross-language typology by an expert-linguist on the basis of generated annotations. In the process of creating a new typology, a linguist analyses bilingual texts. With the help of information technology, a linguist matches up emerging parts of knowledge with the analysed aligned sentences of these texts. The ability to establish this correspondence is the principal distinction of the proposed technology. To show the feasibility of the technology, our team has designed the

prototype of the computer system supporting goal-oriented creation of new individual knowledge. This prototype contains German-Russian translations of books totaling about 2.5 million words, analysed by a linguist. The subject of the analysis is translation models of German modal verbs into Russian, which are discovered by a linguist from bilingual texts in an automated mode. There is a wide range of Russian lexical units and syntactic constructions in translations of German modal verbs. At present, there is no systematic description of them. The main aim of the translations' analysis is to create the typology, which will fill the gap in the German-Russian contrastive grammar.

Knowledge Management Approaches Among KIBS Companies and Their Determinants: Case Study Analysis

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Abstract: This paper aims to present knowledge management (KM) approaches manifested by knowledge intensive business service (KIBS) companies together with their potential determinants (company size, type of services offered, and organizational structure). In particular, two types of approaches have been selected and examined, i.e. emergent KM approach and deliberate KM approach. Indeed, although KM approaches have been abundantly investigated in the literature, there are still not many studies comparing emergent KM approach with a deliberate one, especially with regard to the determinants of the two. Hence, the paper contributes to a better understanding of the differences between these two approaches and their influencing factors. The list of their potential determinants was established on the basis of literature review. Further on, ten case studies (from companies of various sizes and offering various services) have been examined to verify the factors determining the selection of KM approach. Although it is not possible to generalize, and such an assignment cannot be taken as a golden rule, the paper advocates that emergent KM approach is determined more by being a small company, while deliberate KM approach is determined to

more extent by being a medium-sized one. As the analysis shows, the emergent/deliberate approach can also be determined by the type of service offered – if the service is not somehow regulated, then emergent approach is more common (e.g. IT services); while if the service has to conform some legal regulations and laws (e.g. legal/accounting services), then deliberate approach is more probable to be detected. Finally, in many cases being a hierarchical organization determines choosing deliberate KM approach, while having a flat structure – choosing emergent KM approach. The findings of both literature review and case study analysis indicate that there is a need to further analyse emergent and deliberate KM approaches with regard to their determinants. In addition, from the practical point of view, the paper shows that the two different approaches towards KM can be chosen by managers depending on the characteristics of the company (e.g. its size, offered services and organizational structure).

Use of the Autopoiesis in Business Process Oriented Knowledge Management System Development

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Abstract: Integration of Business Process Management and Knowledge Management requires addressing a range of characteristics of such solutions. These systems, which are characterised by concentration on propagation of contextual knowledge about the tasks executed during a business process, have to be mainly focused on the user of the process and his/her information needs. The issues addressed in the paper refer to the theory of process oriented knowledge management systems. Solutions that belong to this group are Business Process Oriented Autopoietic Knowledge Management Systems. The aim of the paper will be analysis of the possibilities of using autopoiesis in the development of an autonomous system designed to support the process of integrating BPMN and KM. To achieve this aim, literature on the subject will be studied and a unique methodology, presented in the author's previous papers, will be used. The above-mentioned methodology is implemented in three main stages, which involve the design of a business process, the design of knowledge resources impacting the business process, and the architecture of an autopoietic system that supports its operation. For that purpose, feedback connected with the different stages of the

process and its impact on the process stages will be analysed. The paper will also present elements of a developed tool for designing a system in the presented methodology. The added value of the paper will be presentation of a new approach to integrating BPM and KM in the area of the application of autopoiesis mechanisms using the theory of software agent societies. The theory of autopoiesis explains the processes of creating and distributing knowledge in an organisation and can be applied to better use IT systems designed to support it.

PHD Research Papers

Knowledge Sharing Within Organizations: Presenting a Conceptual Framework Based on the AKRI Approach

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Abstract: One of the challenges that organizations encounter when establishing knowledge management processes is the selection of a suitable method to share knowledge. Identifying and evaluating the tools and techniques available for sharing knowledge will enable the selection of the most suitable method for each organization. In this study, different knowledge sharing methods were identified from the literature. The methods were then classified based on different mechanisms used for sharing knowledge. Finally, a conceptual framework was developed based on the literature and professionals in the knowledge management field in a major Iranian engineering company. The expertise of the professionals was captured using a questionnaire examining knowledge in organizations based on the Applied Knowledge Research Institute (AKRI) approach which focuses on four dimensions: knowledge importance, the complexity of knowledge, knowledge type and people having knowledge. The results demonstrate that the suitability of the different methods or approaches of knowledge sharing depend on the knowledge type and organizational characteristics. Selection of the most suitable approach for knowledge sharing can reduce time and costs associated with knowledge sharing, thereby improving the effectiveness of knowledge management.

Keywords: knowledge management, knowledge sharing, conceptual framework, AKRI, Iran, knowledge type

Knowledge Creation in Client-Consultant Interaction: A Case Study

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Abstract: Many organizations cooperate with and spend a substantial amount of money on consultants, among others in knowledge creation projects. However,

little seems to be known about consultants' roles in knowledge creation projects. We aim to contribute to knowledge-creation theory and dialogue theory against the background of client-consultant interaction with our work. In addition, we hope to add value to organizations, as increased insight into the dynamics of knowledge creation between clients and consultants might help them to optimize their interaction. This paper describes a case study guided by the research question: How is knowledge created in client-consultant interaction? Based on our findings from literature, we argue that in their knowledge-creation interaction clients and consultants use a dialogical approach. In addition, we are inclined to think that a specific dialogical process is used. Moreover, we think that the interaction itself might be impacted by power dimensions. We explored the above and more in two different exploratory case studies, both of which concerned projects in which corporate strategies for energy companies were created with the help of consultants. We used semi-structured interviews with clients, project participants, and consultants, combined with document analysis. Our findings in these cases indicate that productive dialogues were indeed used, that a particular process can be recognized in the dialogues and that power resources seem to be used, although mainly by other people involved in the knowledge-creation projects. Our main suggestion for further research is to study more and more diverse cases to see if the findings from these two cases match findings from other cases. Moreover, we think an interesting research topic might be to study knowledge-creation interaction between larger groups of clients and consultants, to see if and how the group size impacts the use of dialogue processes, and power resources.

Keywords: knowledge creation, client-consultant interaction, inter-organizational knowledge, dialogical process, productive dialogue, power resources

Towards a Framework for Managing Knowledge Integration in University-Industry Collaboration Projects

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Abstract: Previous studies have called for more research on knowledge management in collaborative projects between university and industry. The

scientific community urges the development of managerial mechanisms that will stimulate innovation outcomes and make government-funded projects to generate more long-term value for the society. This study is intended to contribute to close this gap through development of a practical framework for management of university-industry collaboration with knowledge transformation in focus. It concentrates on how to manage the innovation process by leveraging creation, accumulation, dissemination, application, storing, and retrieving of knowledge in university-industry innovation projects. The context for this investigation was a Norwegian region with a local university campus and local maritime/marine companies, mostly concerned with mechanical engineering. Ten in-depth interviews with CEO's, project managers and researches experienced in such projects were undertaken. The questions covered different topics, including project strategy, objectives, facilitation and accumulation of knowledge. The study reviewed knowledge management models in the literature, and found Wallin and Von Krogh's five-step model for the integration of knowledge in open innovation setting suitable for the university-industry context chosen. The results propose a conceptual process model of knowledge management in university-industry innovation projects, which addresses the initiation of specific strategic efforts on organisational, collaborative and project levels. These efforts are intended to ensure the partners' commitment to the project, which in turn enables and leverages knowledge co-creation and exploitation. The findings provide the potential to contribute to more effective and efficient management of the innovation processes between industry and university and reinforce a knowledge-based society. The sample size will be extended be more interviews to extend the data basis in the future.

Keywords: knowledge management, university-industry collaboration, innovation

Personal Knowledge Registration as Evidence: Preparations for the Equal Wage Standard

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Abstract: The purpose of this paper is to examine how the Icelandic Equal Wage Standard and its legislation has impact on the registration, access and use of personal knowledge in organizations. It explains what preparations organizations have taken to implement the standard. It also studies whether and what information on personal knowledge is being registered now, to oblige to auditing and legal requirements, different from before. Finally, the aim is to shed a light on which employees have the role and responsibility of the registration process

related to the standard. This is a multiple-case study and part of a PhD research. The empirical material contains semi-structured interviews with eight professionals, focusing on information management, human resources and training, and an analysis of the registration requirements of the Equal Wage Standard. The findings indicate that most organizations had not taken the necessary steps to prepare for the implementation of the standard. This is concerning as public organizations in Iceland with more than 250 employees must have implemented the standard by December 31st 2018. The legislation puts added pressure on organizations to ensure that documentation on employees formal and informal education and skills are authentic, traceable and of use. The standard and its legislation increases the significance of knowledge management studies.

Keywords: knowledge management, personal knowledge registration, equal wage standard, Iceland

In Search of a Framework for Personal Healthcare Management in Oncology

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Abstract: This research solves a real problem of global concern and high practical value for healthcare. It designs a theoretical methodology and a framework on lifestyle management (Lifestyle Analyzer); centered on chronic patients, specifically in oncology patients; the target is to identify a lifestyle that promotes a healthy life by classifying between two groups: the first promotes illness and the second a health or remission state. In line with World Health Organization it understands health is more than the absence of disease. The theoretical structure takes as reference intellectual capital management to approach complexity of cancer from a holistic view. The approach is based on case studies of oncological patients and a 500.000 anonymized patient data in Barcelona. We carry out a design science research based on qualitative methods. The main findings are the following: 1) There are common chronic illness on previous stages of cancer; 2) There are common symptoms without a direct cause of principal cancers tumor; 3) After a lifestyle changes, there are improvement in symptoms and chronic illness. The framework helps people to understand the pathways of illness. It also contributes to the improvement of life quality for patients. The originality of this study is to propose a framework to support the complexity of cancer combining three scopes: Healthcare Analytics, Intellectual Capital Management and Healthcare management.

Organizational Factors Defining Intensity of Customer Knowledge Integration in Open Innovation

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Abstract: Purpose – The aim of this study was to identify organizational factors on customer knowledge integration intensity in open innovation activities. Specifically, the research question focuses on the identification of organizational factors contributing to the intensity of customer knowledge integration. Design/methodology/approach – Using mixed methods sequential explanatory design, this study employed survey responses from 551 innovative organizations in Lithuania, followed by 10 hermeneutic interviews to investigate and explain organizational factors for effective customer knowledge integration. Findings – Empirical analysis allowed distinction of six levels of customer knowledge integration intensity. The second stage of research identified organizational factors that have strong and highest intensity levels of customer knowledge integration. These levels demonstrate effective integration of customer knowledge, which leads to innovation success and competitive advantage. Originality/value – Customer knowledge is a very important resource for open innovation. The scope of collected customer knowledge is constantly growing, and this leads to various challenges for organizations. First, customer knowledge has no direct connection with existing knowledge in the organization. This knowledge must go through several steps in order to become valuable. Second, the organization depends on the knowledge inherent in its activities and outputs as a source of competitive advantage. This research integrates these two elements. As a result, important organizational factors were identified, which increases understanding and ability to integrate customer knowledge more effectively in the open innovation process. Following that, organizations become more flexible and gain a sustainable competitive advantage. Structure of article – The first part presents a review of background literature. The second part presents the research methodology and organization of the study. Next, the research findings are presented. Finally, conclusions on how the organizational factors impact the intensity of customer knowledge integration and innovation performance are presented. Limitations and suggestions for future research are discussed.

Intentional Development of Communities of Practice: Improving Knowledge Sharing and Work Guidelines

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Abstract: Healthcare professionals within operations widely use guidelines for sharing knowledge however, guideline effectiveness varies. Communities of practice (CoP) can increase guideline compliance and best practice transfer, however, only few studies focus on intentional CoP development that support guideline effectiveness. We address this gap by proposing and testing a framework for intentional CoP development within operations to study the relationship between organizational knowledge sharing and CoP. A framework for intentional CoP development is synthesised from CoP research. The test setting is a blood analysis unit in a regional hospital where employees apply automatic analysis equipment. Two CoPs are developed and the study finds that manager support, voluntarism and undisturbed meeting space are important elements for CoP development.

Technological Factors Supporting Customer Knowledge Management: A Case Study Research

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Abstract: This paper examines the Customer Knowledge Management (CKM) as an integration between the approaches of Knowledge Management (KM) and Customer Relationship Management (CRM). Customer Knowledge Management is defined as a process of capturing, sharing, disseminating and applying Customer Knowledge. This Knowledge Management plays a key role in the success of CRM strategies. From the perspective of a Resource Based View, what are the technological factors that support the implementation of Customer Knowledge Management to improve the efficiency and the effectiveness of the Customer

Relationship Management? Based on an in-depth case study in a sales outsourcing enterprise, this paper proposes technological factors that support the Customer Knowledge Management process in order to improve the efficiency and the effectiveness of CRM. This study will help guide companies in the implementation of Customer Knowledge Management process for successful CRM projects.

Factors of Student Formal and Informal Organizational Learning

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Abstract: The aim of the current paper is to present theoretical findings of a part of a PhD thesis that is being prepared by PhD students in education. An increasing number of researchers and practitioners now point to the necessity for the higher education institutions to not only develop students' subject matter knowledge and capabilities, but also various transferable skills, such skills that would allow students to successfully blend in with the contemporary organizations. These contemporary organizations aim to utilize knowledge to maintain competitive advantage in the market, thus they are often referred to as knowledge organizations. Knowledge creation and dissemination processes in such organizations rely on organizational learning (OL) capabilities of their employees. Therefore, universities that educate future professionals for such organizations should be interested in including organizational learning into their learning agenda. But do universities create conditions for students to learn organizational learning in the study process, i.e. do they teach it explicitly? Perhaps, students can experience organizational learning through other activities on and off campus, i.e. learn it implicitly in informal settings? These are the questions discussed in the current paper. Further inquiry into the topic allowed distinguishing factors of student organizational learning at universities in various settings (formal, non-formal and informal) which will be used for drafting a questionnaire.

The Myth of the Presence of Chief Knowledge Officers

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Abstract: Many firms assign a chief knowledge officer to the top executive team for the success of knowledge management, but little attention has been paid to investigate the reasons for the presence of the chief knowledge officers. Therefore, this study seeks to explore the factors that influence the presence of the chief knowledge officers as well as the impact of the chief knowledge officers on the firm performance. This is one of the few studies that focus on investigating the presence of the chief knowledge officers. It will reveal the reasons why the firm appoints a chief knowledge officer. It also will contribute to the knowledge management research by adding the appointment of chief knowledge officers as an important practice in knowledge management theory and will provide managerial implications for those firms who consider appointing a chief knowledge officer to the top management team.

Evaluating the Effectiveness of Social Media on Knowledge Management Systems for SMEs

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Abstract: Today's businesses rely on modern technology to compete and remain sustainable. Social Media is one such technology that has transformed the way business is done. Recent studies reveal how Social Media impacts business performance by improving processes such as knowledge management. The requirement for organisations to meeting the current demand for knowledge is not an issue from which Small and Medium Enterprises in South Africa are exempt. While there are many theoretical approaches to enhance the successful adoption of knowledge management systems, there is a high failure rate in the practical efforts, particularly in the Small and Medium Enterprise sectors. Social Media technologies as more recent and user-friendly technologies warrant

enough research effort in knowledge management studies. Thus, this study aims to explore the effectiveness of Social Media on knowledge management practices for Small and Medium Enterprises. The research adapts Jennex & Olfman's Knowledge Management success model to explore the effectiveness of Social Media capabilities. A multiple case study approach was adopted using interview as a method of data collection to understand the current issues from the users' perspective given the research questions from the literature. Conforming to Jennex & Olfman's model, this study argues that the distributed nature of Social Media applications promotes system quality by offering more effective creation, search and transfer of knowledge among SMEs; Social Media's ability to identify knowledge experts and holding conversations on a one-to-one basis promotes the knowledge quality; and the flexibility around the use of Social Media where users are voluntarily connecting with others through groups and building their reputation based on their willingness to share their experiences promotes service quality.

A Social Capital Perspective

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Abstract: With the advent of knowledge economy, knowledge has become the most crucial component of organizations and to remain competitive, knowledge based organizations depend on their employees to share knowledge and to learn from each other. The main purpose of this study is to develop insights to further the understanding of enablers of employees' knowledge sharing behavior. The study discusses the circumstances under which employees voluntarily engage in knowledge sharing with peers and how such behavior benefits the employees in workplace. A range of work on social capital, knowledge sharing and work performance is reviewed with an aim to identify the gaps and based on it, a theoretical framework is proposed. The framework incorporates the antecedents and outcomes of engaging in different types of knowledge sharing behavior – routinized and in-depth knowledge sharing which includes both contribution and seeking aspects. Drawing upon social capital theory, three dimensions of social capital are taken as the factors affecting knowledge sharing with peers – structural, relational and cognitive capital; and job performance as the outcomes - task performance and creative performance. We propose that the effect of

perceived social capital on knowledge sharing (contribution and seeking) is contingent on the complexity of knowledge involved in the process. Structural, relational and cognitive capital is likely to have more influence on in-depth knowledge contribution and seeking with peers compared to routinized knowledge sharing. While considering the outcomes of job performance, routinized knowledge sharing is likely to be more significant in daily task performance, whereas in-depth knowledge sharing enhances creative performance of employees. Compared to previous studies that explored the role of social capital in knowledge sharing, this work is unique by offering a model that incorporates the different types of knowledge sharing behavior and its differential impact on job performance. It discusses the knowledge seeking aspect of knowledge sharing process as well, which has been overlooked in prior studies and thereby provides a conceptual comparison of different behavioral contexts in a single model.

Determinants Influencing Firm's R&D Collaborations With Universities: Empirical Evidence From Europe

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Abstract: Universities have long remained the hub of scientific research and training of the manpower base of countries. But in recent times there have been a paradigm shift in these roles played by universities, there are increasing calls for them to directly contribute to regional and economic growth and forging closer and direct collaborations with industries and commercializing their academic research outcomes. This institutional interdependence results in win-win outcomes for both industries and universities. Universities interact with industries through diverse means such as joint research and development, staff and student mobility, academic consulting, joint publication of academic papers among others. Technology intensive industries need the most sophisticated technology and knowledge to thrive. Greater attention has been paid to this collaboration, but little is known about which universities firms collaborate with. The main aim of this paper therefore is to empirically observe factors that influence technology intensive industries choice of universities (domestic or foreign) as collaborating partners across European Countries. These determinants included firm size, innovation expenditures, availability of funding and the extent of

internationalization. For the empirical analysis, we used data from the Community Innovation Survey 2010-2012 and the standard logit regression model. The results of the logit regression demonstrated statistically that firm size, innovation activities and funding influenced firm's collaboration with local universities. Per contra, the results revealed insignificant differences for foreign universities. Practical implications are also offered to strengthen this kind of synergy.

Knowledge Sharing Benefits Among Companies in Science and Technology Parks: A Cross-Country Analysis

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Abstract: Knowledge sharing is considered the most important process in knowledge management. The sharing of interorganizational knowledge in the context of Science and Technology Parks (STPs) has been scarcely explored in the literature. STPs stand out as environments in which the installed companies can access resources from an associated university, thus facilitating innovation. In such contexts knowledge sharing can be favored not only due to geographical proximity, but also by the actions adopted by the management of the STP. This article aims to analyze the benefits expected by managers of companies located in STPs when sharing knowledge with other companies in the STP. The method adopted was exploratory, and 16 company managers, and 2 STP managers in Brazil and 16 companies and 2 STP managers in Spain were interviewed. The obtained data were subjected to content analysis. The results show company managers in Brazil expect reciprocity and new business opportunities, while company managers in Spain hope to solve specific problems. This difference between countries can be explained in cultural terms, according to Hofstede's (2018) dimensions. The company managers' expectations are in line with those of the STP managers in each country. The research results will be of use to park managers by: a) showing the expectations of company managers and thus enabling STPs to help meet those expectations; b) identifying differences between the expectations of company managers in both countries, and problems that may arise when setting up companies from other countries in STPs. The research will help allow company managers to identify the benefits expected by other managers with whom they may share knowledge, because the existence of different expectations can lead to problems. In academic terms, this research

contributes by analyzing the benefits expected from interorganizational knowledge sharing in the context of companies in STPs, as well as showing the differences between two countries (Brazil and Spain).

A Framework for Patent Management: Beyond the Legal Aspects

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Abstract: This article aims to develop a multidimensional measurement framework for patent management and to generate measurement items for all relevant constructs included therein. To this end, we focused on the first two steps (i.e. specify the domain of construct and item generation) of a six-step methodological approach for new scale development and validation. The analysis of the literature and interviews with experts allowed us to design the measurement framework of patent management with four core dimensions (generation, portfolio management, intelligence, and exploitation and enforcement) and two support dimensions (strategy and organization), and items to measure these constructs. This study represents a first step towards the development of sound scales to measure patent management with an overarching approach, thus laying the basis for developing a recognized landmark within the research area of patent management. Therefore, future research can benefit from a solid foundation to further extend our knowledge of the different core dimensions of patent management, and managers can get insights to assess the level of sophistication of their company's patent management activities.

Trends in Knowledge Management Methods in Small Medium-Sized Enterprises (SMEs): Review Article

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Abstract: The past two decades have shown significant growth of research in the field of Knowledge Management (KM) in support of Decision making. This review reveals that there has been successful development and implementation of KM Methods in Large organisations and SMEs in advance economies and emerging economies and a low adoption of KM practices in SMEs in resource constrained areas. On the other hand, there has also been significant growth and improvement in affordable and reliable Information and Communication Technology (ICT) infrastructure and platforms in resource constrained areas, creating significant opportunity for Implementation of KM and its benefits. In this review paper, advancements of knowledge Management methods over the years is presented and their adaptability to support Small Scale Enterprises in resource Constrained areas is also examined. The major contribution of this paper is that it presents a Summary and Comparative analysis of the different approaches and to what extent knowledge Management been applied in Large Companies and SME's in advanced economies and emerging markets, it identifies challenges and makes recommendations for appropriate knowledge management methods for resource Constrained areas. There is a general observation that most methods reviewed are both communications-driven and data driven and require heavy network infrastructure and hence creating resource challenges for organizations. In addition many have been developed with the basic assumption that work flow procedures and guidelines are documented and automated, this creates challenges for adaptability. The paper has 4(four) Main Sections (i) Introduction which presents an overview of the Importance of Knowledge Management to SME's (ii) Trends in KM in SME'S (iii) The Comparative Analysis of Knowledge Management Methods in SME's shall be discussed in Chapter 3 (iv) Recommendations of Future Work and Conclusion in Chapters 4.

Keywords: knowledge management methods, small-medium scale enterprises, resource constrained areas, decision making

Understanding Individual Knowledge Seeking Behaviors in the Context of Knowledge Management Systems

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Abstract: Unprecedented growth witnessed by knowledge economies have resulted in a need for workers who have a learning mindset and are adept at intellectual thinking and problem solving at work. Knowledge Management Systems (KMS) are introduced with the aim of providing knowledge workers opportunities to collaborate, share knowledge, and enhance the innovation capability of the enterprise. However, for organizations to garner competitive advantage there is a need for KMS to be patronized. For investments in KMS to be meaningful, optimizing both knowledge seeking and knowledge sharing behaviors is crucial. While on the one hand, experts need to be encouraged to share their knowledge, on the other hand, seeking behaviors need to be promoted. Extant literature seems to have focused on knowledge sharing behaviors; relatively fewer studies exist on knowledge seeking behaviors. This paper presents a model to understand factors that impact individual's intention to seek knowledge on KMS. To gain a better understanding of the situational factors that influence knowledge seeking, answers to the following key research questions are sought: 1. Why and when do people seek knowledge at work? 2. Under what conditions does knowledge seeking thrive/happen the most? A quantitative study of the factors that motivate an individual to seek knowledge on KMS is undertaken with the objective of reviewing the effect of knowledge management (KM) and human resources (HR) practices on knowledge seeking behaviors of participants. Such a study is particularly vital post adoption of KMS. The decomposed theory of planned behavior (DTPB) is the underlying theoretical model on which our study is based. A preliminary questionnaire is discussed, and pilot data collected from 64 participants of a multinational company (MNC) are analyzed to arrive at a conceptual framework. Understanding knowledge seeking behaviors could lead to optimization of the share-seek process leading to better knowledge flow. Results of such an exercise could potentially provide significant insights on interventions that can be developed to enhance adoption of KMS for knowledge seeking.

Review of Supply Chain Knowledge Management Literature Add-On: Closing the Gaps

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Abstract: This paper summarize three literature reviews on topic of knowledge management in supply chain which reviewed 176 papers in between 1960 to 2015. These reviews highlight literature focus and identify gaps for further research. In this paper the methodology and literature sources are analyzed and used to review 23 newly identified papers from time span 2016 to 2017 providing add-on to previous literature reviews and showing to what extend identified gaps were solved or not. Paper shows that positive effect of knowledge management on supply chain is shown in majority of studies focused on performance. It also confirms that majority of studies use quantitative methodologies. Another findings are that factors affecting knowledge management phases are not analyzed enough as well as its barriers and also that human performance and cultural effects need a systematic analysis in their impact of knowledge management in supply chain performance. Paper value is in most updated review of literature on topic of knowledge management in supply chain providing starting points for topics and areas which need further analysis and deeper research.

Non Academic Papers

The art of new Collaboration: Three Secrets

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Abstract: Current trends like Digital Transformation and New Work suffer from an essential weakness: they fail to understand and take seriously that, in order to be successful in the world of VUCA, they require what we call "New Collaboration". In this sense, we speak of the secrets of New Collaboration that we see as a way of working together and that can be summarised by the following three statements: 1) New Collaboration requires and is based on the sharing of *tacit* knowledge. Sharing tacit knowledge requires: 2) suitable structures, leadership and competences; 3) dedicated collaborative interactions (methods). Understanding and taking New Collaboration seriously would allow Digital Transformation and New Work to better exploit their potential for improving business results in a world of volatility, uncertainty, complexity and ambiguity (VUCA). To contribute to this, our paper will first present an understanding of the essence of collaboration that we call *knowledge-based* and *community-oriented* because we are convinced that what matters today in collaboration is the process of knowledge sharing and the resulting construction of shared knowledge. Then we will propose an architecture of what we call a New Collaboration System - which includes people, processes and technology – with *structures* like communities of practice, *leadership* methods such as facilitative leadership and *competences* like collaborative skills. Last but not least, we will outline some methods for and approaches to collaborative interactions, such as our Presence Model of Knowledge Sharing, our Interaction Continuum Model and our D-3 Model of online interaction.

Keywords: VUCA, knowledge sharing, collaboration, new work, digital transformation, collaborative patterns

Knowledge Management and the Future of Work

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bstract: Technology will change the way people perform work and impact the operating model of organisations. Bhalla, Dyrcks and Strack (2017) states: "a tidal way of change is coming that will soon make the way we work almost unrecognizable to today's business leaders. In an age of rapidly evolving

technologies, business models, demographics, and even workplace attitudes – all shifting concurrently – change is not only constant but also exponential in its pace and scope." These changes result from the Fourth Industrial Revolution (4IR) and its emphasis on technological innovation and digital productivity in organisations. Traditionally, all managerial and operational areas in organisations have been enabled and supported by knowledge management (KM) in the form of a codification or personalisation strategy. However, in the 4IR organisation it is acknowledged that "knowledge" will be in the form of "big data" which is received by sensors and transmitted to actuators and can be analysed in a cloud-based cyber-physical system. This requires re-conceptualisation on the relevance of knowledge management in supporting the functional areas of organisations as well as the manner in which knowledge management manifests. More importantly on the applicability and relevancy of knowledge management in an age where humans are seamlessly connected through ubiquitous technologies. What will the role of knowledge management be in organisations and societies where humans will become redundant because of the ability of machines to perform both repetitive but also highly complex work? It is evident that the manifestation of knowledge management will change radically in 4IR organisations. Change is imminent and knowledge management needs to evolve or subside into a cyber-physical realm. Hence, a literature review and three case studies reflect on the interrelationship between technology and knowledge management within the context of the 4IR organisation.

Standardized Engineering: How Communities of Interest Facilitate Global Knowledge Sharing

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Abstract: Communities of Practice can connect socially embedded knowledge with knowledge embedded in explicit form e.g. guidelines, however knowledge about how to intentionally develop CoP is incomplete. This study contributes with new knowledge by analyzing a case company that has worked with Communities for app. 10 years. NNE is a global engineering company that chose Communities

of Interest (COI) is key initiative for realizing their key differentiator of having access to experts and sharing knowledge worldwide. The study deploys a single organization case study method and data were collected during a workshop with two company representatives. Using the Star model the study analyzes the COI organization and finds that the organization lack attention to people and rewards. The Star model is found useful for analyzing an existing Community organization as it provides insights into how coherent the current actions support the Communities; however frameworks tailored to analyze Communities must be applied to refine the results and to guide development actions.

The Role of Context in Employing and Evaluating Enterprise Social Media

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Abstract: Enterprise social media (ESM), such as wikis, blogs, or social networks, have rapidly spread across organisations. They offer unique means to support knowledge management, knowledge creation, or internal communication, especially in distributed work environments. Researchers and practitioners alike argue that the selection, introduction, and optimisation of ESM need to be based on use cases. Various frameworks exist that support the underlying process. However, one main characteristic of ESM is that they are highly undefined and recombinant, that is, they can be employed for many different use cases, which may also change over time. This makes it hard to define use cases of ESM in advance. In this paper, we argue that in addition to potential use cases decision makers should have a proper understanding of the context ESM are going to be employed in. By context we mean a possibly unlimited, personal and situated set of relevant knowledge involved in employing ESM. Context can be considered as a sensitising device that makes us more aware of the potential situational and temporal boundary conditions. Sense-making is used to understand ESM and to provide guidance to a decision maker by eliminating ambiguity which occurs during selecting, introducing, and optimising ESM. The basic idea of sense-making is that reality is an ongoing accomplishment that emerges from efforts to create order and make retrospective sense of what occurs. The current paper discusses how the Cynefin sense-making framework can be used in deciding what to use ESM for and in subsequently evaluating ESM. Cynefin consists of five domains, that is, simple, complex, chaotic, complicated, and disorder. For two domains,

complex and chaotic, the respective impact on employing and evaluating ESM is discussed. The next step is to request input from decision makers and users of ESM alike regarding the context they are in, perceived changes in context, and how context influences ESM usage.

Knowledge Assets and Knowledge Conversion: Addressing Issues of Practical Application

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Abstract: There is a broad consensus regarding what constitute "knowledge assets" in an organisation and the mechanisms by which they are created and maintained via the Knowledge Management Cycle (Evans 2014). Their characterisation at the highest level as "tacit" or "explicit" (Nonaka and Takeuchi 1995) establishes a widely-accepted conceptual basis for their understanding. It is argued that particular knowledge assets lie on a spectrum between tacit and explicit extremes and that they move along this spectrum under the impetus of the process of "knowledge conversion" (Nonaka and van Krogh 2009). Knowledge conversion is seen as a fundamental dynamic that interplays between tacit and explicit knowledge in a non-linear way that leads to the enhancement of both. At the explicit end of the spectrum is "codified knowledge", that is, knowledge that has been converted into "accessible and applicable formats" (Grover and Davenport 2001) and can be communicated independently of the knower. This type of knowledge asset is identified as having the advantage that it is easier to distribute and reuse, but there are practical difficulties associated with it, in that its efficacy is dependent on how it is packaged as a "knowledge unit" and presented and controlled within an overall "knowledge architecture" (Zack 1999). Within this context, codified knowledge is examined to determine if approaches can be identified that optimise the knowledge conversion process, thereby enhancing the value of the resultant knowledge assets. This is done by exploring what may constitute a viable knowledge unit within the business environment, in conjunction with a complementary schema for constructing a knowledge architecture that optimises its application to business improvement and innovation. A cross-disciplinary approach is taken that draws on developments in technical communication (specifically DITA*), metadata standards, and continuous improvement practices (Kaizen, Lean, etc.). The proposed approaches to the management of codified knowledge assets, and the knowledge conversion process, are evaluated and discussed using a case study carried out in a

knowledge-intensive mutual insurance company. *Darwin Information Typing Architecture

Work in Progress Papers

Knowledge Management Specification: Building an Ontology to get a Shared Understanding

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Abstract: The main purpose of this article is to systematize, to specify and to structure the realm knowledge management (KM). Historically, KM originates from such disciplines as knowledge engineering, psychology, management, computer science, and the main approaches are generated by different national cultures. As a result, we can observe the lack of clear definitions of used concepts and internal inconsistency of the discipline, which in turn leads to communication difficulties both inside academy and managerial practice. The main research question sounds like "What are the main elements of knowledge management as a subject area, and how are these elements interrelated?". To answer this question, we applied the ontological engineering method and carried out a deep structural analysis of the knowledge management domain. We identified the basic concepts of KM, determined the number of abstraction levels, distributed the concepts by levels and determined the main relationships between them. The main result is the ontology of knowledge management, or structural specification, which includes a dictionary of the main domain concepts, and visualizes the basic logical connections between them. We conducted a thematic literature review to avoid contradictions and inaccuracies. The proposed ontology combines taxonomy, partonomy and genealogy of knowledge management. We believe that this paper can be useful both to the academic community and to the practitioners, since it structures existing knowledge in the KM domain and it offers clear definitions of used concepts and the relations between them. It can help to synthesise the company common business vocabulary and language without ambiguity.

Keywords: knowledge management, knowledge engineering, ontological engineering, ontology, ontology of knowledge management

The Intellectual Capital of Schools in St Petersburg: Analysing the Status Quo of IC Application in Russia

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Abstract: The development of a knowledge-intense economy postulated the necessity to change the existing approach to manage intangibles. Though intellectual capital measurement and reporting is typically associated with private and listed companies, educational institutions also need to handle contemporary challenges as they mainly use and produce intangible resources. Schools, universities and research centers encounter increasing demand for transparency in reporting for stakeholders. The research field of IC in education is gaining popularity. But the majority of articles cover universities and other higher education institutions. There is a scarcity of IC measurement and reporting projects at secondary and primary education level. The country-specific IC context is also of potential interest for the researchers, managers, and policy makers in education. This paper represents the research project at the proposal stage. Our research goal is to investigate the current status quo of IC application in school education in St. Petersburg, Russia. First, we complete the content analysis of strategic documents to check if there is an established language for IC measurement, reporting and management in schools. Next, we use semi-structured interviews and questionnaires to analyze the importance of and country-specific and context-specific IC measurements, applications and adaptations from the stakeholders' point of view. The research plan and the preliminary results of the content analysis are presented below.

Keywords: intellectual capital, school education, educational institution, schools, public sector

Strategies to Reduce Knowledge Leakage: A Knowledge Absorptive Capacity-Based Framework

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Abstract: As a strategic resource, knowledge must be shared across organizational structures in order to increase users' ability to retain it and re-create it. In an

organizational context, hackers may convince individuals to share sensitive data with them through social engineering methodologies. This situation may generate dramatic information security issues given that individuals are unprepared to anticipate the security breaches that may emerge from their actions and the potential impact of these infringements on organizations. *Based on a systematic literature review, this theoretical study proposes a framework* that enables us to better identify the necessary skills users need in order to acquire and securely share sensitive knowledge in their work environment.

Late Submission

Managing Inter-Organizational Knowledge Sharing: A Multilevel Analysis

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Abstract: In today's economy where competitiveness is more and more defined by the ability to innovate, access to knowledge has become a central issue in organizations. Numerous studies focus on the increasing role that collaboration plays on knowledge creation. However, managing knowledge sharing across organization boundaries is among the most important challenge and paradox that faced organizations. In dealing with different background, culture, process, and knowledge throughout collaborative project, organizations must improve their practices to access, share and create knowledge. To benefit from the value of the new knowledge and information throughout collaboration, a deeper understanding is needed about the factors that impede and foster the inter-organizational knowledge sharing. The aim of this article is to shed light in these factors to better understand how to bolster knowledge sharing between partners. To do so, this article supports literature on interactionist approaches to analyze these concepts of collaboration and knowledge sharing. Based on case study methodology, 52 semi-structured interviews from team partners in an aerospace cluster were conducted. Using a multilevel analysis, the findings show: (i) the role of social proximity as facilitator of knowledge sharing depends on project phases (2) the leadership is a prominent force to reinforce and enhance the knowledge sharing mechanisms, and (3) the institutional orientation affect deeply the team commitment and consequently the knowledge sharing. We conclude by identifying further conceptual research and implication for research and practice.

Keywords: collaboration, cluster, knowledge sharing, social proximity, leadership

Abstracts Only

Impact of Knowledge Management Processes and Intellectual Capital on Organizational Performance

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Abstract: Recently, on the strategic-political level, the significance of intellectual capital for economic development of countries is emphasised. The focus shifts from natural recourses and capital to information, knowledge and intellectual capital as the main driving forces in all fields of activity. Knowledge as an economic resource is unique in that it is not an exhaustible resource like natural and financial resources. In a constantly changing environment, knowledge and continuous search for new knowledge is one of the prerequisites of gaining competitive advantage, a means of product development and the main source of innovation. Its main assumption is that intangible resources are the strategic asset that plays the central role for organizational performance. The aim of this paper is to analyse and identify how intellectual capital and knowledge management influences organizational activity results. For this objective, paper analyses academic literature, presents the concept of constructs, structure, studies various evaluation methods, assesses their interrelationship and approaches aspects that shows organizational activity results. Intellectual capital and knowledge management influence for organizational activity results evaluation model has been created and was applied in Lithuanian-based information technology companies. Research indicates that both intellectual capital and knowledge management significantly influence organizational activity results.

Keywords: intellectual capital, knowledge management, operational performance, financial performance

The Evidence-Based Decision-Making Framework

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Abstract: The research summarized in this presentation details a new, multi-source evidence synthesis conceptualization, the Empirical & Experiential Evidence (3E) Framework, developed expressly to capture, amalgamate, and synthesize distinct and diverse sources of potentially decision-guiding insights. Built around a general 6-step process of identify-assess-aggregate-weigh-agglomerate-incorporate, the 3E Framework posits a 3-tier evidence classificatory schema which categorizes all available decision inputs into two broad meta-

categories, four more narrowly scoped categories, and twelve even more operationally meaningful sub-categories. The first of the two meta-categories – empirical – is comprised of two categories, operational data, and theoretical research, which in turn are further subdivided into six more narrowly defined sub-categories: transactional details, communication details, descriptive attributes (all subsets of the operational data category), and observational studies, experimental studies, research summaries (which are subsets of the theoretical research category). The second of the two meta-categories – experiential – is broken down into aggregate experience and expert judgment categories, which in turn are further sub-divided into six sub-categories: descriptive norms, prescriptive norms, best practices (aggregate experience category), and tasks, processes, projections (expert judgment category). Lastly, the framework also puts forth specific evidentiary insight extraction methodologies that reflect the informational uniqueness of the two meta-categories and four categories.

The art of Knowledge Exchange for the Global Environment

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Abstract: The Global Environment Facility (GEF) Is a $4 billion multilateral fund which supports developing country projects designed to help safeguard the global environment. GEF investments range from climate change mitigation and renewable energy to sustainable forestry and biodiversity conservation across the world. In response to demand from recipient countries for capacity building and in-country training on knowledge exchange and learning around global environmental issues, the GEF Knowledge Management Team, in collaboration with the World Bank (WBG), developed "The Art of Knowledge Exchange: A Results-Focused Planning Guide for the GEF Partnership," which serves as both a guide and a toolkit to enhance knowledge exchange at national, regional, and global levels. It builds on an earlier initiative by the WBG and has been carefully customized and adapted to the GEF context. The guide is a product of collaboration, involving staff from organizations within the GEF partnership, and is available in 4 languages. It highlights case studies and examples of successful knowledge exchange embedded in GEF projects across the world, as well as lessons learned from implementing these initiatives for enhanced impact. Good practice and case study contributions were made by several GEF agencies,

including WBG, FAO, IFAD, IDB, UNIDO, UNDP and the GEF Small Grants Programme. The guide provides tools and techniques to help knowledge brokers play an effective role in facilitating knowledge exchange and learning when designing and implementing a GEF project or program. It reflects experiences of various GEF partners, knowledge and learning professionals, government officials, and other practitioners who have successfully integrated knowledge exchange into larger change processes. It also features the innovative augmented reality mobile app Blippar, enabling GEF stakeholders to access the guide and related videos, photos, etc. online using smart phones. The guide was embedded in the GEF's regional Expanded Constituency Workshops (ECW) for dissemination and training among country level stakeholders. It was launched to an audience from 10 countries in Southern Africa in Swaziland in February 2017 and then scaled-up globally with Art of Knowledge Exchange Training Sessions delivered at 13 regional ECWs, reaching about 1200 GEF stakeholders globally by November 2017.http://www.thegef.org/publications/art-knowledge-exchange-results-focused-planning-guide-gef-partnership

Keywords: Global, environment, knowledge exchange, knowledge sharing, learning, partnership, lessons, best practice, case studies, developing countries

Public Sector, NGOs and Knowledge Management. Why not? Aligning Corrects Incentives in Knowledge Management's Implementation

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Abstract: Understanding that Knowledge Management is crucial for any organization, we could say that NGO´s will be able to derive similar benefits of knowledge management practices as for-profit companies. But, as any organization, knowledge management will be useful if we understand why they will share their knowledge both inside and outside the organization. For several years we have worked in NGO's in Argentina and we realized that there were many NGOs that repeated focus, target and needs, but could not connect with each other. Why? We came to the conclusion that because nobody had proposed it or at least, nobody did it from a Knowledge Manager vision. For this reason, we create a public policy to connect NGO between them, sharing best practices, chats room, maps; a knowledge management implementation project created by Buenos Aires Province´s Government.

Keywords: knowledge, NGO, public sector, implementation

National Citizenship as an Enhancer of Social and Cultural Capital in Organizational Contexts

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Abstract: This research explores national citizenship status as an augmenter of the social and cultural capital that ultimately contributes to enhanced intellectual capital within organizations. This topic must be added to the academic research agenda given the increase in professional migration alongside the focus on intellectual capital that has emerged from the imperative to enhance organizational innovation. The context of our study is the United Arab Emirates, an Arabian Gulf country with a workforce in which migrants far outweigh the number of locals. However, our findings are generalizable to other geopolitical regions with high numbers of migrants in their workforces. We employed GT methodology to gather initial data with the objective of revealing potentially appropriate theory for further research into the role of citizenship as it correlates with organizational innovation. The dominant themes that emerged were that citizen leaders displayed higher levels of willingness to deviate from organizational schemata, a preference for focus on the big picture, low monitoring of subordinates, and more innovative responses to new situations vis-à-vis their expatriate counterparts. We propose that these findings reflect citizen leaders' possession of higher levels of social and cultural capital given their familiarity with the local culture and their greater rights as citizens. This implies that national citizenship status acts as a significant variable in how much leaders are willing to deviate from existing organizational schemata and hence contribute to organizational development thereby enriching the intellectual capital potential of an organization. We suggest frameworks for further study, including Bourdieu's (1998) concept of capitals, Battilana's (2011) work on social position and willingness to deviate from organizational schemata, and Lockett et al.'s (2014) research on the relationship between organizational privilege and disruption of existing organizational practice.

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Management: Improvement of Knowledge Management via use of the LSOM Concept

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Abstract: Knowledge identifies living systems, and use of knowledge confirms consciousness of knowledge among the living systems. Humans exemplify use of knowledge in group, organization and governance dynamics. The initial sign of knowledge management (KM) skill manifests when a leader emerges out of a group and communicates a unifying leadership vision. KM skills are displayed during community building, organizational management and leadership elections. Current global systems use KM effectively in disruptive innovation for changes within and across systems such as distant learning and change design. Distant learning systems equally transform formative knowledge in learners into productive KM for the common good of societies. This practice has been ongoing since the emergence of technology. However, problems exist globally in leadership and management: the inability to provide a stable leadership and management in organized system persists. The inability is attributed to partial awareness of KM dimensions held in human consciousness. Leaders limit understanding and action during KM to two dimensions: "agree or disagree". Exemplary, managers design laws, rules, and behavioral control guidelines for members of the organization based on reward for compliance (agree), and discipline for noncompliance (disagree) with directives. Other dimensions of human decision-making and consumption are not integrated. This paper presents the four dimensions of KM extracted from a study involving managers in a bureaucratic agency in the USA. The study surveyed managers and leaders perception regarding policy changes in governance. Outcomes of study posited that managers and leaders make and understand decision-making within four dimensions described as the leadership style orientation model (LSOM). Applications of LSOM concept in adult learning in the higher education, and resolution of conflicts in public hearings recorded improvement in learning and communication. Leaders, managers, teachers, students, employees and employers are encouraged to attend this conference and gain from the LSOM concept for integration into personal knowledge management goals for improvement in system operatives. KM should be an asset in communication enhancement at all levels in leadership and management dynamics.

Collaborative Knowledge Management as the aim of Virtual Learning Communities

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Abstract: The human resources management in social and health care has recently had a strong emphasis on knowledge management. Additionally, the rapid development of digitalisation offers new possibilities for leadership work. New information can be constructed, shared and exploited in, for example, virtual learning communities. The challenge of these communities lies in the activity of each participant. Participation can, however, be strengthened by collaborative leadership. In that case, the aim is that each participant takes equal responsibility for the fluent progress of the collaboration, for knowledge management and for achieving the set objectives. Collaborative leadership emphasises mutual trust between the participants and the utilisation of the various skills of each community member. It is important to learn and practise these new types of management skills, utilisation of digital tools, and collaboration already during one's studies. This qualitative case study examines a group of Finnish Master's Degree students of social and health care who are focusing on leadership studies. The students conduct development tasks in virtual learning communities in the REAL environment. The study seeks answers to the following questions: How is collaborative knowledge management implemented in the development task? How do the students make use of the virtual learning environment? What type of working methods can be seen in the learning community? Which factors either facilitate or hinder the students' goal-oriented work and learning? The study was initiated at the beginning of this year and the first results will be obtained during spring 2018. The material for this study includes the interaction among the students and the students' answers to the learning tasks in the REAL environment as well as the final reflections of the learning communities.

Narb-Based Analysis of Tweets Related To United Airlines Controversy: Creating New Relational Capital

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Abstract: The use of narrative bits – narbs – has been discussed as an alternative means of looking at opinions of those who are producing narbs, for instance, in the form of tweets. The American carrier, United Airlines, came under media attention in April 2016 when a passenger was forcibly removed from a flight. This resulted in a spike in tweets around the #unitedairlines and the narrative that emerged from a selection of the tweets demonstrate that there were negative opinions not only about the airlines, but also about the aviation industry and passengers. This analysis demonstrates that it is increasingly important to supplement traditional modes of building and retaining RC when the customer can directly contribute to describing the relationship with a corporation in the voice of the customer.

Keywords: Narb, Discourse, Narrative, Analysis, Politics, United Airlines, Opinion, Relational Capital.

Knowledge Management Model for Communities Creating Health: A Systemic Perspective

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Abstract: The transformation of health is mainly driven by new technologies (precision health, personal data management, EHR, telehealth, and block chain in health), patient empowerment, changing health funding models towards value added, and also perceived inefficiencies of current health systems. An empowered and informed patient, as well as community stands at the core of health systems transformation. However, this also means not only transition of health decision making from doctors and medical personnel towards more collaborative and patient inclusive modes, but also integrating community based knowledge which stands outside of traditional medical domain. However, socio-economic circumstances have a major impact on health (above 50%), which also means that health management decisions are always rooted in the context. Thus, community involvement, and integration of various sources of knowledge in health innovation and co-creation processes becomes critically important. We aim

to present the work in progress on the CHICo Lab project (Creating Health Innovation Communities Open Lab) within Lithuanian Health Science University Hospital, which encompass the mapping of latent knowledge flows from doctors, nurses, care givers, patients and families, as well as wider communities, and design of open lab environment for the co-creation of health solutions. The research methodology is based on qualitative case studies collection, mapping of knowledge flows, and identification of preconditions for knowledge exchanges and co-creation, to be followed with open lab development methodology. In the presentation we aim to present theoretical model of professional and community knowledge integration in open health innovation model, and also its validation as based on the interviews with the stakeholders of health ecosystem actors. The qualitative research method allows us to have an in depth view on opportunities and barriers associated with the new approach to health management and innovating around health. The interviews were collected in USA (Silicon Valley, and Boston area), and in Lithuania. The preliminary findings imply the need of new and empowered trust management models, changes in medical knowledge management protocol, as well as new models for patient empowered decision making.

Keywords: connected health, communities, knowledge management, open innovation

Additional Materials

The importance of paper citations and Google Scholar

As an academic researcher you will know the importance of having access to the work of other researchers in your field as well as making your own work available to others. In the area of academic publishing this is achieved through citation indexing. There are a number of bodies that undertake this task including Thompson ISI, Elsevier Scopus and Google Scholar – to name just a few.

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ECIIC 2019

23-24 May 2019
Pescara, Italy

10th European Conference on Intangibles and Intellectual Capital

The European Conference on Intellectual Capital was established 10 years ago and has been held in countries across Europe, including Spain, Slovakia, Finland, The Netherlands, Cyprus and Italy. The conference is generally attended by participants from more than 25 countries and attracts an interesting mix of academic scholars, practitioners and individuals who are engaged in various aspects of Intellectual Capital research. This year ECIIC is being hosted by the University of Chieti-Pescara, Italy.
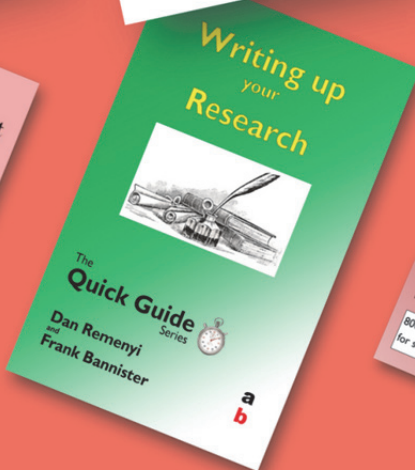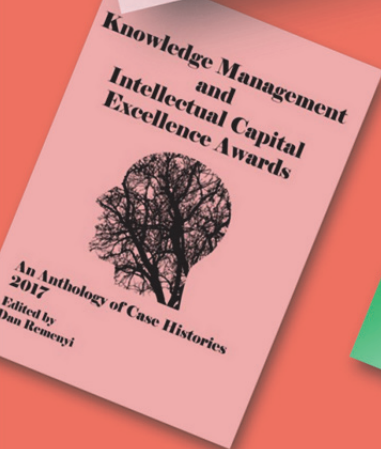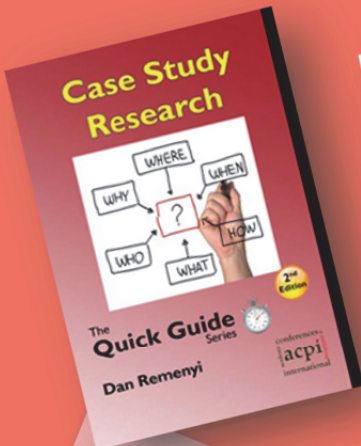
A number of journals including the Electronic Journal of Knowledge Management consider papers presented at this conference for further development and publication.

Accepting Abstracts Until the 1st November

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Research ideas can happen at any time –
catch them in writing when they first occur