Refereed Proceedings - Abstracts

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Putting the action back in KM - Engaging people to achieve organizational objectives

[Workshop]

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Abstract

Knowledge Management (KM) is an action-oriented domain built on collaboration, trust, and multidisciplinary teams. Successful KM implementations support leadership efforts to create, transfer, exchange, share and so much more. Through these actions, many organizations have successfully moved toward the near utopian knowledge environment. So if action is so important, why are so many KM workshops, lectures, and sharing sessions just another passive sage on the stage event? This workshop will focus on how to engage people to achieve organizational objectives. In collaborative environment, we will explore a number of action-oriented activities that support learning, knowledge sharing and team development. Join John for this interactive session and learn how to put the action back in KM.

Keywords: Knowledge management, trust, multidisciplinary teams building, workshop

Publishing in refereed scholarly journals: A guide for students and junior faculty

[Panel]

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Abstract

This interactive panel discussion is two-fold. First, the panelists discuss the essential elements of a good quality journal article and methods of reducing common mistakes when submitting an article to a journal. Second, the panelist will discuss the criteria for evaluating journals, including issues and emerging trends in scholarly publication on safeguarding the integrity of the academic community. Participants will be invited and encouraged to contribute to the discussion.

Keywords: Quality research, quality journals, e-journals, open access, scholarly publication

Text mining for process improvement: The case of Six Sigma. Looking at analytic structure and variabilities of our customers' message

[Keynote]

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Abstract

An organization's unstructured data — including everything from social media posts and sensor data to email, images, and Web logs — is growing at an unprecedented pace. Due to ever increasing industry competition, the need to improve enterprise processes by incorporating this vast amount of data is essential. Six Sigma, a process improvement application developed by the Motorola Corporation in the mid-80s, has helped organizations eliminate waste and correct mistakes that lead to increased value and profit for customers. Historically these Six Sigma processes have been based on structured data, meaning that it, when combined with information gained from mining unstructured data, can result in innovative products, processes, and business practices, as well as new projects, markets, and distribution channels.

Keywords: Knowledge management, Six Sigma, analytic structure, consumer value

Successes and failures of knowledge management

[Keynote]

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Abstract

Knowledge management has formally been established for about 35 years. Many organizations have embraced the principles and applications of knowledge management, while others still have not. This talk, based on my upcoming edited book, Successes and Failures of Knowledge Management (to be published by Morgan Kaufmann) will highlight some of the critical success factors for enterprise-wide knowledge management institutionalization, as well as key issues that still face the KM community in advancing the current state-of-the-art. Future trends for KM and sample case studies/vignettes will also be discussed.

Keywords: Knowledge management, successes and failures of KM, Future trends for KM

Prosumption: Utilization of consumer knowledge in enterprises

[Keynote]

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Abstract

Contemporary enterprises face the challenge of transforming their businesses to adjust to current strategic necessities including innovation and creativity, adaptation and trust by the Internet generation, lifelong learning and knowledge management. Most importantly, these challenges require a thorough understanding of available knowledge in order to adapt business processes and practices designed to lend support to innovative projects, new markets and effective distribution channels. Simultaneously, contemporary consumers no longer perceive themselves as passive, but desire to fulfill their needs through self-design, self-configuration, self-production, and self-distribution of products. Their new role as both consumers and producers, i.e., prosumers, encourages enterprises to find innovative ways to leverage the consumers' knowledge, ultimately resulting in better products and services for the marketplace.

Keywords: Prosumer, prosumption, enterprise, knowledge sharing, incentives, willingness to share knowledge

Unlocking the true value of knowledge management: Identifying and assessing the knowledge assets of an organization

[Keynote]

Paul J. Corney, Knowledge et al., paul.corney@knowledgeetal.com

Abstract

The practice of collecting, documenting and storing an organization's information and data is important for effective information and records management yet it overlooks the value contained in its Knowledge Assets (mission critical knowledge that sets apart an organization from its peers) see: https://hbr.org/2015/01/managing-your-mission-critical-knowledge.

This keynote will look at Knowledge Assets: what they are; how they are managed; and how they can be assessed. Informed by assignments conducted in Asia, Caribbean, Europe and The Middle East, Paul will also highlight what he sees as the emerging drivers for organizational KM and the future management of Knowledge Assets: Innovation; Quality, Risk; and Standards ('4 legs of the KM Stool').

Keywords: Knowledge management, knowledge assets, identifying and assessing knowledge assets

Models of regional business spatial community management

[Complete Research]

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Abstract

Online communities are no longer the domain of people. Due to changes in economy, the free flow of capital and people, and the processes of globalization, more and more often enterprises appear in communities. This applies in particular to the organizations based on the resources of information and knowledge. Relations of this type are called business communities. A specific form of this type of relation is projects undertaken within geographical areas: cities, states, and provinces. Due to the bonding agent - the geographical area - they are based on spatial information GIS systems. Projects arising this way can be called Regional Business Spatial Community (RBSC). In RBSC it is possible to perceive the features of network organizations and virtual organizations (VO). Network organization features are the result of geographical dispersion, established relations, common goals, and mutual synergic replenishment. VO features are a result of the role of information resources, temporariness, fuzziness, and the ability to reconfigure. Due to the characteristics of network organization and VO, RBSC management becomes a problem. The question is who has to make decisions and on what conditions in such projects. Possible scenarios are: democratic governance, the establishment of common unit coordinating and managing, ad-hoc flexible management, or the appointment of the subject responsible for the management.

Keywords: Business community, regional management, regional business spatial community

Knowledge management in Brazilian, Portuguese, and Polish organizations: A comparative analysis

[Complete Research]

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Abstract

The knowledge emerges as a strategic factor that enables organizations to create wealth through the transformation of tacit knowledge into explicit knowledge. Knowledge Management (KM) activities are recognized as a critical issue for the development of innovation in the companies. However, KM is now a major challenge because, with the growth of available information, this task becomes increasingly complex. In addition, KM involves the management of organizational culture, based on principles of organizational learning. This paper presents the results of an exploratory study conducted among the decision makers of Portuguese, Brazilian and Polish companies and aims to determine the perception they have of the future needs of knowledge and information. We intended to identify future areas of research that can address the needs of knowledge that create conditions for a more sustainable business. Furthermore, this paper also aims to identify factors, which could help to improve knowledge management practices in the three countries. The findings demonstrate that Portuguese and Polish managers are aware of the importance of KM as a determinant factor of business success, but KM is not frequently used in strategic decision making. Unlikely, the process of KM is a more common practice in Brazilian companies.

Keywords: Knowledge management, KM practices, Portugal, Brazil, Poland

An empirical study of authentication methods to secure e-learning system activities against impersonation fraud

[Complete Research]

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Abstract

The demand for e-learning systems in both academic and non-academic organizations has increased the need to improve security against impersonation fraud. Although there are a number of studies focused on securing Web-based systems from Information Systems (IS) misuse, research has recognized the importance of identifying suitable levels of authenticating strength for various activities. In e-learning systems, it is evident that due to the variation in authentication strength among controls, a 'one size fits all' solution is not suitable for securing diverse e-learning activities against impersonation fraud. The focus of this exploratory study was to investigate what levels of authentication strength users perceive to be most suitable for activities in e-learning systems against impersonation fraud and aimed to assess if the 'one size fits all' approach that is mainly used is valid when it comes to securing e-learning activities from impersonation fraud. A sample of 1,070 e-learners was analyzed using descriptive statistics and exploratory factor analysis to uncover suitable levels of authentication strength to secure e-learning activities against impersonation fraud. The findings determined that there is a specific set of e-learning activities that have high potential for impersonation and need a moderate to high level of authentication strength to reduce the threat.

Keywords: Authentication in e-learning systems, e-learning impersonation fraud, risk mitigation in e-learning, authentication in e-learning activities, suitable authentication strength in e-learning activities

A study on the success of group formation and cohesiveness in virtual teams using computer- mediated communications

[Complete Research]

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Abstract

While the Internet is a major business tool nowadays, individuals are still challenged to form teams and collaboration virtually. To evaluate the success of team formation in a virtual setting, this research study assessed the role of different computer-mediated communications (CMC) employed on the success of team formation measured by task performance (TP), team cohesiveness (TC), computer skills (CS) and social bond (SB), while assessing the differences on such relationships when controlled for gender, age, education level, academic major, as well as academic year. This research used analysis of variance (ANOVA) and analysis of covariance (ANCOVA) to address the hypotheses proposed. Using three teams and 140 participants, the results indicated that there is a significance difference in the role of CMC levels employed on the level of perception of CS in team formation. Also, there is a significance difference in the role of CMC levels employed on the levels of TP, when controlled for gender. In addition, there is a significance difference in the role of CMC levels employed (No-CMS/F2F, OLS, & OLS+SNS) on the levels of CS, when controlled for education, academic major and academic year. The results of this study contribute to the body of knowledge by helping organizations identify ways to support effective team formations.

Keywords: Team formation, computer-mediated communications in teams, social networking sites in teams, virtual teams, team cohesion, task performance

Culturomics: Reflections on the potential of big data discourse analysis methods for identifying research trends

[Complete Research]

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Abstract

This study examines the potential of big data discourse analysis (i.e., culturomics) to produce valuable knowledge, and suggests a mixed methods model for improving the effectiveness of culturomics. We argue that the importance and magnitude of using qualitative methods as complementing quantitative ones, depends on the scope of the analyzed data (i.e., the volume of data and the period it spans over). We demonstrate the merit of a mixed methods approach for culturomics analyses in the context of identifying research trends, by analyzing changes over a period of 15 years (2000-2014) in the terms used in the research literature related to learning technologies. The dataset was based on Google Scholar search query results. Three perspectives of analysis are presented: (1) Curves describing five main types of relative frequency trends (i.e., rising; stable; fall; rise and fall; rise and stable); (2) The top key-terms identified for each year; (3) A comparison of data from three datasets, which demonstrates the scope dimension of the mixed methods model for big data discourse analysis. This paper contributes to both theory and practice by providing a methodological approach that enables gaining insightful patterns and trends out of culturomics, by integrating quantitative and qualitative research methods.

Keywords: Culturomics, quantitative methods, discourse analysis, big data, textual analytics, learning technologies, mixed methods model for big data discourse analysis

Empirical results of an experimental study on the role of password strength and cognitive load on employee productivity

[Complete Research]

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Abstract

The demand for information system authentication has significantly increased over the last decade. Research has shown that the majority of user authentications remain to be password-based, however, it is well documented that passwords have significant limitations. To address this issue, companies have been placing increased requirements on the user to ensure their passwords are more complex and consequently stronger with little consideration on the impact on employee productivity. Thus, this study was set to determine the effects of changing the password strength (cognitive load) over time and its impact on employee productivity. An experiment with two experimental groups and one control group was conducted. Data was collected on the number of failed operating system logon attempts, users' logon times, task completion times, and number of reset requests. The data collected from 72 participants was analyzed for group differences and when controlling for computer experience, age, and gender. Our results showed significant differences on all measures between the three groups. However, no significant differences were observed when controlling for computer experience, age, and gender. Furthermore, the results indicated a significant difference between the user's perceptions about passwords before and after the experiment. Our results may help organizations to realize the point at which increasing authentication places a higher cognitive load on the users, which in turn affects their productivity.

Keywords: Access control in organization, passwords vs. organizational productivity, password strength, authentication in organization, password complexity paradox, cognitive load theory

Text messaging's impact on an evidence based medicine tobacco cessation program

[Complete Research]

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Abstract

The leading preventable cause of death in the United States continues to be tobacco use, which is a major global health issue responsible for six million deaths each year with projections by 2030 to exceed eight million. Approximately 90% of adults own a mobile phone, and over 80% receive and/or send text messages on a regular basis. Healthcare's acceptance and increased utilization of information technology including mobile phone platforms have expanded research opportunities in the field to not only gather data, but to create it. This randomized trial analyzes the impact of adding motivational interviewing (MI) focused text messages to an evidence based medicine (EBM) tobacco cessation program. Subjects were randomized in the context of a controlled setting into three groups: active; passive; and control. Data was analyzed from the perspective of intent-to-treat. Findings from this randomized trial indicate that MI focused text messages may in combination with an EBM tobacco cessation program positively impact tobacco quit rates.

Keywords: Texting, tobacco, addiction, cessation

The learning officer decision matrix – a structural equation modeling approach for the management of asynchronous e-Learning projects

[Complete Research]

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Abstract

Effectiveness is one of the major concerns in corporate e-Learning and is critical when projects face financial and time-to-market constraints. Organizations and corporate universities seek methodologies and tools to help them manage more efficiently diverse e-Learning Projects. This paper describes the outcome of a case study on the assessment of the effectiveness of an e-Learning project (n =1317), from sixteen different corporations in the context of insurance and banking industry in Portugal. Results will be presented on the application of the methodology proposed by Levy for the assessment of the effectiveness of e-Learning systems. Based on the output of this assessment, this paper will present a new tool, the Learning Officer Decision Matrix, which will contribute to a more efficient management of corporate e-Learning projects.

Keywords: e-Learning, effectiveness, quality, asynchronous, Partial Least Squares

Student-identified requirements for persistence in a limited-residency information systems PhD program

[Complete Research]

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Abstract

The attrition rate for students in traditional doctoral programs hovers around 50%, while students in limited-residency and online programs tend to leave programs at rates 10% to 20% higher. The goal of this study was to better understand this phenomenon from the perspective of graduates of a limited-residency information systems doctoral program. Analysis from interviews with this population yielded a set of best practices, focused primarily on assisting students as they prepared for their dissertation. The development and application of policies, procedures and tools based on results of this research may help administrators, faculty and students address factors that may lead to attrition.

Keywords: Persistence, graduate school, limited residency, doctoral

Identifying more about customers: the phenomenon of the switch to the knowledge exchange

[Complete Research]

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Abstract

The purpose of this study is to explore how the customer knowledge management systems support business follow-up of customer reviews and discussion using social media, and propose a customer stratification framework. The survey methodology was used to collect the data utilized in answering the research questions and based on the analysis and logical deduction, a conceptual customer stratification framework was proposed. This framework explains the stages required by a business to observe customers social media discussions starting with validation where business should aim to better understand how customers map themselves onto other customer experiences. Secondly, the reinforcement stage is where business should explore how the customer is better informed to make choices from the customer's discussions. Finally, through the contradiction stage the business should recognise the value placed to explore where they are weak and have a means to correct these areas.

Keywords: Customer knowledge, social media, customer knowledge management, knowledge about customer, knowledge from customers

Mapping the future of KM through Earl's KM taxonomy lens

[Complete Research]

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Abstract

This paper chronicles exploratory research about the use of content analysis to guide the future knowledge management research agenda. The responses of 35 international knowledge management experts answering a question about the future of knowledge management were considered. The interviews, which were created as part of a different project, are freely available online. This secondary data was analyzed using a series of content analysis techniques to determine which elements of Michael Earl's knowledge management taxonomy were most prevalent. A dictionary of terms reflecting Earl's taxonomy was created. The top three schools that emerged were the engineering, cartographic and systems schools, all of which belong to the high-order category technocratic. A series of qualitative comments are included to expand on the quantitation results and with a view to stimulating future research.

Keywords: Knowledge management, future, taxonomy, Michael Earl, dictionary

Using data analytics to further understand the role that boredom, loneliness, social anxiety, social gratification, and social relationships (BRAG) play in a driver's decision to text

[Complete Research]

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Abstract

Texting while driving is a growing problem that current efforts have failed to curtail. This behavior has serious, and sometimes fatal, consequences, and the factors that cause a driver to text are not well understood. This study investigates the influence that boredom, social relationships, social anxiety, and social gratification (BRAG) have upon the texting driver. A survey instrument was used to collect data from 297 respondents at a mid-sized regional university in the Pacific North west of the United States. The data was evaluated with PLS-SEM, which indicated that social gratification plays a very significant role in a driver's decision to text. Additionally, data visualization techniques were used to gain additional knowledge from the data. The analysis with these techniques indicated that social anxiety may also play a role in a driver's decision to text.

Keywords: Texting while driving, data visualization, social gratification, social relationships, boredom, social anxiety

The importance of active learning elements in the design of online courses

[Complete Research]

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Abstract

The purpose of this study was to investigate learners' perceived views about the importance of including active learning elements in the design of online courses giving attention to three selected variables: age, gender, and college status. The subjects participated in the study were undergraduate and graduate students taking online courses at a medium-sized University in the Midwest, USA. Analysis of variance (ANOVA) was used to analyze the collected data. Significant mean differences were reported for all three selected variables. Conclusion, implications, and recommendations for future research are made.

Keywords: Active learning elements, online courses, e-learning, knowledge construction

The information system mirror approach and knowledge management maturity assessment

[Complete Research]

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Abstract

Nowadays, many organizations face the issues of information and communication technology (ICT) management and also issues related to knowledge management (KM). The organization undertakes various activities to assess the state of their ICT and KM. KM is vital for organizational progress and growth. KM is often perceived as an instrument leading to innovation. This paper summarizes the research regarding information systems (IS) maturity assessment and also KM maturity assessment within different organizations where the authors have delivered either complete IS due diligence or made partial analysis – IS Mirror. The main objective of this research is to present and confirm the approach, which could be used for IS maturity assessment and could be provided quickly and remotely. The paper presents results from several case studies and confirms the proposed hypothesis.

Keywords: Information system maturity, IS maturity assessment, knowledge management, knowledge management maturity, KM maturity assessment

The influence of negative consumer reviews in social networks

[Complete Research]

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Abstract

The social networking revolution allows people to share their opinions with their surrounding society, enabling the ability to influence others. Large amounts of consumer reviews are posted on social networks, expressing experiences, either positive or negative, regarding products/services. These reviews are instantly distributed within a huge network of consumers, challenging the firms' managers who need to cope with that. This research study examines the phenomenon of consumers' reviews posted on social networks to measure the influence of negative reviews on the reader's buying decisions and on the firms' attitudes. This research study examines if there are differences between active users, who post and share reviews, and passive users who only read what others posted. This research study was performed merging three sources of information: (1) monitoring consumer posts on three Facebook pages during six months; (2) performing a relevant questionnaire among 201 respondents, and (3) checking the related firms' reaction to those posts. The findings revealed that potential consumers base their decisions on posted reviews; they are exposed to negative reviews that affect their purchase decisions, incoherently to the manner they use the social network (active or passive users), while the firms mostly react, in order to diminish their influence.

Keywords: Social network, consumers' reviews, negative posts, negative consumer reviews, eWOM, electronic word of mouth

Efficiency assessment of public higher education with the application of data envelopment analysis: The evidence from Poland

[Complete Research]

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Abstract

Higher education is a form of a merit good. This is why governments usually support the delivery of this good. However, one could doubt the efficiency of such solution. How well do public higher education institutions (HEIs) do their job? How to measure their performance? This paper discusses these issues. First, we discuss the problem of defining and measuring efficiency in the case of publicly held HEIs with particular emphasis put on the Data Envelopment Analysis (DEA) method. Secondly, we present the results of our empirical investigation of efficiency assessed using the DEA method conducted on the sample of 33 Poland faculties specialized in social sciences. We use Charnes-Cooper-Rhodes (CCR) output oriented model with two inputs and three outputs. Next, we present some important differences in efficiency of those faculties. We also define benchmarks for inefficient HEIs and quantify the gaps to be fulfilled by them in order to become efficient. Finally, we pinpoint the directions of further research.

Keywords: Higher education institutions, efficiency, Data Envelopment Analysis (DEA), public sector

The impact of the IS on the effectiveness of the sales funnel management as a part of CRM in an automotive company

[Complete Research]

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Abstract

Sales Funnel Management (SFM) as a part of the Customer Relationship Management (CRM) is of great importance in the automotive industry when the companies want to attract new customers and retain the existing ones. Due to the complex and changing business environment customers are becoming more and more demanding and less loyal to their current brands. Existing research has shown that IT/IS play a crucial role throughout the execution of the CRM activities. However, the mere existence of an IS in a company is not enough. The ability and willingness of companies to use these IS in a sufficient manner plays a key role in the success and failure of CRM activities. Therefore, the objective of the article is to show how the role of the IS impacts on the effectiveness of the SFM through conducting a case study analysis in a leading German automotive company. The results show that IS has an important impact on improvements in execution of all phases of SFM and importantly contributes to primary goals and measures of effectiveness of the SFM in the automotive company, which are the increased number of vehicles sold and the lowest possible cost per vehicle sold, as well as higher level of customer satisfaction.

Keywords: CRM, sales funnel management, IT/IS, Microsoft dynamics CRM

An empirical assessment of employee cyberslacking in the public sector: The social engineering threat

[Complete Research]

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Abstract

Employees spend time during work hours on non-work related activities including visiting e-commerce Websites, managing personal email accounts, and engaging in e-banking. These types of actions in the workplace are known as cyberslacking. Cyberslacking affects employees' productivity, presents legal concerns, and undermines the security of the employer's network. This research study addressed the problem of cyberslacking in the public sector, by assessing the ethical severity of cyberslacking activities, as well as how employees perceived that the frequency of such activities occurred by their co-workers. Participants from public sector agencies were asked to report about their amount of time spent and frequency of cyberslacking, what they report about their co-workers' amount of time spent and frequency of cyberslacking, as well as their perceived ethical severity of cyberslacking in the workplace. Comparisons of the measures were also conducted. Results from 183 participants indicate that employees report their co-workers to engage in cyberslacking significantly higher than what they reported about themselves, while ethical severity of cyberslacking was not considered to be high. Discussions and implications for future research are provided.

Keywords: cyberslacking, cybersecurity, social engineering threat, public sector, ethical severity, employee productivity at work, information security threat vector for public organizations

Replicative indwelling: Mitigating lost knowledge through accelerated experiential exposure

[Research-in-Progress]

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Abstract

An aging workforce presents a serious threat to the stability and continuity of an organization as that workforce takes with it into retirement years of experience, insight, and knowledge. As a result, organizations are faced with the challenge of how to mitigate the loss of intellectual capital during the process of transferring knowledge to the remaining workforce in order to maximize the chances of continued organizational success. This paper offers a practical method of application for intra-organizational professional development that seeks to mitigate lost knowledge by introducing a process referred to as Accelerated Experiential Exposure, as well as an epistemological frame from which it is presented, referred to as Replicative Indwelling.

Keywords: Knowledge management, knowledge transfer, organizational knowledge, knowledge loss mitigation

Physicians' attitudes toward the use of IoT medical devices as part of their practice

[Complete Research]

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Abstract

The increasing number of patients using medical devices that are based on Internet of Things (IoT) technology presents physicians with a variety of challenges. The purpose of this exploratory research is to provide first insights into the way physicians perceive Food and Drug Administration (FDA) approved IoT medical devices (IoT-MDs). A questionnaire was developed and improved after a pilot survey with the participation of 23 physicians. Data was collected from 126 physicians in 2014 and from another 50 in 2015, who answered the questionnaire, as well as from four physicians, who were interviewed. The combined results were analyzed, and a comparison between the two surveys was made. Results show that there is still not enough awareness and readiness for the use of IoT-MDs, and that there was no significant change in physicians' attitudes in 2015 compared to 2014. However, results show some differences between physicians who had previously been exposed to IoT technology and those who had not. The authors believe that IoT- MDs generate data that is too raw for practical use, thereby limiting potential effectiveness. Applications that extract and highlight measured irregularities and that provide high-level, integrated information will increase physicians' openness to IoT-MDs, and will enable medical practice to be more efficient.

Keywords: Internet of things, healthcare, patient-doctor relationship, m-health, impact of medical knowledge, telehealth, exposure to technology

Analysis of usage of geographic information systems for the participants of tourist travels

[Complete Research]

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Abstract

The main objective of this article is to analyse the usage of geographic information systems (GIS) with regard to tourism. The study has been limited to a selected group of individual users. This article presents the characteristics of the systems' users and their opinions regarding the possibilities and the extent of the use of GIS during individual trips, package tours and tourist travels. We presented the discussion on the obtained results and they have drawn conclusions from the current research.

Keywords: Geographic information systems, mobile devices, tourism

Identifying more about customers: the phenomenon of the switch to the knowledge exchange

[Complete Research]

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Abstract

The purpose of this study is to explore how the customer knowledge management systems support business follow-up of customer reviews and discussion using social media, and propose a customer stratification framework. The survey methodology was used to collect the data utilized in answering the research questions and based on the analysis and logical deduction, a conceptual customer stratification framework was proposed. This framework explains the stages required by a business to observe customers social media discussions starting with validation where business should aim to better understand how customers map themselves onto other customer experiences. Secondly, the reinforcement stage is where business should explore how the customer is better informed to make choices from the customer's discussions. Finally, through the contradiction stage the business should recognise the value placed to explore where they are weak and have a means to correct these areas.

Keywords: Customer knowledge, social media, customer knowledge management, knowledge about customer, knowledge from customers

Exploring the motivation behind cybersecurity insider threat and proposed research agenda

[Research-in-Progress]

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Abstract

Cyber exploitation and malicious activities have become more sophisticated. Insider threat is one of the most significant cybersecurity threat vector, while posing a great concern to corporations and governments. An overview of the fundamental motivating forces and motivation theory are discussed. Such overview is provided to identify motivations that lead trusted employees to become insider threats in the context of cybersecurity. A research agenda with two sequential experimental research studies are outlined to address the challenge of insider threat mitigation by a prototype development. The first proposed study will classify data intake feeds, as recognized and weighted by cybersecurity experts, in an effort to establish predictive analytics of novel correlations of activities that may lead to cybersecurity incidents. It will also develop approach to identify how user activities can be compared against an established baseline, the user's network cybersecurity pulse, with visualization of simulated users' activities. Additionally, the second study will explain the process of assessing the usability of a developed visualization prototype that intends to present correlated suspicious activities requiring immediate action. Successfully developing the proposed prototype via feeds aggregation and an advanced visualization from the proposed research could assist in the mitigation of malicious insider threat.

Keywords: Insider threat, malicious insider detection, cybersecurity, motivation, cybersecurity simulation, data visualization in cybersecurity, proposed experimental research in cybersecurity

Knowledge creation, turbulence, and manufacturing flexibility roles in business performance and operations performance

[Research-in-Progress]

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Abstract

This study examines the impact of knowledge creation, technological turbulence, and manufacturing flexibility on business performance and operations performance (time, cost, & quality) in manufacturing firms. The contribution is to establish manufacturing flexibility as a mediator of the relationships of knowledge creation and technological turbulence with business and operations performance. Using a sample of 370 manufacturing firms, the study finds that knowledge creation positively affects business performance and operations performance directly and indirectly through manufacturing flexibility. Furthermore, the relationships between technological turbulence along with business and operations performance are mediated by manufacturing flexibility. The study also reveals that the relationship between manufacturing flexibility and operations performance is contingent on the level of market turbulence. The effect of manufacturing flexibility on operations performance is stronger under high market turbulence than under low market turbulence. Results suggest that: (a) firms can reinforce manufacturing flexibility in order to perform better under higher market turbulence conditions; and (b) firms can improve manufacturing flexibility by fostering knowledge creation and using technological turbulence as an incentive.

Keywords: Knowledge creation, manufacturing flexibility, business performance, operations performance, technological turbulence, market turbulence

From project traceability to knowledge discovery: Case study on software design project

[Complete Research]

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Abstract

Knowledge management can empower a company to reuse knowledge gained from past experiences. There are already several approaches based on knowledge engineering methodologies that enable us to keep track of project knowledge, however, cooperative knowledge remains still a challenge for knowledge discovery due to its particular features: cooperative knowledge is produced from cooperative activities, which involves multiple individuals, no single actor can claim to explain globally the cooperative activity with no personal bias. One way to extract cooperative knowledge is through faceted classification of project trace. In this paper, one elaborated use case on software design will be demonstrated to show the cycle of cooperative knowledge discovery.

Keywords: Knowledge management, knowledge discovery, classification, project traceability, cooperative work, engineering design

Evaluation of the business information search using semantic network as a visual interface

[Research-in-Progress]

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Abstract

Economic and financial indicators provide much information concerning the functioning of an enterprise. Their usefulness depends also on decision-makers' comprehension of structural and semantic connections existing between indicators. A semantic network based on the ontology of economic and financial indicators can allow its users to more swiftly notice and understand various relations. A visualization of semantic network can serve as an interactive visual interface that allows decision-makers to search for information. The aim of this study is to validate the usability of the business information search using semantic network. We used a questionnaire of user interface satisfaction and a usability test for evaluating the efficacy of user interfaces. This study was executed according to our proposed research method, described herein. The evaluation of two visualization prototypes was carried out with participation of volunteers. In this paper we analyze the results of this experiment.

Keywords: user interface, visual interface, semantic network, usability, visualization, ontology of business knowledge

Knowledge and innovation roles in business partnerships: The case of the Portuguese insurance sector

[Complete Research]

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Abstract

This paper explores the collaborative system of the Portuguese insurance sector, including the network space where different types of entities are inter-connected in order to offer high-valued services. We focused on a Knowledge and Innovation Management approach in order to measure the degree of collaborative maturity in insurance business partnerships and their ability to create value. Considering the data collected, our analysis identified low levels of maturity in knowledge management (KM) processes, insufficient open innovation, a lack of external network connections and obstacles associated with intersystem network control. Evidences of a strategic gap were also collected. Current relationships are forged under "the strength of weak ties", not suitable to nurture trust and socialization, which are critical to knowledge creation. Therefore, there are opportunities to stretch the complementary knowledge of business partners in order to create value. This exploratory study suggests that a Knowledge and Innovation view could enhance service differentiation but demands a proper engagement approach where social ties are paramount to success. Managers should be aware of this challenging transformation path in order to achieve strategic advantage through business networks.

Keywords: Business networks, collaborative partnerships, knowledge management, innovation, trust, service management, insurance management

Use of process performance indicators as part of knowledge management in organizations

[Research-in-Progress]

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Abstract

The elaboration refers to the new approach of KPI tailored to the process approach to organizations management. Proposed Processes Performance Indicators are based on the life cycle of processes and involve the use of Information and Communication Tools in all its phases, from modeling to implementation and execution, and ending with their improvement. Within the phases mentioned analytical and control trend, will facilitate the ongoing control of process instances executed, and their operations, will also be implemented. It can be completed by visualization of processes and their instances using spatial tools. PPI is an important component of knowledge management in the organization. It requires intellectual contribution necessary to develop a complete business process models covering a coherent description of the algorithm of the process, the actors, the documentation, necessary resources and PPI. Full implementation of the process approach in organizations requires changing principles of thinking about the subject. It also requires a change in the perception of the principles of the organization. The effectiveness of the performance should be measured primarily according to the processes. The effectiveness of the organization is in this sense seen as a resultant of ongoing instances of processes.

Keywords: Processes performance indicators, key performance indicators, process management, life cycle of processes, information systems, geographic information system technology

Scientific and ethical implications of neuromorphic technology

[Research-in-Progress]

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Abstract

Neuromorphic technology is a significant advancement in medical technology, which paves the way for sweeping changes to the treatment certain disabilities, e.g. blindness or loss of limb. In addition to treating certain medical conditions, this same technology will most assuredly advance the robotics industry light years into the future. The terms 'neuro' and 'morph' that are defined as brain or nervous system, that changes from one thing into another by small and interconnected steps, respectively. Such definition appears to describe well the change from organic gray matter, into the silicon based microprocessors used to emulate the brain functions. As with any significant technological advancement, there are frequently as many issues as there are benefits, and neuromorphic technology is no different. There are concerns surrounding the inability of the developers to control artificial agents, which will continue to advance beyond the abilities of their human benefactors. There is also an ongoing ethical discussion within the international community surrounding the potential use of this technology and other technologies with similar cognitive abilities. Significant time and effort has been expended since 2002 to organize the international community, classify, and assemble the body of knowledge relating to machine ethics.

Keywords: emerging technology, neuromorphic, ethical, artificial agents, microprocessors, technology, robots, performance enhancements, prosthetics

Knowledge management in a higher education institution – Case of Oulu UAS

[Research-in-Progress]

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Extended Abstract

The aim of the research was to increase the vision of strategic knowledge management in higher education institutions. The problem for the research was to clarify the importance of knowledge management in higher education institutions. The research questions were:

-      How is the importance of knowledge management perceived in the organization?

-      How can knowledge management be developed in the organization?

    The research is a qualitative case study of knowledge management at Oulu University of Applied Sciences. Twenty-five theme interviews were conducted in the study. The results of this study will serve as a basis for the development of the organization's knowledge management. Knowledge management is a competitiveness factor in service business organizations. This research will disseminate information about the importance of knowledge management in developing professional service organizations and service business, while improving competitiveness. Finding out the core competencies will improve an organization's competitiveness. Defining the core competencies and developing knowledge management may create value for customers.

This study shows the strategic role of knowledge management, the significance of knowledge transfer and sharing in a higher education organization. Also, the impact of knowledge management on organizational performance can be seen. The fact that only one organization was studied can be considered as a limitation of this study.

The results of this research show that the strategy base of knowledge management was strong. Knowledge management has to be based on the strategy and vision of the organization. The core competencies of the organization have to be determined on the basis of these strengths. In a changing environment, strategic knowledge management is especially important.

Human networks are important in knowledge sharing. When the staff of the polytechnic have relationships to working life, know-how can be shared on both sides. The research and development serves working life but, at the same time, know-how is also acquired for the organization. In addition, inside the organization the significance of cooperation is emphasized. The organizational culture has to support open discussion and cooperation. The support and example of the management towards knowledge management are important.

Keywords: Knowledge management, strategic knowledge management, knowledge sharing, higher education institutions, polytechnics

Kirkpatrick's framework to determine the effectiveness of transfusion medicine courses

[Research-in-Progress]

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Extended Abstract

Evaluation of the impact and the effectiveness of Transfusion Medicine Courses (TMC) is necessary so that the strengths and weaknesses can be identified, to make improvements. To measure the effectiveness of TMC, Kirkpatrick's Model is used on four levels:

1. Reaction – the satisfaction of participants with the TMC is evaluated by a questionnaire,
2. Learning – the realization of learning objectives and the knowledge of the participants measured with exams,
3. Behaviour – feedback reports of results of the TMC show the changes in clinical practice,
4. Results – transfer of learned knowledge into the clinical application can be extracted from haemovigilance system (HV) (HV is systematic monitoring, identification, reporting, investigation & analysis of adverse events, near-misses & reactions related to transfusion & manufacturing).

HV in Slovenia began in 2002. TMC for physicians takes place in a parallel timeline with HV. Between 2002 and 2015 there were 1138 physicians that attended the TMC.

Statistical analysis of the results shows that participants were satisfied with TMC, with lectures achieved the average grade of 4.0, training scored the average of 4.2, and the applicability of acquired knowledge scored 3.8, all out of 5.0 scale. The most common suggestion for improvement of TMC was more integration between theoretical knowledge and clinical practice. Exams results show 77% to 91% realization of learning objectives and improved knowledge of the participants. Acquired knowledge and transfusion guidelines implementation in Slovenian hospitals had a profound effect on the changes in clinical behaviour regarding transfusion. HV reports show improvements at reporting adverse reactions from 2002 (n_1=106) to 2008 (n_2=204). Then the number of adverse events and errors begin to reduce. In 2015, there were 118 adverse events. In conclusion, the TMC is an important factor at improving reporting of adverse reactions, reduce the number of adverse events and errors and, therefore, contributes to the safety of the transfusion treatments. The study justifies the need of the ongoing education programs monitoring. Kirkpatrick's evaluation framework provides an excellent framework to research not only the opinions of the participants but also the effectiveness in clinical environment.

Keywords: evaluation, Kirkpatrick, transfusion medicine, courses

Reference:

Kirkpatrick, D. L. (1994). *Evaluating training programs: The four levels*. San Francisco, CA: Berrett-Koehler Publishers.

The functionality of IT systems monitoring patients with diagnosed metabolic disorders in Poland

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Extended Abstract

The paper seeks to understand what users regards as the utilization of telemedicine cloud-based knowledge management systems in Poland. The paper will first organize literature into current models and user's knowledge pools, prior to discussing its contrasts and findings. Finally, the paper will make recommendations for furthering research in the field of telecommunication medicine (particularly in the field of diabetic blood-glucose monitoring). It will also will make recommendations for assessing the need for a cultural communication program to decrease anxiety in older adults that are novices or lagers to utilizing life-saving innovations and technologies in the telecommunication field.

The tools used include online log of daily changes in diabetic's blood glucose level – DiabLab. At present moment, continuous diabetes monitoring is still at the top demand list for affordable diagnosis research. As an example, DiabLab, an independent scientific research initiative, is an open-source application available to the general population with Internet access. DiabLab is a system, which allows recording and monitoring of basic blood parameters, including glucose level, body weight, and blood pressure. The method and questions used include surveys conducted among DiabLab users. Through the delivery of an accessible, cost-effective and quality healthcare service, information and communication technologies (ICT) carry great potential for solving some of the challenges faced by developed and developing countries alike. The main goal of the survey was to check what is the patient's level of knowledge about their own health conditions. Do they deepen their knowledge upon learning their illness diagnosis? Do they take advantage of modern diagnostics and information exchange systems? What role do information technology (IT) systems play in their treatment? Do the IT systems facilitate or hinder the treatment process? In conclusion, on the basis of survey data, it can be stated unequivocally that infrastructural access to DiabLab has improved, as it can now be used with a smart phone, computer, and other devices that are Internet enabled. Results of the study with 51 participants (37 females & 14 male) indicate that the medical database was proposed as an alternative to the contemporary, traditional notebook logs. The majority of the respondents demonstrated Type 2 diabetes at 24%, and having suffered from the disease for over 11 years. As an active cure, insulin was the most common factoring agent. Unfortunately, participants remarked at an 85% they had not attempted to educate themselves about other means of treatment. Next, researchers will attempt to measure or specify an opportunity to check the reliability of the diagnosis of remote medical systems. Comparison based on the development of remote medical diagnosis in the United States and Europe will be conducted.

Keywords: Telemedicine, information systems, healthmatics, knowledge management

Narrating and sharing audio books: A call for a multicultural perspective of knowledge production and management

[Research-in-Progress]

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Extended Abstract

Humanity has a long and rich tradition of oral storytelling. However, the inventions of orthography and print have pushed aside this tradition. Nowadays, listening to audio books presents a fascinating alternative to reading, leisurely and academically. It is also an alternative for using the book for other purposes, for example, getting the younger generation to become more interested in literature from previous centuries. In 2014, the global industry of audio books was said to be worth over $2 billion as opposed to mere $480 million in retail sales in 1997, with the United States as the dominant audio book market in terms of sales (Kozlowski, 2014).

This study reviews the current status of literature and statistics regarding the practice of listening to audio books, focusing on usage for normative learners and leisure readers. As listening to audio books become a faster-growing phenomenon, we should investigate this growth and wisely coordinate global efforts of participants from different countries, in order to promote literacy, knowledge management, and enjoyment. The unfortunate lack of multi-cultural perspective into audio books and how different cultures approach to narration, management, accessibility, and use of audio books calls for extensive research. The purpose of this study is to shed light on the multi-cultural perspective of audio books production and consumption in order to design high-quality wisely-managed platforms of audio books for under-resourced languages.

We suggest that a crowdsourcing platform may be the solution for the problem of audio books in under-resources languages. Such a platform already exists in few languages, while narrating and sharing one's own audio book can serve a noble purpose of promoting literacy and distributing knowledge through the free channels. Furthermore, we will show that, although these audio books are published on Websites that use a Creative Commons license, it seems that the volunteer narrators of audio books in the same language from different countries still do not coordinate their efforts.

Keywords: Audio books, multiculturalism, volunteer narrators, crowdsourcing

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Kozlowski, M. (2014, June 5). *Global audiobook trends for 2014.* Retrieved September 5, 2015 from: http://goodereader.com/blog/digital-publishing/global-audiobook-trends-for-2014

Smart knowledge management tool: Representation of knowledge workers' cognitive patterns

[Research-in-Progress]

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Extended Abstract

The basis of this study is to outline a more personalized approach for supporting the process of collaborative knowledge workers' thinking (i.e. 'thinking together') by a Smart Knowledge Management Tool (SKMT). Smart tools "provide a systematic approach to aggregating and synthesizing information from analogous past experiences and examples" (Courtney, Lovallo, & Clarke, 2013, p. 6). Supporting the process of thinking together by an SKMT, means that this tool forms the basis of 'knowing', however, the process of thinking together does not appear to enable smarter outcomes if we analyze only more and more data. According to Drucker (1959), excellent knowledge workers know that knowledge management takes more than analytics. Based on "Extraordinary amounts of rich, complicated data about customers, operations, and employees are now available to most managers, but that data is proving difficult to translate into useful knowledge" (Ihrig & MacMillan, 2015, p. 32). The research problem addressed here, deals with how can excellent knowledge workers be described and how can the characteristics of high-performing knowledge worker be acquired. In this research, DoctuS tool (Baracskai, Velencei, & Dörfler, 2005) was used, which belongs to the area of symbolic systems, meaning that the knowledge representation it uses is based on symbolic logic in the form of 'if then' production rules based on a modified version of the ID3 algorithm (Quinlan, 1993). The most important topic of this study is to represent and visualize the knowledge workers' thinking process. We show that during building knowledge bases by DoctuS typical cognitive patterns could be outlined. A new conceptual frame – experience mining – mainly an important topic for Knowledge Management has defined as a result of this research.

Keywords: Experience mining, knowledge sharing, knowledge worker, thinking together

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Intellectual capital: Information, energy and entropy based definitions and implications regarding value creation and measurement

[Research-in-Progress]

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Extended Abstract

This conceptual paper will start with an introduction to the new-networked knowledge-based global economy and the importance of intellectual capital and knowledge management. Next, an advanced definition of human, social, organizational and other forms of capital using information, energy and entropy recently proposed by Russ (2015) will be introduced. Embedding those definitions within the competing and complementing models of humans that serve as a base for the concepts of law (*homo politicus, homo economicus, homo technologicus* and *homo sustainabiliticus*; see Russ, 2015) and using three alternative paradigms of knowledge, (cognitivist, connectionist, & autopoietic) different aspects of knowledge will be illuminated. First, we will propose three alternative views of what humans might be seen as, add a brief discussion on the locus of control, the locus of power, and boundaries, then explain the definitions of an entrepreneur and entrepreneurship; as framed by the three paradigms listed above. Next, we will analyze knowledge, learning, and value within this framework. We will then describe alternative perspectives of what organizations are, some characteristics of organizational and knowledge networks, the role of managers and control, as well as the critical aspects of intellectual capital. Finally, concrete implications are made regarding value creation and value measurement. Two sets, one of 12 complementary manners of value creation and one of 12 complementary value measurement are identified. Incorporating recent developments of bio- and nano-technologies, robotics, pervasive mobile technologies, the Internet of Things (IoT), and 'blockchain' technologies (among others), four specific research gaps and business opportunities concerning the study of knowledge management and intellectual capital are identified. They are: 1) new sources of political power and financial profit resulting from new technologies and industries, 2) using customers' pull and co-learning for social networks, and the IoT for new value creation, 3) humans and machines co-learning to shorten knowledge half-life, as well as 4) social responsibility and environmental responsibility as market opportunities.

Keywords: Knowledge-based economy, intellectual capital, entropy, value creation and measurement, knowledge management

Reference: Russ, M. (2015). The definitive end of capitalism as we know it and the probable foundations of Sustainabilism: What is human capital, information entropy based definition of capital, the three distinctive new labor markets, *Homo Sustainabiliticus* and the urgent need for a "new gold." Retrieved February 10, 2016 from: http://www.uwgb.edu/russm/research/Capital-and-Labor-ver-3-July-5-2015.pdf

Ambidexterity in the context of social customer relationship management

[Research-in-Progress]

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Extended Abstract

The paper reports on social customer relationship management (SCRM) and knowledge management (KM) literature, in order to assess the relevance of the concept of ambidexterity within SCRM. KM is the process of capturing, distributing, and effectively using knowledge within the organization. Previous work has focused on customer knowledge (CK) and KM association to customer relationship management (CRM). This study explores specifically their association to SCRM and the concept of ambidexterity. Ambidexterity embraces simultaneously exploration (trying new options – knowledge creation) and exploitation (refining existing competencies, processes & technologies – use of pre-existing knowledge).

This abstract summarizes an ongoing study, which is based upon a literature review of SCRM and KM from peer-reviewed academic journals covering the years of 2008 to 2015 using relevant keywords. Papers were analyzed according to their contribution to the ambidexterity concept within SCRM. The results show that firms can create new knowledge themselves with support of internal resources, but there are limits after which they cannot achieve it and so the organizational activities linked with SCRM also represent a source for knowledge creation due to the constant exchange between tacit and explicit knowledge. CK is considered the most valuable knowledge to the company and it involves explicit and tacit knowledge. SCRM can be considered as an extension of CRM by adding the features of the Web 2.0 platform, enables organizations to supervise sales activities and create routines in sales operations, thus, standardizing processes and maximizing efficiency. Since Web 2.0 assists in creating and managing relationships, sharing information, and allowing collaboration, it allows SCRM to improve customer-organizations relationships and enables a shared context for knowledge creation due to collaboration. SCRM can also be used to routinize CRM-enabled capabilities for stability and to adjust dynamically CRM-enabled capabilities for adaptability, thus creating a dual-process through which the firm promotes organizational ambidexterity. Results show that published research supports that SCRM involves aspects related to the ambidexterity concept. This research identifies a gap that presents an opportunity for scholars to contribute studies focusing on the relevance of ambidexterity to CK and KM association to SCRM, while it may help firms to collaborate with their customers in order to improve CK management.

Keywords: Social customer relationship management (SCRM), knowledge management (KM), customer knowledge (CK)

The role of information technology in knowledge management: Mediating between technological determinism and human choice

[Research-in-Progress]

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Extended Abstract

The paper presents an analysis of implicit views of technology in the knowledge management (KM) literature in order to highlight determinist assumptions about how information technology (IT) connects KM to business outcomes. Two contrasting technological visions are presented: The one sees the task of KM to leverage IT as part of a scientific management vision in which KM is chiefly about the implementation of IT to capture, store, and share information to support management decisions. The other sees technology as a neutral tool for KM, which may or may not be used to advance a humanist vision of new forms of collaborating and learning. Proponents of this second view often say that 'technology is just an enabler' and they view IT-driven KM projects pejoratively as primarily information management.

This contrast spans a fault-line in the KM community that can be traced back to Nonaka (1991)'s distinction between explicit and tacit knowledge, where an emphasis on explicit knowledge leads to IT-driven codification strategies and emphasis on tacit knowing leads to personalization strategies. Reflection about how the role of IT is conceptualized in the field is of great interest to KM conference participants as it addresses a foundational aspect of the field and could offer a middle ground between two ideological positions.

It is argued that whilst the technological determinism of the scientific management vision is untenable, the technology as enabler vision is naive. As an alternative to the binary vision identified in the literature, the requirements are sketched for a view of technology as intertwined with organizational practices and, thus, neither deterministic, nor inessential. This is done by drawing on Blackler (1995)'s vision of technology as a mediator for organizational practices augmented with Spender (2006)'s argument about the importance of a practice perspective and Orlikowski (1992)'s views on the duality of technology. The implication for KM research is a shift in focus from content towards the ways in which that content is technologically and organizationally mediated in practice. The implications for KM practice is the irony that technological determinist views sell better in industry, since IT-driven KM projects are assumed to be directly related to business outcomes. More sophisticated views of technology that allow for unintended consequences (hence no determinism) or social construction (hence not technological) cannot draw such a direct relation between KM projects and business outcomes since various organizational and technological filters mediate them.

Keywords: technological determinism, social constructionism, knowledge management, knowledge management systems

Evaluating ontology formalisms for representing the knowledge model of the SitBAC framework

[Complete Research]

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Extended Abstract

Situation-Based Access Control (SitBAC) is a context-based access-control (AC) conceptual model. SitBAC enables to model AC classes (named Situations), where each Situation class structures a *data access scenario*. On top of this model, we implemented the SitBAC framework, using ontology formalisms for representing the knowledge model and for supporting *reasoning*. SitBAC enables to evaluate *new incoming data access requests*. Its mechanism uses a set of Situations in order to infer an approve/deny response for the incoming data access requests. We implemented SitBAC in two knowledge-representation formalisms: (1) *Ontology Web Language (OWL)* supplemented by *Semantic Web Rule Language (SWRL)*, and (2) *Frames*. The OWL-based SitBAC version is more complete, as is supports reasoning, which is the mechanism core of SitBAC. The expressive power of this version is increased by using logical rules written in SWRL. However, the users will less easily understand it. The Frame-based SitBAC version is perceived as "easy-to-use" ontology formalism in the context of learning, understanding, and applying knowledge. However, it does not include a built-in reasoner. Based on the above, by using OWL+SWRL, we gain reasoning, but by not using Frames, we may limit its usability. To improve the usability of the OWL-based version, we developed ontology tutorials and maintenance guidelines to support and extend the OWL-base version, at least as well the Frame-based version. One research question emerged: can we help users by training them with ontology tutorials and equipping then with maintenance guidelines for the SitBAC ontologies in order to perform equally well in *understanding*, *implementing*, and *synthesizing* AC Situations? We carried out a controlled experiment, where we compared the two formalisms, in the above context. The participants were trained and provided with our developed guidelines. The results indicated no differences between the two formalisms with respect to participants' ability to understand or implement Situations. However, the participants found the Frames significantly eased the use with respect to synthesizing Situations, which in OWL involves the creation of SWRL rules. After categorizing the difficulties of the participants in the synthesizing assignment, we concluded that difficulties related to using Frames concerned understanding the SitBAC ontology and not the Frames formalism, while difficulties related to using OWL were related also to understanding the OWL formalism. Based on these conclusions, we suggest to provide better user support for the specific issues that the participants had difficulties with.

Keywords: Ontology languages, knowledge representation, ontology Web language (OWL), frames

The path of development of e-government in Russia

[Research-in-Progress]

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Extended Abstract

The main goal of this study is to demonstrate a method for evaluation of a coefficient of readiness for a Data Communication System in a complex man-machine system, such as an e-government system. There are many different problems in message delivery on the enormous Russian territory. The simulation model of a Data Communication System will allow to check the influence of various interferences on the functioning of the system and to improve its technical and information characteristics. For half a century of the computer era, many different variants of models of functioning of Data Communication Systems and their components were created in different well-known laboratories. The spectrum of models involves ones with different kind of protocols, various models of channels, models of adaptive Data Communication Systems, and algorithms of realization of the way of organizing data transmission such as connection between the source, receiver, and others. Developers of these models resolved concrete problems for improving technical elements and program support of equipment of Data Communication Systems, for increasing the speed and quality of data transmission. At that time, a global purpose of evaluation of network functioning as a complex system was not considered. Thus, the model under consideration should provide a new universal instrument for investigation of dynamical network functioning (Antonova, 2013; Antonova & Kolutcsky, 2015). Moreover it should provide the checking of possibility to solve the problem of delivering a necessary volume of information in a given time for a network with set project construction.

Keywords: e-governance, simulation, data communication network, algorithm, dynamic systems, stochastic systems

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Social citizenship in the development of the knowledge society

[Research-in-Progress]

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Extended Abstract

The undergoing Action-Research Project, presented here, is designed under the scope of political philosophy, considering the emergence of the Knowledge Society and the possibility of adopting suitable public policies. Such policies are oriented to promote social cohesion and social capital through active citizenship in order to improve individual as well as collective well-being, with a direct impact on the overall development of society. Social citizenship, inclusive of bottom up participation in knowledge society, is boosted by educational and training strategies because education is central to civic as well as societal empowerment. This Action-Research Project aims to test such a methodology based on territorial dissemination of the net citizenship, through the implementation of a network with institutional support of the municipalities. At the core of this project are trained knowledge mediators to ensure the public participation of all citizens, whatever their knowledge or abilities are.

The Action-Research Project begun with a pilot-experience supported by Montijo Municipality. Its main action goal was to promote citizenship activities, beyond the ones carried out by municipality, encouraging their participation in the co-design of solutions. The research goals were twofold: firstly, to observe and test an Action-Research Methodology enabling the societal empowerment; and, secondly to define and test a Knowledge Mediator Profile, which should be able to promote the application of such methodology. The second stage of the project involves the replication of the pilot experience in a network of municipalities with regional impact. This replication process will provide an important outcome: a network of social capital available to the articulation of public policies for training and certification of Knowledge Mediators. That is a valuable framework of other sectorial politics of sustainable development on the region.

The proposed reflection is within the scope of public policy, where two levels of implication emerge: (a) the philosophical validity of referential utopia of human rights as civilizational heritage; and (b) the architecture of the possibility of social transformation through an interdisciplinary approach for problem solving, integrating several scientific disciplines, technological knowledge and social common sense. Exploring the co-production of knowledge and solutions in the learning communities working together with Local Learning Centers is another important outcome of this project.

Keywords: Knowledge mediators, public policies, social capital, social citizenship, municipalities, training, learning communities

Examining the shift from in-house to cloud-computing IT projects' risks: Initial evidence from a literature meta-analysis

[Research-in-Progress]

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Extended Abstract

Business organizations have adopted advanced enterprise systems by implementing complex projects in-house and cloud-computing platforms. Successful project implementation depends on the ability to manage risks in an effective manner, while managing the technical and human aspect of the project. Over the years, business organizations have learned to identify the Information Technology (IT) projects' risks, their impact, as well as ways to mitigate these risks by employing risk management and control plans. This research-in-progress provides an overview of an ongoing meta-analysis of IT projects' risks research published in peer-review journal articles between 2008 and 2016. We are identifying the most common IT projects' risks types for in-house enterprise system implementations. Next, our ongoing meta-analysis is classifying research studies in the targeted time frame related to cloud-computing IT projects' risks, and compare them with risk types in-house IT projects. The discussion will focus on these two risks sets by identifying the similarities, while discussing the differences emerged over the shift from in-house to cloud-computing platforms. Finally, as part of our ongoing meta-analysis classification process of these research studies and their risk types, we have followed the six dimensions that have been proposed in prior literature, including: (a) users; (b) system requirements; (c) project complexity; (d) planning and control; (e) team; and (f) organizational environment.

While we have been classifying over 50 studies so far in our on-going meta-analysis efforts, a clear observation has emerged with a shift in the types of risks over such IT projects' risks. The meta-analysis and discussion will highlight that shift in the types of risks that have been observed over the years between 2008 to 2016 in published research, and propose possible reasons for this shift. The transformation from internal organizational risks to third party outwards risks experienced by organizations implies a loss of control over such projects. As organizations seek to scale, and reduce the cost of managing their own technologies in-house, they come to depend on the services of third parties, while need to relay heavily on their legal teams to secure a strong Service Level Agreements (SLAs). This dependency leads to substantial security and privacy risks, thus, the shift moves from managing the risk of the project to managing the risk of using the cloud-computing environment in third party environments. With further loss of control, organizations appear to shift from a preventative mode of the project risks to protective mode against the legal liability stemming from a security breach in the cloud.

Keywords: Cloud computing implementation risks, enterprise cloud computing implementation risks, meta-analysis, security, privacy

A discussion of Davenport's idea of knowledge and the subsidiary ideas of data and information

[Research-in-Progress]

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Extended Abstract

The cave is deep and dark; an unrolled ball of twine acts as a guideline back to the surface. The essay is an exploration of the dark recesses of a "knowledge" cave where pictographs exist on the cave's walls. There are spirals, whirls, and words, such as data, information, knowledge, tacit and explicit, which faintly appear in the candle's light. What do these words mean? This paper is a discussion of a conception of knowledge for understanding knowledge management as a corporate aspect of maintaining a competitive advantage. Understanding the nature of knowledge is important to the corporate environment. The ideas of data and information are discussed as subsidiary aspects of Davenport and Prusak (2000)'s perspective. The paper assumes that the language Davenport and Prusak (2000) use to talk about their conception of knowledge provides the reader with an interpretive frame (Ortega y Gasset, 2000) to understand this conception of knowledge. The paper begins with a discussion of the conception of data (Davenport, 1997; Davenport & Prusak, 2000) and its attending vocabulary. Then, there is a discussion of information as message (Davenport, 1997; Davenport & Prusak, 2000) and its vocabulary. Since the paper argues that these ideas are subsidiary to the conception of knowledge, the paper focuses on the way the conception of knowledge by Davenport and Prusak (2000) actively pulled the ideas of data and information into a joined model. Finally, the paper discusses the iconic conception of knowledge (Davenport, 1997; Davenport & Prusak, 2000). The essay also discusses the subsidiary ideas, implicit in the conception of knowledge, of tacit knowledge, and explicit knowledge (Nonaka & Takeuchi, 1995; Polanyi, 1966). The paper closely analyzes the conception's language as Davenport and Prusak (2000)'s way of integrating the subsidiary notions of data and information into a frame, which structures managerial thinking. The essay concludes with a model of Davenport and Prusak (2000)'s conception of knowledge.

Keywords: Knowledge, information, data, tacit knowledge, explicit knowledge

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Innovation: culturally determined definition, application, and inclusion in manufacturing

[Research-in-Progress]

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Extended Abstract

Innovation and manufacturing are two terms forever linked together. Those involved in the industry of manufacturing are told on a daily basis that the key to survival for their company is to embrace and implement innovation. While the word 'innovation' is used extensively in manufacturing literature, media, and conversation, limited work has been done to truly define the term. Manufacturing is comprised of people educated in business school programs, engineering programs, and vocational programs such as machining. In order for a mutual understanding of what is necessary for a manufacturing company to be innovative, a commonly understood definition of the term *innovation* is necessary. This abstract outlines the results of a study examining how business school students, engineering students, and machining students define the term innovation. The purpose of this study is to address the question of whether these students have a common definition of the term innovation and the potential impact this has on the field of manufacturing. Tools used to examine the term of innovation include content analysis and participant interviews.

As alluded to earlier, this study focuses on how the term innovation, is understood and incorporated into the field of manufacturing. The manufacturing industry is critical to the development of any economy. In order to survive, manufacturing companies must continue to find new ways to remain profitable in an ever-changing global economy. The term innovation is often connected to the strategies and techniques that manufacturers use as a means of addressing this need for continued change and profitability. A common understanding of the term 'innovation' is necessary in order for innovation to take root.

Keywords: Innovation, definition, dissemination, manufacturing, globalization

Culture and information security policy compliance: The Hofstede Hypothesis perspective

[Research-in-Progress]

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Extended Abstract

Information security, policy, and compliance are at the forefront of private sector, government, and academic discussion. While knowledge management initiatives have engaged the explicit dimension of security compliance and policy, the tacit or silent dimension capture have proven to be elusive and marginally effective at best. While most research has focused on organizational knowledge, the idiosyncratic nature of each organization and subunits within, have bounded the usefulness of such knowledge management initiatives. In other words, the cultural and subcultural identities within the organization minimize the aggregate knowledge as an asset. The collectivity that establishes the essence of culture has many dimensions that situationally define the cultural context such as the profession, organization, religion, nationality, and ethnicity, to name a few. The Hofstede Hypothesis provides a frame for bracketing cultural contexts to develop profiles that may help to provide a basis for both understanding and applying policy. The Hofstede framework inherently uses a cultural aggregate, usually under the artificial delimiters or label of a country or particular organization; it can be asserted that further segmentation and focus on subcultural boundaries such as profession or department within and organization would better identify cultural attributes as part of a profile. This may best help us to understand a subculture in the context of policy and compliance—especially in security arena. In doing so, the paper explores the relation of culture to information security policies and practices. The paper argues that compliance and non-compliance is a consequence of a semantical construction of reality (Hofstede, Hofstede, & Minkov, 2010).

Keywords: Security policy, information security, culture, Hofstede

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Is knowledge management culturally determined — continuing a discussion of the Hofstede Hypothesis

[Research-in-Progress]

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Extended Abstract

Are the ideas and 'stuff' of knowledge management constrained and framed by the persons of differing cultures using the concepts? Organizations have initiated knowledge management initiatives to capture both explicit and tacit (or silent) knowledge with mixed results. Characteristics such as relevance, timeliness, and cultural context bind both the generalizable as well as transferable value of knowledge. For the knowledge to have value, the cultural context must be taken into consideration. The collectivity that establishes the essence of culture has faces that define the cultural context (i.e. profession, religion, & ethnicity). Application of the model to demographic, organizational, and other identities may be more useful as well as telling than contemporary national profiles. The framework is adaptable to identify cultures, and hence a source of data that can validate the universality of the Hofstede Hypothesis to document multi-dimensional cultural profiles within the context of a national cultural environment. Cultural profiles and individual identity can have relevance in the study understanding of an individual's own knowledge.

Keywords: Hofstede, knowledge management, identity, culture

Does technology improve knowledge sharing in global teams?

[Complete Research]

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Extended Abstract

Today, communication among people takes place from simple e-mail using the Internet to Intranets. Furthermore, advanced communication tools, i.e., audio-conferencing, video-conferencing, shared electronic whiteboards, and groupware are constantly used to share knowledge. The advancement of new communication technologies has helped people to overcome the barrier of distance and time, significantly offering easy collaboration tools for teams to work together around the world. The purpose of this paper is to analyze the usage of new technology for knowledge sharing in global teams within two business sectors: consulting and construction. The exchange of knowledge between individuals is accomplished mainly today by knowledge sharing through technology. In order to keep pace with the demands of the ever-changing knowledge economy, organizations must be aware of the knowledge sharing tools that are in use today. Customizing these technologies help organizations maintain a competitive advantage in the global marketplace.

A survey was designed and administered to 12 participants. All participants had experience in working with global teams. The participants were from the two business sectors: consulting and construction. The participants had at least three years of experience in global teams. They were from the UK and the Czech Republic. The main form of data collection was a semi-structured interview conducted via Skype[®]. Collected data were analyzed via frequency distribution technique. This technique was used to group the data into classes. The organization of data allows ascertaining the number of data points that fall into each class. The findings revealed that construction companies use basic technology for conveying and sharing knowledge like a telephone. That is related to the fact that very often an immediate answer is required. Whilst consulting companies seem to be more advanced in terms of using new technology for knowledge sharing to impress their customers.

The outcome of this study will enable a further understanding of knowledge sharing in consulting and construction companies. It will, therefore, contribute towards the successful implementation of knowledge sharing as part of organizational knowledge sharing culture. The limitations identified were the use of interview as the only form of data collection, since the firms did not authorize the collection of documents, the interviews were conducted via Skype[®]. The results of this research may be useful for academics and organizations because they deepen the discussion on knowledge sharing in global teams in two sectors: consulting and construction.

Keywords: Technology, global teams, knowledge sharing, construction and consulting sectors

The measurement of intellectual capital by market capitalization method (MV/BV) - empirical study of polish listed companies

[Complete Research]

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Extended Abstract

Intellectual capital has become a fundamental source for enterprises, however, its measurement and reporting remains a major challenge for managers as well as researchers. The aim of this research was to establish the possibilities for using the Market Capitalization method, particularly the ratio of market value to book value (MV/BV) in order to report the intellectual capital of companies included in the WIG 20 index of the Warsaw Stock Exchange. This study also identified opportunities and limitations rising from its use. The data necessary to perform the calculations in accordance with the MV/BV method came from the financial statements for the period 2010-2014. The MV/BV method provides the means to measure intellectual capital in a very prompt calculation and is particularly useful for the companies that are listed on the stock market.

Keywords: Intellectual capital, market capitalization method, market value to book value (MV/BV), WIG20 companies