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ВИСОКА ТЕХНИЧКА ШКОЛА СТРУКОВНИХ СТУДИЈА у Новом Саду

International Association for Computer Information Systems

IACIS

Middle Georgia State College

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Keynote: Stop chasing a black cat in a dark room: Refocusing the information systems field to knowledge

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Over four decades of development in North America, academic disciplines focused on information systems and technologies (the IS field) have come long way from a diamond pertinent adoration to being exposed to a skyfall that jeopardizes their survival prospects. Reasons for the skyfall are practical and theoretical. The former are manifest in puzzling productivity statistics and in trends rendering information systems services to commodity. Cumbersome information systems waste money and employees' time and motivation. Uses and abuses of information systems have assisted in corporate frauds, erosion of privacy, and imbalances in the globalization process. Complementary practical reasons show in education, where information systems departments experience the unsteady student enrollment, reorganization, and closure.   Theoretical reasons for the downfall are manifest in a lack of genuine theories and in a meagre recognition of the IS field in cognate academic disciplines. Equally paramount, there is confusion within the field with regard to its conceptual core. The core concepts of information system, information technology, user, data, information and knowledge do not have clear and commonly accepted definitions. The organizational context is black-boxed or just tentatively addressed. Borrowing ideas from other disciplines is subject to opportunistic, subjective choices. The mainstream quantitative research is confined to proxy measurement and analysis resulting in questionable claims of causality. The core concepts resemble a black cat sneaking around a dark room of organization. It will be argued that the neglect of conceptual core lies at the nexus of academic problems of the IS field. The crucial neglect concerns knowledge. Although the topic was introduced into the MIS field in the late 1990s, knowledge has never made it into the mainstream research. As no radically new systems for supporting knowledge emerged, the field committed to chasing "a silver bullet" could not identify knowledge as a worthy research topic. It will be argued, however, that knowledge is central to defining information, information system, user, and organization. Knowledge is also central to defining intelligent organization capable of surviving in contemporary turbulent environments. These premises underlie the framework of Informing View of Organization (IVO) that will be presented as a way of coping with the skyfall upon the IS field. The elaboration of IVO will demonstrate how knowledge lies at the center of a conceptual network and characterizes cognition of individuals and groups in organizations, determines informing supported by information systems and the resulting information, shapes organizational power, tailors processes and culture in an intelligent organization, and determines organizational economics. It will also be shown how the IVO perspective can guide knowledge-focused research, management, and information system design.

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Keynote: Negative emotions and knowledge-sharing in Confucian cultures

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The role of Confucian values has been argued in the success and failure of Asian economies. South Korea is a representative example of a dynamic Asian economy. Confucian traditions have affected the attitude and behavior of most Koreans in the workplace. This study aims to examine Confucian values at the individual level and their effect on human behavior within a Korean IS project team. IS projects produce intangible outcomes and are conceived as knowledge-intensive work requiring diverse expertise. Research has shown that knowledge-sharing is a predictor of project success in an IS project. In Asian cultures, knowledge sharing is the product of an emotional struggle between the face of the team and leader, and harmonious relationships between team members. In this study, we empirically test the relationships between cultural characteristics, fear of social exclusion, fear of losing face, and knowledge sharing. We suggest that team climate has a moderating effect on the relationships between power distance and knowledge sharing, and between fear of losing face and knowledge sharing. The results provide evidence that the intention of "rational" team members could be affected by fear and espoused cultural value. An open and fair team climate also reduces the negative influence of power distance. Furthermore, our study illustrates the effect of age and gender on the relationships between individuals' espoused cultural values and negative emotions. This study contributes to theory by exploring emotions and cultural traits as predictors to knowledge sharing. Project managers of teams composed of diverse members can understand and manage the potential effects of various cultural differences and their resultant emotions.

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PANEL/WORKSHOP: Writing for publication in refereed journals
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This 60-minute panel is twofold. First, the panelists will present insights on various topics ranging from how to get published, the review process, and developing your publications portfolio. The panelists will then present a systematic approach to writing a research paper for publication.   Research relevancy, consistency, readability, design, as well as, plagiarism will be discussed.

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The dialogue rendezvous: Build a school in the cloud

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A unique aspect of the Dialogue Rendezvous is the Sageless Stage. By using TED talk videos as the catalyst for the dialogue we eliminate the impact of having the guru in the room. As exciting as it sometimes is to engage well-known keynote speakers, the reality is many participants become star struck and do not ask the tough questions. The Dialogue Rendezvous methodology ensures that the participants hear from experts but can engage in dialogue with fellow participants but outside the earshot of the expert.

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The internet: A medium to promote human rights

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The Internet is considered to be a free medium, and it therefore theorists called "democratic media" because the approach does not have the time, geographic, racial, sexual, political or other restrictions. In most countries, there is still no legislation that limits the activity through the media, and it is freely used in different purposes. This paper provides an overview of the events that this broad area - acting through the Internet, used to promote European values and universal human culture and human rights.

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Identification of knowledge-related performance gaps using business process simulation

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This paper investigates the potential methods of identification of knowledge-related performance gaps using business process simulation. It is a common truth that performance of individual, groups and organizations differ considerably. Some of the individuals, groups or organizations can achieve better results with the same resources or carry out a given task with substantially less time required. It is believed by many authors that the source of the competitive advantage (i.e. ability to perform better) is knowledge (Nurmi, 1998; Smith, 2000; Larssen, 2001). Knowledge itself can be "embodied in human beings (as "human capital") and in technology" (OECD, 1996). These differences in performance are also of crucial interest to business process simulation and optimization. This research will try to fill the gap in knowledge and evaluate whether it is possible to identify performance gaps between individuals, groups or organizations using special interviews, which are usually utilized for business process simulation purposes. It will be shown, how such interviews can be altered in order to gain insight into knowledge of individuals carrying out given business processes. A simplified model will be proposed and a preliminary case study with one Slovenian company will be provided as a sample verification method.

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Title: Intellectual Capital Literature Review- Basic Definitions and Methods of Measurement

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Intellectual capital is said to be particularly important in a knowledge society. Organizations should consider that the first step to change from a traditional company into a knowledge based company is to be aware of the knowledge of the organization, also known as intellectual capital (IC). As organizations entered into the knowledge era, organizations understood that they should use their three kinds of capital (physical (tangible), financial and intellectual capital) to gain advantages over their competitors. Organizations of all kinds will need to become much better both at creating new intellectual capital and at using what they already have. The purpose of this paper is to review the basic definitions and the concepts of the Intellectual Capital. More specifically to show the path of the term overview and the evolution of the intellectual capital as a working discipline. This includes not only the concepts and definitions upon which the term intellectual capital is based, but also the development of the thought about the concept. Further the paper aims to discuss the methods of measures and analyze the advantages and disadvantages of the most common models of measures.

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A project in knowledge terrain surveying and mapping

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The essay describes a project in surveying and mapping a knowledge terrain in place for doctoral students beginning their dissertation research. The problem, for the paper, is to describe how to survey and map a landscape of knowledge which is characterized as the body of literature available as the theoretical ground for research for satisfying a doctoral research requirement. The essay discusses a project is aimed at surveying and mapping subject matter (content) literature and literature of methodology in relation to a student's stated research problem and research questions. The project described in the paper is designed to help doctoral students work their way through the body of literature identified by their proposed problem statement and research questions. The project poses for the student a problematic situation whereby the student settles momentarily the research problem by documenting sources of theoretical constructs (which may or may not be useful). The project provides an opportunity to generate research questions (hypotheses) and document their sources as guides to doing research. The essay discusses an expected consequence of the mapping as a tighter coupling of the literature to the research problem and questions, as well as the research findings.

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Developing a financial statement-based effectiveness measure of interorganizational systems' contribution

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Measuring the contribution of interorganizational systems (IOS) is challenging, and mainly based on subjective surveys. The purpose of this study is to objectively examine the effectiveness of IOS, through data from corporate financial statements. We developed a novel performance measure: an effectiveness ratio that reflects changes in average inventory level in comparison with change in annual sales. This measure reflects a certain aspect of improvement in supply chain management achieved by the evident developments of IOS, while considering external events that affected the companies. Two samples of American and Israeli companies were used for developing and empirically examining the suggested effectiveness ratio over 20 years (1993-2012). The results show considerable improvement as measured by the average effectiveness ratio of randomly selected American international companies in the cosmetics and toiletry products sector. However, the Israeli sample of food suppliers and importers, showed average marginal improvement, and major variance among the companies.

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How to identify knowledge and evaluate knowledge management in organization – case studies report

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Knowledge is recognized as the most important strategic asset every organization has. It is very important to identify, capture/acquire, share, reuse and unlearn knowledge. These activities are managed through Knowledge Management (KM). It is a rather challenging task to evaluate the level of KM in an organization. Framework for Information System Due Diligence (FISDD) can be used for different information system (IS) due diligence activities and one of its objectives is to define and evaluate Knowledge and Knowledge Management in the observed organization. Another methodology is COBIT 5, which is daily used by IS auditors around the globe for various IS audits. In the last couple of years, COBIT 5 methodology has been redefined and now it also includes IS risk, information security, and value of information communication technology (ICT) processes, which allows an enterprise to effectively govern and manage its information technology. Now COBIT 5 has also two new defined processes: Manage human resources and Manage Knowledge. The paper presents case studies regarding the implementation of two methodologies (FISDD and COBIT 5) to facilitate information system knowledge management. More specifically, the study presents a comparison of the two methodologies. The research objective is to identify how explicit and tacit knowledge could be assessed by FISDD framework could be used for assessing in observed organization, and also identify how COBIT 5 framework could be used for assessing the level of knowledge management in observed organization.

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Business Intelligence as a modern IT supporting management of local government units

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The paper has been devoted to Business Intelligence seen as a modern information technology that can support local government units. It consists of five parts. After a short introduction into the subject, knowledge sees as a most valuable asset in the modern economy has been characterized. Part three consists of presentation of the local government units in Poland and information challenges standing in front of them. Part four consists of the characteristics of BI in the management of local government units. Brief conclusions end the paper.

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Social networking services in intra-organizational communication: the case of the Warsaw School of Economics

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The growing popularity of social networking services leads to the implementation of those solutions in intra-organizational environment. The Graduate Program Dean's Office in the Warsaw School of Economics developed official social networking services aimed at communication with students and teaching staff. The paper presents the results of a survey conducted on students, users of those services. The research shows that those services are widely accepted by the majority of students. However, some of them declined to use those sites. The study shows that social networking sites can be successfully used as an auxiliary tool for intra-organizational communication with students. But, they can be rejected by some users, which is a barrier to using them as the primary form of communication.

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Development of the educational-research standards based on the cooperation of academic centers with employees of the international corporation on the basis of own research

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Corporations operating on international markets as well as academic centers are interested in cooperation and development of human resource management standards that will ensure corporations the innovative advantage over competition and universities the employment for their graduates. Example of own researches of creating processes for appointing the leaders of innovation in the company and development of educational systems consistent with market requirements. Competition, innovative contests, discussing positive and negative effects of the employees' and students' active stimulation.

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Mapping knowledge: Three ontological paradigms

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The mapping of knowledge has been a historical human endeavor; thus, it is a metaphor of how humans represent an envisioning of the known. Members of societies, or groups, everywhere, in the present and at the dim horizons of historical consciousness have created maps of their societies', or groups', knowledge. These are not merely dictionaries, encyclopedias, or maps of navigation or travel to faraway places; they are pictographs, cave drawings, or ikons. Every human cultural artifact, or informing object, can be a mapping of some aspect of the culture which has envisioned the object (Liebowitz, 2002; Skovira, 2010). The problem, sourced in the knowledge management literature which presents a tangled and confusing set of ideas, for this paper is to describe and analyze the silent frames or perspectives, or ontological paradigms, which shape and define the methods of knowledge mapping, and the known objects mapped.

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Visualization for learning in organization based on the possibilities of Vensim

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The aim of our paper is a presentation of some new possibilities of simulation language Vensim(version 6.0) based on process of learning in organization. Specially the visualization setups of this language is on the center of interest of authors, who studied the problem of sensitivity analysis and optimization during the simulation of the dynamics of many objects: economics, ecology, engineering. Many methods and tools have been used by authors during last two decades, but only now with new version of Vensim, we have full possibilities of visualization for learning in organization. The problem is: "how to take advantage from these possibilities, and perform such methodological tasks like: sensitivity analysis, optimization (especially calibration), games on simulation models". Knowledge management requires modern, interactive and friendly interfaces for users (analytics, modelers, managers). The problem is interdisciplinary and requires collaboration of specialists with many disciplines: informatics, mathematics, economy, sociology, psychology. In our opinion, popularization of our study with the use of Vensim 6.0 gives the audience new look for the learning in organization, using models and simulation for solving managerial problems in complex, nonlinear, dynamical and multilevel systems.

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Does media content analysis create knowledge?

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As part of the Spring 2013 Semester at Sea voyage, a team of researchers collected and analyzed newspaper articles from six different countries in order to better understand differing leadership styles throughout the world. The team sought to determine if there was a difference between the leadership styles of leaders in one country compared to another or if a leader's style vary based on type of organization or gender. The researchers hypothesized that there is a difference between leadership styles of leaders in one country compared to another. The methodology employed to guide the research was a media content analysis. Using this project as a case study, this paper considers the value of the methodology by attempting to answer the question "Does media content analysis create knowledge?"

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Acquiring and Enhancing Research Skills: The Professor-Doctoral Candidate Perspective

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One of the key fundamental cornerstones of Philosophy Doctorate (Ph.D.) programs is to provide the graduate with the appropriate skills to conduct research on their own. As Ph.D. programs have been evolving over the past three decades to include hybrid (on-campus & online) or even fully online programs, such programs attracts more and more working professionals. These working professionals primarily wishes to advance their understanding deeper, seek a Ph.D. to obtain an academic position, or need such degree to pursue higher positions even within their own organizations. While these working professionals have significant skills in the Information Systems (IS) field, however, they have limited skills when it comes to conducting research. This paper will highlights the three integral components of a generic skill. For the purpose of the discussion, we will extend the definition of skill found in literature (Boyatzis & Kolb, 1991, 1995; Levy, 2005) to define research skills as the combination of knowledge, experience, and ability to conduct research well.

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The use of experiential learning styles to predict attrition from a limited-residency information systems graduate program

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Due to the expected growth of over 15% in the information systems industry between 2012 and 2022, many individuals desiring to work in academia, or as computer or information research scientists, are returning to graduate school to pursue a doctoral degree in information systems. Because of the need to balance their professional and academic lives, many returning students are electing to attend online or limited-residency programs. While traditional on-campus doctoral programs experience an attrition rate of approximately 50%, the drop-out rate from non-traditional programs may reach as high as 70%. It is higher education's responsibility to ensure that students are offered the best opportunity for success in their educational endeavors by creating learning environments that support the needs of all students. To inform that effort, this study investigated the relationship between doctoral students' experiential learning styles and success in a limited-residency information systems program. The results call for a more thorough investigation of this construct, and others, across disciplines and at different levels of education.

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Customer oriented management practices leading to BIS embeddedness
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Business intelligence systems (BIS) are able to provide relevant and innovative information thus can present a competitive edge for many organizations in order to compete in the marketplace and provide value for their customers, but in order to leverage their potential they need to be effectively used and become an integral part of organizational activity. Our study aimed to provide evidence, that organizations that focus on customers will have higher embeddedness of BIS into the organizations work system, and that customer oriented management practices lead to more differentiated and effective BIS utilization. The conceptual model was tested and analyzed by structural equation modeling based on survey data. The results show that focus on customers importantly impacts on management support of BIS use, which in turn as direct or indirect support leads to more intensive, extended and embedded use of BIS. Organizational customer orientation also directly impacts on embedding BIS into the routines of workers, suggesting that these organizations will have higher return on investments in BIS and ultimately better organizational performance.

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Management trust, organizational trust, and organizational performance: Empirical validation of an instrument

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The purpose of this study was to empirically validate an instrument with three parts: management trust (MT), organizational trust (OT), and organizational performance (OP). The findings of this study revealed three components that were empirically validated to be reliable and interpretable among their associated factors. Findings and recommendations for further research are discussed.

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Prosumers' eagerness for knowledge sharing with enterprises – a Polish study

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This research focuses on prosumption. Its purpose is to diagnose prosumers' eagerness for knowledge sharing with enterprises. In the first part of the paper, the classification of prosumers in terms of their eagerness to share knowledge with enterprises is presented. This classification was used as a foundation to specify the essential knowledge sharing activities that prosumers undertake in their relationship with the enterprise. The second part presents a conceptual model delineating the relationships occurring between the characteristics of prosumers and their eagerness for knowledge sharing. The third section presents the results of research indicating which prosumers, distinguished by a variety of characteristics, are most eager to share their knowledge with the enterprise. As a result of the conducted research, a prosumer's profile in terms of their eagerness to share knowledge with the enterprise was built and practical conclusions, and recommendations regarding the use of prosumption in the enterprise were formulated.

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Enhancing m-learning using GridFS for storing and streaming digital content

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Mobile devices transformed the way students access shared knowledge today. The initiative described through the usage of mobile technologies for learning purposes is called mobile learning or m-learning. It is a promising platform because it is learner-centred, enhances collaboration and flexibility of the learning process and enables students with physical disabilities to reach educational material. The platform offers not only the exposure of educational material from teachers to the students, but also utilizes the other way-students are now in a position to create educational material and share and discuss it with teachers and other students. The platform is suitable for traditional learning, lifelong learning, practical knowledge sharing and has many other applications. However, during experimental usage of a simple m-learning platform, content management issue arose-the process of expanding the storage was difficult and time consuming. Adding new capacity to the storage would not solve this issue permanently, because new content would eventually trigger the issue again. It was necessary to create an architectural change to solve the problem permanently. This paper describes the change of the underlying architecture of the information system and proposes the usage of MongoDB NoSQL database system and its GridFS specification for digital content management.

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Responsive website design for higher education utilizing mobile centric features

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Technology utilized by students in Higher Education is quickly moving from a desktop or laptop to other various sized devices and varying specifications. This trend is causing those in higher education to consider how to provide a pleasing experience when viewing their university website on various sized screens. The recent response to the trend is through the development of Responsive Website Design. This paper will present a process taken to optimize a College of Business website for a mobile environment, a review of the current state of mobile web implementation in higher education and thirdly, recommendations for mobile centric features that would further enhance the student experience.

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Improving the interestingness of web usage association rules containing common web site menu items

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The immense volume of web usage data that exists on web servers can be mined to generate association rules that contain the information about website visitor interests, which can then be utilized for enhancing the website effectiveness, or increasing the profit in e-commerce applications. One of the problems in web usage association rule mining is the generation of too many rules with extremely high statistical interestingness measures, which are not necessarily interesting to the domain expert. In this paper, we propose a modified version of added value as an interestingness measure for particular groups of association rules consisting of web pages that occur as sub-items of the web site common menus. Our real life data experiments show that the modified added value outperforms added value, resembling the domain expert defined interestingness more closely.

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Responsive web design – Are we ready for the new age?

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Due to the rapid development of the IT industry, there are many different devices for accessing the web: desktop computers with a wide range of screen dimensions, tablets, mobile phones, TV-s. Hence there is a need for adapting the web content layout for different screen dimensions and resolutions. Responsive web design is a modern technique for that purpose. This paper considers the implementation of responsive web design in practice. We conducted a survey and analysed 470 websites of various categories and countries and give an analysis on the obtained results.

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Can automatic speech recognition be satisficing for audio/video search? Keyword-focused analysis of Hebrew automatic and manual transcription

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With massive amounts of academic audio and video content over the web, it is important to assess the performance of state-of-the-art automatic speech recognition (ASR) systems for audio/video navigation through search queries. This paper suggests a novel perspective of the challenges of ASR: instead of minimizing word error rates (WER), focus on keyword recognition. Focusing on keywords may be worthwhile for under-resourced languages, such as Hebrew, which their ASR systems have not yet reached a satisfactory accuracy level of transcription. We provide an initial Proof of Concept by demonstrating the feasible use of ASR for achieving affordable mass transcription that enables satisficing keyword recognition of a video or an audio lecture via a search engine. A forty-minutes recording set, which includes audio books and academic lectures, is used for measuring the performance of two Hebrew ASR systems, and comparing them to stenographer recordings of the video lectures, while focusing on keyword recognition. Keyness tests show advantage of keyword recognition over key-phrases results, and stenographers' records exceed both engines. Yet, keyword recognition up to 78% was achieved, which suggests that ASR has reached a satisficing accuracy level that enables its use for searching audio/video content on the web.

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Eliciting expert panel perspective on effective collaboration in system development projects

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The success of System Development (SD) projects largely depends on individuals within the team who are able to collaborate effectively. We opted to develop our own survey instrument using the Delphi methodology based on prior literature. Delphi methodology is a technique designed as a group communication process, which aims to achieve an informed judgment with consensus on a particular topic. A panel of SD experts, certified project managers, and project management trainers were selected. Four rounds of review using the Delphi method have been effective in refining the survey items to achieve expert consensus. Results and discussion are provided in preparation for the empirical phase. A follow-up study is in progress to test the hypotheses and provide the empirical results.

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The risk management in higher education institutions

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The risk management at higher education institutions issue is considered in this paper. The significance of the risk management in all systems is pointed out, with a special review of the risk management at higher education institutions. The authors tried to connect and apply their knowledge in risk management in other areas, as well as the knowledge gained by their experience in managing the higher education institution. The example of one higher education institution is used in analyzing the risk, and initial model was developed further with corrections in accordance to specifics and conditions is made.

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Confrontational pattern design method – new method of website design

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The main aim of this article is to analyze the applicability resulting from the practice, a new method of designing information systems - operationally named confrontational pattern design method. At the beginning of the work the specificity and assumptions a new methodology is presented and its compatibility with modern design methods. This is followed by studies, which verify of the application of the method in the case of pre-analysis of the project's new website online comparison websites. Results of research and an analysis of the method usefulness for the practice have been analyzed in detail.

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An initial study of educational game applications supporting the STEM education in K-12 systems

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This study develops a novel model focusing on educational game development based on active learning paradigm. The model is designed as a collaborative endeavor involving college constituencies and K-12 stakeholders in the effort to promote adoption of educational game applications supporting the STEM curriculum in K-12 systems. Preliminary evidence from pilot experiments suggest that college students found real-world game development activities stimulating and worthwhile while K-12 administrators and teachers became interested in game development collaboration. Based on this initial success, an educational game laboratory model is proposed. The model explains the roles played by different actors in the collaborative effort. It also outlines a set of expected outcomes for an ensuing experiment. Finally, the model specifies potential evaluation schemes. The results obtained from the experiment would present further evidence concerning the effectiveness of educational games. In particular, the study could potentially provide insights and directions for game developers in the areas of technical features, content selection and delivery methods.

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Investigating the effect of tangible and virtual rewards on knowledge contribution in online communities

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Crowdsourcing is an emerging trend and many Websites are dependent on user-generated content (UGC). This study examined the effect of rewards on users' proclivity to add content or acknowledge content on Websites that are based on UGC. The study focused on extrinsic factors that are controlled by the Website management. A survey compared a sample of 100 users of The Traveler (Lametayel.co.il, the Website of a leading Israeli brick-and-mortar chain of outdoor and travelling products) that offered tangible rewards, with a sample of 100 users of Waze (a community-based traffic and navigation application) that offered virtual ones. The main results indicated that tangible rewards were significantly more effective than virtual ones in encouraging users to add content, but virtual rewards had more influence on acknowledging content, although the particular reward mechanism might have affected user behavior. Many of the users were unaware of both the tangible or virtual rewards, and the foremost source of knowledge about the offered rewards was the Website, rather than social media or acquaintances. Implications for theory and practice are discussed.

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Advancing a theoretical model for knowledge construction in e-learning

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An active learning model was used as the theoretical model for knowledge construction. The model is comprised of three components. Underpinning and ownership components were treated as independent variables. The engaging component was treated as a dependent variable. The purpose of this study is to empirically examine whether there is a positive and significant relationship between the independent variables of underpinning and ownership and the dependent variable of engaging where knowledge construction takes place. Two hypotheses were formed. Data were collected and analyzed using SmartPLS, a variance-based structural equation modeling (SEM) package.   Results were in favor of accepting the two hypotheses for the theoretical model. Findings, recommendations, and implications for further research are discussed.

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Using the strategy map as a strategic communication tool in higher education: A case study of Warsaw University of Life Sciences

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The governments are often engaged in the higher education sector, which is justified by the need for support in creating and upgrading human capital and scientific knowledge – the key production factors in the New Economy era. However, universities - as well as other public organizations - are commonly criticized for lack of effectiveness and efficiency. The New Public Management concept claims that public sector organizations should try to use management tools and techniques to better accomplish the requirements of their stakeholders. After a period of an enormous growth the higher education system in Poland is actually faced with a set of serious challenges. In order to meet the requirements of accountability, performance measurement and strategic planning, Polish universities can use the Balanced Scorecard and the tools developed in this methodology, such as the strategy map. As it was illustrated by the case study of the biggest life sciences university in Poland – the strategy map could be a helpful technique for communicating the strategic intent of such a public organization. It could be also useful as an input for the performance measurement and subsequently for the strategy execution system. The adaptation of such tools requires some modifications, but expected benefits could justify such an effort.

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Knowledge management in the process of building competitiveness and innovativeness of rural areas

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Rural area development in Poland is a very complicated process, which involves many subjects and the problems which require a solution are usually complicated and fixed through decades. Currently socioeconomic development gained new character and accelerated because new properties of external environment determined an unprecedented increase in the value of knowledge. Knowledge becomes a new instrument of changes. Research on knowledge management usually focused on a single subject (enterprise or organization). Presented research undertakes investigations using a process approach, i.e. focuses on the process involving numerous subjects which are in mutual interactions, where cooperation and exchange of information are of key importance for the final effect. Research problem proposed research sounds: Can solutions worked out as a part of the conception of knowledge management be a stimulant for the development process occurring in rural areas? The main research objective is an adaptation of the conception of knowledge management for the needs of sustainable socioeconomic development of rural areas, particularly for building their competitiveness and innovativeness. Combining a difficult process of socioeconomic changes which very slowly occur in rural areas with modern management conceptions present in the most innovative companies raises hope.

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Enabling disaster recovery scenario in digital libraries using eventual consistency

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Knowledge access and knowledge sharing is essential in contemporary classrooms. Building a digital library is important for empowering knowledge access. It is a way to improve efficient knowledge distribution and collaboration among students. Considering the importance of the digital library in the process of knowledge access and knowledge sharing, it is essential to prepare this system for disaster recovery. Disaster recovery includes activities that are related to preparation for natural or human-induced disasters. In a case like this, where the system handles large amounts of digital content, building a disaster recovery scenario is difficult. There are approaches for dealing with this problem that rely on copying data to a distant location, but those are inefficient, slow and they produce system bottlenecks while in action. This paper shows a different approach-proposed architecture depends on the MongoDB NoSQL database system for handling large binary files. If used, MongoDB database system serves as digital library storage, making disaster recovery possible, regardless of the size of the content it manages. It is a distributed database system suitable for handling binary files with advanced replication mechanisms for securing its content.

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Risk management and knowledge management as a function of technology management

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In this paper the application of knowledge as a function of risk management was represented by technological processes. As an example of this application, a simple process for manual handling of loads was given. International standards, which need to be met for safe function of this operation, provide severe and complex requirements, and require mathematical calculations and knowledge in ergonomics and mechanics. By using a corrected method, which had previously been used by the author, and considering the requirements of the standard, this paper was created to provide a risk assessment model, which can be simply and effectively used by any assessor.

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Business intelligence systems in the SaaS model as a tool supporting knowledge acquisition in the virtual organization

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The aim of the article is to present the possibility of knowledge acquisition process support by Business Intelligence (BI) systems in the form of e-service Software as a Service (SaaS). In order to realize the above aim there was accepted the following course of action. At the beginning of the paper the problems of knowledge acquisition in virtual organizations were discussed. Then, the outline of BI systems was presented. Next, the possibilities of supporting knowledge acquisition for potential or real subjects of virtual organization using BI systems were indicated. In the final section, BI systems in the SaaS model which can support knowledge acquisition by subjects interested in participation or functioning in the virtual organization were briefly characterized. The article is summarized with the list of exemplary BI systems available in the SaaS model.

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Integration of spatial information resources on the example of utility companies in Częstochowa region

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The paper concerns the problems of information system integration based on spatial information resources. The considerations deal with the environment of utility companies. The enterprises conducting business activity are simultaneously dependent on each other. Dependencies result from the location of infrastructure (water, sewage, power, gas and other networks). As an example, the development of new housing estates is dependent on cooperation across companies. The authors prepared the study's model of integration levels based on spatial information resources. They distinguished different aspects of information systems integration, including organization, technology, software, data dictionary and data integration. The model encompasses levels concerning one enterprise and leads to the e-community which contains different organizations from the region. The resulting proposed integration merges information resources from different kinds of information systems. The investigation performed by the Authors shows the level of spatial information integration in chosen utility companies in Czestochowa region. Currently the majority of investigated enterprises is at the basic level with elements of medium level (i.e. 2 - 3 levels in 5 degree scale). The research and spatial information market trends show that the model can be realized in the future.

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The role of information brokers in knowledge management

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'The way of managing the challenges of "information era" by business entities is the litmus for success nowadays. Professional competencies and special skills for managing information and information resources are needed. The paper discusses the role of information brokers as the joining link in facilitating success in the knowledge economy. This role is composed of the roles of surveyors, analysts, creators of secondary information, and finally knowledge disseminators.

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Technological context of healthcare entity intangible asset management

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This paper presents results of research aimed at presenting the opinion of hospital managers about the influence of information and communication technologies development level (referred to as technological context) on the increase of health care entity intangible assets. Hospital intangible assets include knowledge, personnel skills, organizational structures and procedures, hospital reputation (i.e. hospital perception by patients and other stakeholders – such as sponsors, investors etc.). The paper presents the results of the case study type research in selected Polish hospitals that differ in size, location and development level of information and communication technologies utilized. The respondents included hospital board representatives, who confirmed the positive impact of the information technology level on the increase of hospital intangible assets. The results from this qualitative research can provide a starting point for more specific quantitative studies.

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Social media as a source of knowledge for customers and enterprises

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Social media (SM) is a set of tools, such as blogs, social networking sites, forums, wikis, which enable easy communication and cooperation. A multitude and variety of these tools, increasing access and the possibility of a free exchange of information by all users make social media a dynamic, comprehensive and complex IT infrastructure that enables easier, faster and more widespread sharing of information. The information provided in social media is useful for both customers and enterprises. The former benefit from the opinions of other consumers about products, recommendations, and a description of experience in dealing with enterprises, whereas the latter, by monitoring the content of SM, acquire feedback on their market offer as well as data on the target group - its expectations, needs, and socio-demographic and psychographic characteristics. This information is becoming the basis for market decision-making; therefore, it can be stated that on its basis the knowledge of market entities is shaped. Three categories of knowledge are distinguished in the literature: knowledge from customers, knowledge about customers and knowledge for customers. This paper is an attempt to demonstrate that this concept is also reflected in social media. The review of the literature has been conducted and as a result, it has been indicated what type of information makes up the individual categories of knowledge and which social media tools are the best source of such information.

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The concept of semantic platform for addressing the information needs of university researchers and educators

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University libraries contain varieties of documents from newspaper articles to academic journals and even multimedia collections. These resources are usually described using metadata for easier access, storage and retrieval. Using metadata alone, however, is not enough to describe the semantics of documents, and therefore enhanced search is usually not possible. This paper presents an on-going project in developing a semantic digital library for an academic institution. The concept of a semantic platform called SemLib grew out of many academic discussions and it reflects the information needs of researchers and educators from Technical University of Czestochowa. The proposed method of needs assessment is especially designed to create the starting point to build semantic structure of the digital library. The author proposes an approach for managing, organizing and populating knowledge by semanticizing existing library information resources that exists in digital and traditional paper form. The prototyped solution is based on the Semantic MediaWiki software, that allows for cooperative resource building, maintaining, and offers enhanced querying capabilities. Experimental results demonstrate the potentials and effectiveness of the proposed system as well as some obstacles reported by users that are the subject to improvement by further development of the SemLib platform.

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The financial landscape of public higher education: Does accreditation solidify an information systems program's future? A case study in Pennsylvania, USA

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Within the state public higher education system in Pennsylvania, USA, there are 14 state-owned public universities known as PASSHE.   From these universities, two (2) have ABET-CAC accreditation as of 2013. Recently, multiple factors have recently disrupted the financial stability of the state's revenue stream and annual allocation to the PASSHE universities, which has resulted in financial deficit positions for many of the PASSHE universities. With the state legislation's plan to consolidate universities and various programs within PASSHE, this paper discusses how ABET-CAC accreditation can be used as a model to promote the value-added for exemplary information systems programs, and others, to withstand the challenges of consolidation and possible termination.

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A socio-cognitive approach to semantic analysis and categorization processes

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Information systems design, when viewed from a human-computer interaction perspective, needs to account for the cultural language semantics. Socio-cognitive approaches are helpful in understanding how the mind processes and models acquired knowledge in order to solve problems. Understanding needs knowledge of content and context for constructing a meaning, which like the communication has interactive structure. Interpreting as well as understanding is a subjective process. The relation perceived between compared objects, included in the same class, is a function of knowledge – the "theory" about a part of reality. The representations of perceived objects, called structure of qualis can be helpful in a minimal explanation of the meaning of the words. The classical goal of cognitive psychology is to solve, if the generalisation and assessment of similarity of the objects is important for identification and categorization. A modified method of pairwise comparison may be used for the assessment of qualis, the measurement of similarity between the objects for categorization, and in the research on "non-sharpness" of semantic fields, semantic spaces, psychological (and semantic) distance, for describing the membership functions, its measure, for quantification of information, in the research on the information's asymmetry etc.

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Big data: Three-aspect approach

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The term big data is a new, shaping up concept. The paper proposes a three-faceted explanation of the term, by distinguishing three basic aspects of big data: technological (including the opportunities offered by IT and modern analytical methods), business (including a variety of applications of the concept) and social (focusing on the consequences of its implementation). The authors also indicate some other aspects, e.g. legal, which can be used to extend the classification. The social aspect, mainly concerning the risks associated with the mass processing of personal data and privacy, is usually overlooked when trying to define the concept. It is dependent in relation to the other aspects, but our findings support the conclusion that it is the closest to the understanding of the concept big data in common opinion. The paper contains the attempt at a comprehensive multi-faceted analysis of the big data phenomenon.