

GLOBAL TECHNOLOGY MANAGEMENT SYMPOSIUM

ABSTRACTS

February 7-8, 2014

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Global Technology Management Symposium

PROCEEDINGS

February 7-8, 2014

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A Message from the Chair



It is with great pleasure, I want to welcome presenters, organizing committee members, reviewers and session chair to our conference dealing with global technology issues. This symposium is designed to serve as an important meeting for the discussion and exchange of ideas and information to enhance understanding, appreciation, and cooperation among diverse groups of professionals. The sessions and the abstract deal with opportunities and challenges faced by professionals in the new global environment.

This document contains abstracts in several important subject areas of technology. The collection exhibits an excellent selection of quality submissions. The authors are from various educational institutions located in different parts of the world. Please note that book of abstract of this symposium are distributed globally.

I want to extend my sincere thanks to conference organizers and participants for their support.

Raj K. Singh, Ph.D.
Conference Chair

About the Authors

Dr. Aloqaili earned his Ph. D. in Reading & Language Art from Ohio University, USA. He is a professor at College of Education at King Saud University and is currently the General Supervisor of Planning and Statistics Dept. at Saudi Ministry of Higher Education.

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Ms. Chueh has over 20 years of experiences in the international-related business. Some of her significant contributions are serving as international trading manager, front-line spokeswoman and trainer for a famous Japanese automaker, and marketing and PR program director of a large Advertising Company in Asia. Ms. Chueh presently works as the co-founder and Vice President of Weast Global Service Network, which has successfully incubated and incorporated some new inventions into global businesses. She has taught courses such as Communication Theory and Public Relations in a College in Taiwan. Ms. Chueh also published a novel that was translated from English to Chinese by her.

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Dr. Keskinturk graduated with a BS and Ph.D. in Department of Quantitative Methods, School of Business, University of Istanbul. After completing Ph.D. (2009) he was in Wichita State University, Industrial & Manufacturing Engineering as a visiting researcher for a year. He got assistant professor position in 2011 and since then he has been teaching at School of Business, University of Istanbul.
He served as an executive editor of the *Journal of School of Business, Istanbul University.* In addition he is a reviewer for some other business and engineering journals.

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As an adjunct professor, Dr. Henrietta Okoro has taught at the undergraduate and graduate levels for over five years in the areas of leadership, management, business, accounting, and information systems and technology. Having lectured in several universities (Colorado Technical University, National University, and Ashford University), she played important roles in many of the ground-breaking initiatives that contributes to students' growth and academic excellence. Dr. Okoro has a diverse educational background; ranging from a Higher National Diploma in Banking and Finance, Bachelors Degree in Business Administration, dual Masters Degree in Business Management and Accounting, and a Doctorate in Organizational Leadership with specialization in Information Systems and Technology.
On the IT industry, Dr. Okoro has also created a niche, over 12 years of successfully leading the software quality control and assurance in a Telecommunication industry. She has over 22 years of professional experience in information technology, accounting, and management. In addition, she is an executive director in an Oil and Gas Services Company and Chief Executive Officer in a management consulting firm.
Dr. Okoro is a published author and has presented and published several peer reviewed articles in the field of management, leadership, and information technology. She is the Editor-in-chief for Journal of ANWAD (an international peer reviewed

journal for integrated research), a peer reviewer for the global mindset and management conference proceedings, and the national president for Association of Nigerian Women Academic Doctors, Inc., (a non-profit organization that advocates for research, educational development, and women empowerment). The list of her past and recent publications can be accessed via: www.cyttagroupllc.com/publications.php She is a certified software test engineer (CSTE); a senior member with Quality Assurance Institute (QAI) and American Society for Quality (ASQ). Dr. Okoro is married with four children.

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READING SKILLS IN THE DIGITAL AGE: AN ANALYTICAL STUDY

By
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Abstract:

— The main purpose of the present study is to review and analyze reading skills required to function effectively in the digital age. Without these skills, students are being prepared to succeed in yesterday's world- not tomorrow's. Digital literacy involves more than just the ability to use software or operate a digital device; it includes a large variety of complex cognitive, motor, sociological, and emotional skills. The study concluded that the most important reading skills needed to survive in the digital age are: critical thinking, effective communication, self- learning, high productivity, and knowledge management skills. Mastering these skills help students to success in many areas academically, socially, and economically.

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Keywords: Reading Skills, Digital Age, Technology, Thinking Skills, Self- Learning.

CREATING GLOBAL ENTREPRENEURS: A CASE STUDY OF ONE TECHNOLOGY-BASED STARTUP IN CHINA

By
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Abstract

Global entrepreneurship conducting business across countries imposes challenges and restraints that domestic entrepreneurship does not typically meet. The complexity of entrepreneurial process has been analyzed by numerous theories and approaches in the past. Nonetheless, there is a lack of a synergetic model that embraces most of the critical issues into one framework; the true picture of entrepreneurship in a system is still vague. The purpose of this study is to identify core characteristics embedded in technology-based entrepreneurial processes and to construct a theoretical model that provides a holistic view of how such entrepreneurship operates in a global setting. To achieve this purpose, I first investigate the usefulness of the 4S (i.e. scope, scale, skill, and social networking) firm model in explaining entrepreneurial processes. Research findings from a mixed-method case study of one technology-based startup in China revealed that the 4S firm model is insufficient in depicting vital relationship such as operating across several countries and manufacturability in new product development. Taking a system perspective, I incorporated five academic disciplines and created the B.R.I.C.K. (i.e. base, R&D manufacturability, internationalization, cash, and knowledge management) firm model that intends to fully describe entrepreneurial processes of technology-based startups in a global context. For future studies I suggest empirically-grounded researches through collaborative endeavors across disciplines in testing the usefulness of the B.R.I.C.K. firm model.

Keywords: global entrepreneurship; technology-based startup; system theory; social capital; China; 4S firm model; B.R.I.C.K. firm model.

IPR STRATEGIES OF ASIAN FIRMS IN EMERGING TECHNOLOGY MARKETS; NICHIA AND SEOUL SEMICONDUCTOR

By
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Abstract

Large Asian firms have caught-up and outperformed the leaders in several tech industries. Recently, smaller Asian firms are also observed trying to enter global technology markets. However, these markets require patented original technologies, capabilities for effective protection of (Intellectual Property Rights) IPR and are eclipsed by high levels of patent litigation. This paper, later to be adapted as a teaching case, demonstrates the IPR capabilities and strategies of a new breed of successful Asian firms in an emerging technology market i.e. LED lighting. (Nichia) of Japan and Seoul Semiconductor (SSC) of South Korea were engaged in a patent war for many years before cross-licensing most of their patents. The case records their technology development and maneuvering through varied but limited IPR strategies. A simple framework and preliminary evidence shows their IPR strategies appear to be shaped by position of their technology within the value chain and their information about each other's patents. The case also underpins significance of capabilities to manage and protect patents (families) in multiple markets as sources of competitiveness in emerging technological markets.

Keywords:

Intellectual Property Rights, Patent Wars, Patents, Asian Firms, LED Lighting, Nichia Corporation, Seoul Semiconductor

A NOVEL MEMETIC ALGORITHM FOR PRODUCTION-DISTRIBUTION SYSTEMS

By
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&
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Abstract

Supply chain is a complex system in which most of the activities are inter-related and changes in one of these activities can affect the performance of the other processes. Thus, integrated management strategies in a supply chain can yield considerable advantages throughout the system as supply chain members and customers become more integrated. Firms can gain a significant cost savings with the integrated management strategies. In this study, we propose a memetic algorithm to solve the integrated production-distribution problem. The objective of the problem is to find optimal production quantity, customer delivery quantity and schedule in order to minimize the total system cost which is composed of production setup cost and variable production cost, inventory holding costs and distribution cost. The problem addressed in this paper is based on a finite horizon, multi-period, multi customer, single plant where a fleet of capacitated vehicles transport products from the manufacturing plant to meet the demand specified by customers for each period. The effectiveness of the proposed algorithm is tested on the existing data sets. According to test results, the proposed algorithm is a very effective method to solve integrated production-distribution problems.

Keywords: Supply chain management; coordination, production, distribution, memetic algorithm

HYBRID METAHEURISTIC FOR THE PERMUTATION FLOW SHOP SCHEDULING PROBLEMS

By

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&

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Abstract

This paper considers a hybrid metaheuristic for the Permutation flow shop Scheduling Problems with the objective of minimizing makespan. Genetic algorithm and kangaroo algorithm are proposed to solve the problem. A genetic algorithm fulfills the diversification phase ofthe optimization. By means of this phase, the population contains good solutions placed in different points of the solution space. Kangaroo algorithm fulfils the intensification phase. Every individual solution from the first phase is considered as an initial solution for the Kangaroo algorithm. The proposed hybrid algorithm is tested with benchmark problems and solution results performance was compared with the existing heuristics.

Keywords: Scheduling, Permutation Flow shop, Genetic Algortihm, Kangaroo Algortihm

CYBER-SECURITY THREATS: HOW SAFE IS THE GLOBAL MARKET?

By
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Abstract

In the era of the Internet that determines daily activities of individuals and organizations, many threats exist in the cyber-space domain. The advances in technology and increasing digitization of information in communication technology have transformed more of the public and private activities to be conducted in the cyber-space. New technologies allow greater networking and sharing of information by governments, organizations, and individuals. These technologies promote productivity and efficiency and alongside creates new platform for malicious behaviors by hackers, criminals, and terrorists. However, there is no doubt that the advances in technology contributed to the high demand in the use of the Internet and other cyber information tools for company and personal activities. At the same time, there is also increasing concern that hackers, criminals, and terrorists will build alliances and exploit security vulnerabilities and threaten the increasing global interconnection and economic worlds. Consequently, organizations must know how to secure their clients personal information and consumers must know how to use the Internet technology to avoid incidence of cyber-scams.