# TABLE OF CONTENTS

THE GREAT RECESSION VS. THE GREAT DEPRESSION: LESSONS LEARNED? LESSONS LOST? ........................................... 1
Schumacher, Terry

FRAMEWORK FOR STANDARDIZATION PROGRAMS IN THE ENGINEER-TO-ORDER INDUSTRY ................................. 13
Vollmar, Jan ; Grepp, Michael

EVALUATION OF SELF-SERVICE TECHNOLOGY ON HOUSEHOLD WASTE MANAGEMENT IN EMERGING COUNTRIES: A CASE OF BANGKOK, THAILAND .................................................. 21
Sukholthaman, Pitchayanin ; Shirahada, Kunto

ORGANIZATIONS WITH PURPOSE: BENEFIT CORPORATIONS .................................................................................. 28
Cetindamar, Dilek

SYSTEM CONVERGENCE IN THE CRAFTING AND EXECUTION OF A SERVICES DIRECTED STRATEGY: A TECHNOLOGY PERSPECTIVE ........................................................................................................... 33
Guemes-Castoren, David ; Toro, Miguel A.

DESIGNING THE COHERENT ECOSYSTEM: REVIEW OF THE ECOSYSTEM CONCEPT IN STRATEGIC MANAGEMENT .......................................................................................................................... 53
Trajimmo, Masaharu ; Kajikawa, Yuuya ; Tomita, Junichi ; Matsumoto, Toichi

OPPORTUNITIES FOR STRATEGIC ALIGNMENT OF IT TO BUSINESS WITH THE ADOPTION OF CLOUD COMPUTING: CASE STUDIES IN LARGE ORGANIZATIONS ........................................................................... 64
Milian, Eduardo Zied ; de Mesquita Spinola, Mauro ; de Paula Pessoa, Marcelo Schneck

ASSESSMENT OF IP MANAGEMENT IN AGRICULTURAL BIOTECHNOLOGY INDUSTRY: INSIGHT FROM A CASE STUDY .............................................................................................................. 75
Chang, Hebron C. ; Hsin-Ning Su

TESLA MOTORS, INC.: PIONEER TOWARDS A NEW STRATEGIC APPROACH IN THE AUTOMOBILE INDUSTRY ALONG THE OPEN SOURCE MOVEMENT! ................................................................................ 85
Moritz, Manuel ; Redlich, Tobias ; Kreuz, Pascale ; Busbaum-Conradi, Sonja ; Wulfberg, Jens P.

INTERNATIONAL FLOWS OF JAPANESE AND WORLD’S RESEARCHERS .................................................................. 93
Iwami, Shinto ; Mori, Junichiro ; Sakata, Ichiro

MANAGING TECHNOLOGY PUSH THROUGH MARKETING TESTBEDS: THE CASE OF THE HI TECH CENTER IN VIENNA, AUSTRIA ............................................................................................................. 99
Hasenauer, Rainer ; Weber, Charles ; Filo, Peter ; Orgonas, Josef

STRATEGIC MARKETING AND INNOVATION PERFORMANCE OF INDIAN MSMES ............................................................ 127
Krook, Babu ; Lodhi, C.P. ; Kadadevaramth, Rajenwar S ; Shriishi, S

Takano, Yasautomo ; Takeuchi, Misutomo ; Kajikawa, Yuuya

A STUDY ON CHINESE HIGH SCHOOL STUDENTS’ ATTITUDES TOWARDS SCIENCE & TECHNOLOGY .......................................................... 143
Li Xiajuan ; Chen Liqian ; Zhang Huiliang ; Wang Libei

PROMOTING SERVICES USING PUBLIC DATA OF SCIENCE AND TECHNOLOGY ...................................................... 148
Do-Bum Chung ; Sung-Uk Park ; Eun-Jin Kim

TOP RESEARCHER CHANGE BY GOVERNMENTAL SUPPORT IN JAPAN ........................................................................ 159
Tanaka, Kazuya ; Sakata, Ichiro

REVISIT THE CONCEPT AND USEFULNESS OF SCIENCE AND TECHNOLOGY PARK AND IMPLICATION FOR THE REGIONAL INNOVATION POLICY: CASES OF SEOUL AND GYEONGGI PROVINCE IN KOREA .............................................................................................................................. 166
Pei-Chun Lee ; Hsin-Ning Su

EVOLUTION OF SCIENCE, TECHNOLOGY AND INNOVATION POLICY IN ASIA: CASE OF CHINA, SOUTH KOREA, JAPAN AND TAIWAN .................................................................................................... 184
Hwang Hee Cho ; Eunhee Kim

MANPOWER DEMAND FORECASTING OF STRATEGIC EMERGING INDUSTRY IN CHINA: BASED ON GREY SYSTEM METHODOLOGY ........................................................................................................... 192
Yao Wei ; Li Yuxiang

MEASUREMENT OF SCIENTIFIC RESEARCH PERFORMANCE AT THE UNIVERSIDAD DE SONORA, MEXICO ............................................................................................................................................. 204
Manuel ; Angulo, G. ; Chavez, K. ; Barba-Guzman, M.

A NEW TYPOLOPY AND TRANSITION OF INNOVATION POLICY INSTRUMENTS IN CHINA: EVIDENCES FROM THE NEW ENERGY VEHICLE INDUSTRY ........................................................................... 211
Lei Xu ; Cui Huajiong ; Zhang Li ; Su, Jun

ASSOCIATION RULES IN INNOVATIVE TECHNOLOGY COLLABORATION .............................................................................. 220
Dadar, Irem ; Kayakuthu, Gunal ; Sennurugugu, Babar

ASSIMILATING EXTERNAL KNOWLEDGE: A LOOK AT UNIVERSITY-INDUSTRY ALLIANCES .............................................................................. 227
Santoro, Michael D. ; Gopalakrishnan, Shashi
HOW TO MANAGE THE INDUSTRY-UNIVERSITY COLLABORATIVE RELATIONSHIP TO IMPROVE THE INNOVATION PERFORMANCE ..........................................................238

Li, Fei ; Zou, Xiaolong ; Chen, Jin ; Shao, Huaihong

INDUSTRY-Academia LINKAGES IN A HIGH TECH RESEARCH FIELD ..........................................................245

Ozcan, Sercan ; Islam, Nazrul

A METHODOLOGY TO BUILD AN INITIAL R&D PORTFOLIO FOR INDUSTRY-UNIVERSITY COOPERATION ..........................................................257

Castillo, Jessica ; Dias, Jamile ; Bagno, Ronni Barros ; Freitas, Jonathan Simoes ; Cheng, Lin Chih

COOPERATION MODELS AS SUCCESS FACTOR FOR INTERDISCIPLINARY, INTER-ORGANIZATIONAL RESEARCH AND DEVELOPMENT IN THE AUTOMOTIVE INDUSTRY ..................................................270

Grochowski, Eva Maria ; Oldhausen, Peter

CHALLENGES OF R&D INSTITUTIONS FOR TECHNOLOGY COLLABORATION WITH ALLIANCES IN AN EMERGING ECONOMY ..........................................................280

Sompong, Kaeansamphon ; Udornvitid, Kalaya

THAILAND’S NATIONAL RESEARCH UNIVERSITIES (NRUS) AND THEIR UNIVERSITY-INDUSTRY LINKAGES (UILS) BASED ON UNIVERSITY-INDUSTRY CO-PUBLICATIONS (UICs) ..........................................................287

Siripintakchai, Niyagar ; Miyazaki, Kumiiko

LOOSELY COUPLED SME NETWORK IN MANUFACTURING INDUSTRY: A CHALLENGE IN NIGATA SKY PROJECT ..........................................................295

Amjad, Babar ; Hirano, Makoto ; Minato, Nobuaki

THE STRATEGY OF OPENNESS IN INDUSTRIAL PRODUCTION ..........................................................302

Redlich, Tobias ; Wulf, Stefanie ; Moritz, Manuel ; Buxbaum-Conradi, Sonja ; Krenz, Pascal ; Wulfberg, Jens

CLUSTERING OF SMALL AND MEDIUM-SIZED ENTERPRISES AS A STRATEGY FOR THEIR COMPETITIVENESS ..........................................................310

Sennaroglu, Babar

USING A DISAGGREGATED R&D INTENSITY INDICATOR TO IDENTIFY LEADING COUNTRIES IN SPECIFIC MANUFACTURING CLASSES ..........................................................313

Kayal, Aymen A.

AN INTEGRATED ISM-DEMATEL MODEL FOR EVALUATION OF TECHNOLOGICAL INNOVATION CAPABILITIES’ IMPACT ON THE COMPETITIVENESS OF SMALL & MEDIUM SIZE ENTERPRISES (SMES) ..........................................................322

Ashianpour, Zaineb ; Zandhehsi, Hesam

EVALUATION OF THE VEHICLE AFTER-SALES SERVICES OFFERED IN SOUTH AFRICA BY COMPETING BRANDS ..........................................................335

Mashigo, Khuto ; Weeks, Richard ; Erasmus, Louwrence D.

THE INDEXATION MONITORING OF THE CIVIC SCIENTIFIC LITERACY CONSTRUCTION CAPACITY ..........................................................347

Guo, Xiaoyan ; Xue, Bai ; Ren, Lei ; Zhang, Huiliang ; Li, Junping

RESEARCH ON CONSTRUCTION AND EVALUATION OF THE INDICATOR SYSTEM FOR COMPANY SCIENCE POPULARIZATION CAPABILITIES IN MAINLAND CHINA ..........................................................353

He Li ; Zhang, Xiaomei ; Wang, Lihui

AN ANALYSIS ABOUT INTERNET COMMUNICATION COMPETENCE FOR SCIENCE AND TECHNOLOGY IN CHINA ..........................................................360

Wu Dan ; Zhang, Qih ; Xi, Ting ; Lihui Wang

MODEL ONTOLOGY AND INFORMATION ARCHITECTURE ..........................................................367

Betz, Frederick ; Phillips, Fred

DISSENT AND GAMES AS A CONSIDERATION IN DECISION MAKING: CASE OF SOLAR PHOTOVOLTAIC TECHNOLOGIES ..........................................................374

Sheikh, Nasir Jamil

IMPROVING LONG-TERM STRATEGIC PLANNING: AN ANALYSIS OF STEEPLE FACTORS IDENTIFIED IN ENVIRONMENTAL SCANNING BRAINSTORMS ..........................................................381

More, Elliot ; Probert, David ; Phaad, Robert

CLOUD SERVICE ADOPTION DECISION ..........................................................395

PROJECT RANKING USING PARTIAL RANKS ..........................................................472

Ju, Jiati ; Zhang, Fei ; Anderson, Timothy

ASSESSING THE EFFECTIVENESS OF BIG DATA INITIATIVES ..........................................................478

Cho, Yonghee ; Nayem, Adbulhan ; Fashad

SMART CITIES AND THE INTERNET OF THINGS ..........................................................485

Harmon, Robert R. ; Castro-Leon, Enrique G. ; Bhide, Sandhirkash
EVOLUTION OF EMERGING IPS CELL-BASED THERAPIES FOR AGE-RELATED MACULAR DEGENERATION (AMD) ................................................................. 495
Liu Xuan; Wang Lilai; Zheng, Nian
FINANCIAL ANALYSIS AND COMPARISON OF COMPACT ELECTRIC AND GASOLINE CARS .............................................................. 511
Jiang, Jing; Blank, Alexander; Maier, Felix; Blahtepudi, Anjan; Kumar, Pramod
MANAGING CLOUD COMPUTING RISKS IN FINANCIAL SERVICES INSTITUTIONS ................................................................. 519
Rohmeyer, Paul; Ben-Zvi, Tal
EVALUATION THINKING IN EMERGING TECHNOLOGY DISSEMINATION MANAGEMENT: A CASE STUDY ON THE GENE TECHNOLOGY ................................................................. 527
Lin, Yang; Wang Lilai; Zheng, Nian
MODEL TO DESIGN TECHNOLOGY SCANNING ARCHITECTURES FOR REACTION TO DISRUPTIVE TECHNOLOGIES: CONCEPTUAL RESEARCH DESIGN ................................................................................. 532
Schuh, Gunther; Kahasci, Patrick; Drescher, Toni; von Mangoldt, Julius
INNOVATION CASCADES AND THE EMERGENCE OF THE BIO-ECONOMY ................................................................................................. 545
McKetey, Maureen; Nist, Jorg
3D PRINTING: ON ITS HISTORICAL EVOLUTION AND THE IMPLICATIONS FOR BUSINESS ................................................................. 551
MEASURING TECHNOLOGICAL CONVERGENCE IN THE FIELD OF SMART GRIDS: A SEMANTIC PATENT ANALYSIS APPROACH USING TEXTUAL CORPORA OF TECHNOLOGIES ................................................................................................................. 559
Passing, Frank; Mochrie, Martin G.
MARKET CONVERGENCE IN THE FIELD OF STATIONARY ENERGY STORAGE SYSTEMS ................................................................. 571
Sick, Nathalie; Prechitschek, Nina; Bruening, Stefanie; Leker, Jana
RESEARCH ON PARTNER SELECTION MECHANISM OF TECHNOLOGICAL STANDARD ALLIANCE: FROM THE PERSPECTIVE OF NETWORK EMBEDDEDNESS ......................................................................................... 585
Jing Hu; Yuexi Zhang; Xinghua Fang
KOREAN EXPERIENCES AND LESSONS LEARNED FROM STANDARDIZATION FRAMEWORK ACTIVITIES ............................................................................. 596
Lee, Byoung Nam; Park, Wung; Park, Juyeong; Kim, Hyouseung Jun
CREATING TRUST IN SELF-SERVICE TECHNOLOGY ENVIRONMENTS: THE ROLE OF INSTITUTIONAL GOVERNANCE STRUCTURES ................................................................................................. 601
Ranüge, Ivasy; Leonard, Aswe
CURRENT STATUS OF SMART SYSTEMS AND CASE STUDIES OF PRIVACY PROTECTION PLATFORM FOR SMART CITY IN JAPAN ......................................................................................... 612
Mizuno, Yukata; Odake, Nobutaka
NEW GENERATIONS OF ESTONIAN EGOVERNMENT COMPONENTS ................................................................................................. 625
Kajsa, Alho; Robal, Tarma; Valldner, Uuno
KEYS TO INNOVATION: SYSTEM THINKING, STRATEGIC ALIGNMENT, TECHNOLOGY FOCUS ............................................................................. 632
Winckler, Dietmar H; Pretorius, Leon
APPLICATION OF CATALYTIC EFFECT TO CREATE INNOVATION ................................................................................................. 643
Shiromura, Muriro; Suzuki, Hiroshi
BIBLIOMETRIC ANALYSIS OF THE FRONT-END OF INNOVATION ................................................................................................. 648
Mendes, Glauco H.S.; Oliveira, Maicon G.
ALLIANCE PARTNERS DIVERSITY FOR OPEN INNOVATION: THE ROLE OF NETWORK POSITION AND EXTERNAL KNOWLEDGE ACQUISITION ............................................................................................................. 662
Yang, Ren; Pan, Weihua; Li, Chun; Chao, Yamin
A STUDY ON THE OPEN INNOVATION MODEL FOR WIN-WIN COLLABORATION BETWEEN LARGE AND SMALL-MEDIUM ENTERPRISES ......................................................................................... 672
Jang, Hyejin; Lee, Keeum; Yoon, Byungun
STUDY ON THE CORRELATION CHARACTERISTICS OF NEW INDUSTRIES BASED ON TECHNICAL PERSPECTIVE: THE CASE OF 3D PRINTING-RELATED INDUSTRIES ................................................................................................. 680
Huang Lucheng; Shi Yuanyuan; Wu Feifei
BRINGING YOUR CUSTOMERS TO THE LAB: BARRIERS AND FACILITATORS FOR CONSUMER INNOVATION ................................................................................................. 689
Albornos-Garrigó, Jose
INCREASING THE VALUE OF INNOVATION CONSULTING SERVICES IN THE TECHNOLOGY AGE ................................................................................................. 704
Zafeiropoulos, Sofía; Nadan, Joseph
MATCHING PARTNERS FOR OPEN INNOVATION PRACTICE ................................................................................................. 718
Manoantongvarapun, Niti; Gerardt, Nathasit
PROPOSED STEPS TO ANALYZE ORGANIZATIONAL CHARACTERISTICS AND DEVELOP A ROADMAP FOR BEING AN INNOVATIVE ORGANIZATION ................................................................................................. 728
Chaisongse, N.; Gerardt, N.
THE IMPLEMENTATION OF OPEN INNOVATION: A CASE STUDY OF MANAGERIAL LEVELS IN A CENTENARY PUBLIC RESEARCH INSTITUTE ................................................................................................. 736
Leme, Ana P.F.P.; Teixeira, Luciana A.C.; Sbragia, Roberto; Nascimento, Paulo T.S.
SECONDARY INNOVATION IN EMERGING INDUSTRY: A CASE STUDY ................................................................................................. 747
Chung-Shing Lee; Ho, Jonathan C.; Chien-Feng Hsu
CREATING VALUE IN GLOBAL INNOVATION NETWORKS: A STUDY OF SMARTPHONE INDUSTRY ................................................................................................. 755
FACILITIES PLANNING FOR A CREATIVE COMPANY ................................................................................................. 761
Barradas, Gabriel Bouhid; Cardoso, Vinicius Carvalho; da Costa Alves, Regina Reis
CAPABILITY BUILDING IN FUZZY FRONT END MANAGEMENT IN A HIGH TECHNOLOGY SERVICES COMPANY
.................................................................................................................................................................................771

Yen-Tzu Chu ; Hsin-Ning Su

UNDERSTANDING INTER-ASSIGNEE DYNAMICS OF TECHNOLOGICAL DEVELOPMENT
.........................................................................................................................................................................................783

Bento, Cesar A.C. ; Yen, Abraham S.O. ; Nascimento, Paulo T.S.

MODELLING INNOVATIVE SEARCH PROCESSES WITH PR LANDSCAPES
..............................................................................................................................................................................................806

Harrison, J.Richard ; Saetre, Alf Steinar

STAKEHOLDERS INFLUENCE IN THE INNOVATION PROCESS OF THE AUTOMOTIVE INDUSTRY: AN EXPLORATORY CASE STUDY
............................................................................................................................................................................................816

Bican, Peter M. ; Guderian, Carsten C. ; Ringbeck, Anne K.

THE FUZZY FRONT END INTEGRATION IN PACKAGING DEVELOPMENT MANAGEMENT
............................................................................................................................................................................................827

Schreiner, Lilian C. ; Marotti, Adriana ; Nascimento, Paulo T. ; Yen, Abraham S.

CUSTOMER RELATIONSHIP MANAGEMENT AND INNOVATION AS PERFORMANCE DRIVERS
...............................................................................................................................................................................................835

Hsin-Hui Hu ; Hsin-Yi Hu ; Parsa, Haragopal

INTEGRATION AND DISPERSION OF INNOVATION AND MARKETING CAPABILITIES: CASE STUDIES OF JAPANESE GLOBAL FIRMS IN KOREA
........................................................................................................................................................................................................856

Park, Youngwon ; Hong, Paul

COMPARING THE INNOVATION STRATEGIES OF ASIAN AND EUROPEAN WIND TURBINE FIRMS THROUGH A PATENT LENS
........................................................................................................................................................................................................862

Xiaqin Wang ; Zhou, Yuan ; Xin Li ; Meijuan Pan

INVESTIGATING MAP OF DIGITAL HUMANITY RESEARCH SPONSORED BY TAIWAN GOVERNMENT
..................................................................................................................................................................................................................879

Hsin-Ning Su ; Pei-Chun Lee ; Ching-Wen Kang ; Chien-Cheng Chen

FROM CATCHING-UP TO CONSTRUCTING INDIGENOUS TECHNOLOGICAL CAPABILITY CHAINS: COMPANY SYSTEM INNOVATION IN DEVELOPING COUNTRY
........................................................................................................................................................................................................887

Yuan, Fei ; Miyazaki, Kumiko

INNOVATION IN KNOWLEDGE INTENSIVE BUSINESS SERVICES (KIBS) IN MEXICO
........................................................................................................................................................................................................897

Corona-Trevino, Leonel

INNOVATION IN INNOVATION SYSTEM IN A LARGE SERVICE CORPORATION IN COLOMBIA
........................................................................................................................................................................................................905

Benavides G., Angela M. ; Yu, Abraham Sin Oth ; Nascimento, Paulo T.S. ; Camargo, Alice S.

RESEARCH PROJECT VALUATION AND COMMERCIALIZATION STRATEGY
........................................................................................................................................................................................................912

Hsieh, Chih-Hung

SUPPORTING SUSTAINABLE TECHNOLOGY CLUSTER DEVELOPMENT: A PERFORMANCE MEASUREMENT PROBLEM
........................................................................................................................................................................................................922

Gibson, Elizabeth

BENEFITING FROM EXTERNAL KNOWLEDGE: COMMERCIALIZATION CAPABILITY AS A MODERATOR
.......................................................................................................................................................................................................931

Bou-Wen Lin ; Chung-Jen Chen ; Yi-Ching Wu

CASE STUDY: NORDIC WINDPOWER'S CRITICAL BLADE FAILURES
........................................................................................................................................................................................................946

Bauer, John ; Eastham, James

.......................................................................................................................................................................................................953

Chen, James K.C.

A STUDY OF THE U.S. INTRASTATE CROWDFUNDING EXEMPTIONS
..................................................................................................................................................................................................................961

Bahloul, Ahmed

INNOVATION AND STARTUP PATHWAYS IN A UNIVERSITY SCOPE
..................................................................................................................................................................................................................968

Cardenas, Jose M. ; Rondon, Ignacio

ENTREPRENEURIAL SELF-EFFICACY AND TEMPORAL CONSTRUAL EFFECTS IN IDENTIFYING NASCENT TECHNOLOGY ENTREPRENEURS
..................................................................................................................................................................................................................972

Hallam, Cory R.A. ; Zanella, Ginaluca ; Dorantes, Alberto ; Cardenas, Cesar

DISRUPTIVE INNOVATION AND LATECOMER'S CATCHING-UP DILEMMA: TOWARD A DEMAND-SIDE PERSPECTIVE OF FRUGAL ENTREPRENEURSHIP
..................................................................................................................................................................................................................978

Mu, Ruifu ; Chai, Xiaobo ; Hang, Chung Chek

A TEST OF A DESIGN PROCESS SCALE
........................................................................................................................................................................................................988

Marinakis, Yorgos D. ; Harms, Rainer ; Walsh, Steven T.

AN EMPIRICAL STUDY ON THE FACTORS AFFECTING ACADEMIC TECHNOLOGY ENTREPRENEURSHIP IN SOUTH KOREA
..................................................................................................................................................................................................................992

Kim, Junmo ; Kwon, Yongwan

CO-INNOVATION NETWORK DRIVEN ENTREPRENEURSHIP IN HIGH-TECHNOLOGY-EVIDENCES FROM CHINA
..................................................................................................................................................................................................................1002

Yen, Abraham S.O. ; Nascimento, Paulo T.S. ; Tsang, Chun-Hsing ; Huang, Shi-Zheng ; Liu, Pe-Jin ; Chiew, Yuan-Yin

RAIN IS THE BEST BLESSING DURING SEVERE DROUGHT: A VENTURE CAPITAL STUDY OF BANGLADESH
..................................................................................................................................................................................................................1016

Jiang, Syuan-Yi ; Su, Hsin-Ning

INTELLECTUAL PROPERTY: TENSION ON OPEN INNOVATION?
................................................................................................................................................................................................................1026

Bican, Peter M. ; Guderian, Carsten C. ; Ringbeck, Anne K.

EVALUATE THE VALUE OF INTER-INDUSTRY KNOWLEDGE DIFFUSION
................................................................................................................................................................................................................1036

Hsin-Hui Huang ; Hsin-Ning Su

PROFITING FROM STRATEGIC LEGAL ACTIVITIES: IMPLICATION FROM NON-PRACTICING ENTITIES
................................................................................................................................................................................................................1045

Jiang, Syuan-Yi ; Su, Hsin-Ning
PATENT STRATEGY IN EXPLORATION AND EXPLOITATION ALLIANCES: THE CASE OF BIOTECHNOLOGY START-UPS ........................................... 1054
Wang, Bo ; Subramanian, Annapoorna M. ; Chai, Kah-Hin

WHAT IS THE VALUE OF INTERNATIONALIZED PATENT? ................................................................. 1061
Chien-Che Chiu ; Hsin-Ning Su

PATENTING FINANCIAL INNOVATION IN EUROPE .................................................................................. 1071
Kapoor, Rahul ; Mention, Anne-Laure

FACTORS RELATED TO ACADEMIC PATENTING IN A MEXICAN UNIVERSITY ........................................... 1078
Perez, Diana M. ; Diaz ; Osnaya, M. ; Alejandro Alarcon

HOW CAN UNIVERSITY PATENTING ASSIST INDUSTRY DEVELOPMENT IN THE FACE OF GROWING PATENT WARS? THE CASE OF TAIWAN .................................................................. 1088
Shihmin Lo

PATENT-PROMOTING POLICIES AND REGIONAL UTILITY PATENT OUTPUT: EVIDENCE FROM PROVINCIAL LEVEL DATA ................................................................................................. 1100
Wang, Ling

LEADERSHIP CHALLENGES: A HIGHER EDUCATION PERSPECTIVE ...................................................... 1112
Ramdass, Ken

MERGING DISCIPLINES: AN EXPLORATORY STUDY .................................................................................. 1121
Benade, Siebert J

FRAMEWORK ASSESSMENT FOR COSTS OF POOR QUALITY IN HIGHER EDUCATION PROCESSES .......... 1133
Kanakana, Grace Mlungu ; Van Wyk, Ben ; Pretorius, Jan-Harm C

EXPLORING THE CHALLENGES AND OPPORTUNITIES FOR HIGHER EDUCATION INSTITUTIONS: WORK DOMAIN ANALYSIS AND DEVELOPMENT OF STRATEGIC OPTIONS .................................................. 1137
Philbin, Simon P

HOW MUCH DO THEY KNOW? A SURVEY OF THE FOUNDATIONAL KNOWLEDGE OF INCOMING TECHNOLOGY MANAGEMENT UNDERGRADUATES ................................................................................. 1151
Downs, Guy H. ; McAllen, Dorothy K

STUDENT REFLECTIONS ON TEACHING, LEARNING AND THE WORKPLACE AT A UNIVERSITY IN SOUTH AFRICA .................................................................................................................. 1155
Ramdass, Ken

CENTRAL INDIANA STEM TALENT EXPANSION PROGRAM: STUDENT AND FACULTY INTERVENTIONS ................................................................................................................................. 1163
Hundleby, Stephen P. ; Feldhaus, Charles R. ; Watt, Jeffrey X. ; Marrs, Kathleen A. ; Gavrin, Andy ; Mzumara, Howard

AN ANALYSIS OF RELATIONSHIP OF EXERCISE AND CREATIVITY OF COLLEGE AGE GENERATION IN TAIWAN: CREATIVITY EVALUATION FOR FUTURE TECHNOLOGICAL ENVIRONMENT ..... 1168
Liu, Yao-Jen

CHALLENGES IN GLOBALIZATION TO PROTECT TECHNOLOGICAL KNOWLEDGE ................................ 1179
Umeda, Kentaro ; Washida, Yuichi

THE CHANGING DISCOURSE OF TECHNOLOGY IN SOCIETY IN THE 21ST CENTURY: IDENTIFYING THEMES, BROADER QUESTIONS AND EXPLORING THE ROLE OF TECHNOCRATIC IDEOLOGY .................................................................................. 1185
Griffy-Brown, Charla

EXPLORING INFLUENCE OF R&D INVESTMENT, IMPORT AND EXPORT PERFORMANCES TO PATENT VALUE ................................................................................................................................. 1191
Kao, Chuan-Wei ; Su, Hsin-Ning

GLOBAL DEPLOYMENT OF JAPAN’S INFRASTRUCTURE SYSTEMS ................................................................ 1200
Iwamoto, Takashi ; Aoki, Hidehata ; Haniu, Eri ; Fengfeng Yin ; Sakamoto, Yoshikazu

A PILOT STUDY ON THE INTERNATIONALIZATION OF TAIWANESE AGRI-BIOTECH SMES: A TECHNOLOGY-ORGANIZATION-ENVIRONMENT (TOE) PERSPECTIVE ......................................................................... 1207
Camargo, Ed. ; Wang, Min-Ying

ARE GEEKS DRIVING OUT THE FASHION INDUSTRY? .............................................................................. 1224
Kitaora, Saori ; Washita, Yuchi

MUSEUMS POOL: A MOBILE APPLICATION FOR MUSEUM NETWORK ....................................................... 1230
Kovanitsaruch, L. ; Sampechuda, T. ; Chinda, K. ; Waaphetho, T. ; Chaiwongyen, A. ; Wisudad, S

ANALYSIS OF THE IMPACT OF INTERNATIONALIZATION ON MANAGEMENT FOR SUSTAINABILITY AND BUSINESS PERFORMANCE .......................................................................................... 1236
Gomes, Claudia Maffini ; Kruglianskas, Iuak ; Kneipp, Jordana Marques ; Bichueti, Roberto Schoproni ; Gomes, Beatriz Maffini

PREDICTING THE TECHNOLOGICAL PATHS IN AUTOMOTIVE INDUSTRY AND THE ENVIRONMENTAL IMPACTS OF ELECTRIFICATION OF AUTOMOTIVE INDUSTRY IN SELECTED OECD COUNTRIES ........................................................................................................... 1247
Wang, Bo ; Subramanian, Annapoorna M. ; Chai, Kah-Hin

RECOGNIZING KNOWLEDGE AS ECONOMIC FACTOR: A TYPOLOGY .......................................................... 1279
Magnier-Watanabe, Remy

KNOWLEDGE MANAGEMENT MATURITY LEVEL IN A BRAZILIAN AIR FORCE FLIGHT TEST ENVIRONMENT ................................................................................................................................. 1296
Feilidah, Roberto C. ; Trabasso, Luis Gonzaga

HUMAN CENTRIC CYBER SECURITY: WHAT ARE THE NEW TRENDS IN DATA PROTECTION? ................. 1321
Karvonen, M. ; Klemola, K. ; Ramue, S. ; Kassi, Tuomo

BASED ON BIBLIOMETRICS AND CONTENT ANALYSIS OF THE LITERATURE ON SCIENCE AND TECHNOLOGY MEDIA .................................................................................................................. 1339
Xiaoli Sun ; Dan Wu ; Chao Zhang
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE TRANSFER IN A LARGE TECHNOLOGY COMPANY: IDENTIFICATION OF</td>
<td></td>
</tr>
<tr>
<td>KEY FACTORS AFFECTING BROKER'S KNOWLEDGE APPROVAL</td>
<td>1345</td>
</tr>
<tr>
<td>A STUDY ON EFFECTIVE KNOWLEDGE REUSE IN MULTIPLATFORM WEB APPLICATIONS USER INTERFACES</td>
<td>1351</td>
</tr>
<tr>
<td>A BUSINESS-INTELLIGENCE-BASED CONCEPT FOR THE IDENTIFICATION OF SIMILAR PARTS</td>
<td>1362</td>
</tr>
<tr>
<td>MANAGING SOFTWARE ENGINEERING COMPETENCES WITH DOMAIN ONTOLOGY FOR CUSTOMER AND TEAM PROFILING AND TRAINING</td>
<td>1369</td>
</tr>
<tr>
<td>IMPACTS OF COLLABORATIVE INFORMATION SYSTEMS QUALITY ON SOFTWARE DEVELOPMENT</td>
<td>1377</td>
</tr>
<tr>
<td>SUCCESS IN INDIAN SOFTWARE FIRMS</td>
<td>1377</td>
</tr>
<tr>
<td>A SYSTEMIC COMPLEX PROBLEM SOLVING APPROACH TO PROCESS IMPROVEMENT</td>
<td>1387</td>
</tr>
<tr>
<td>ANALYSIS OF PACKAGING AND DELIVERY OPERATION IN A CUCUMBER PACKAGING FACTORY USING LEAN SIX SIGMA</td>
<td>1407</td>
</tr>
<tr>
<td>IMPROVING LIBRARY EFFICIENCY TO MEET PATRON'S NEEDS: A DATA ENVELOPMENT ANALYSIS BENCHMARKING MODEL</td>
<td>1415</td>
</tr>
<tr>
<td>PROCESS INTEGRATION AND IMPROVEMENT IN A HIGHER EDUCATION INSTITUTION IN SOUTH AFRICA</td>
<td>1424</td>
</tr>
<tr>
<td>GENDER AND PRODUCTIVITY IN BIOTECHNOLOGY: EVIDENCE FROM MEXICAN SCIENTISTS</td>
<td>1433</td>
</tr>
<tr>
<td>DO EARLY ADOPTERS UPGRADE EARLY?: AN EMPIRICAL STUDY OF MOBILE 4G SERVICE</td>
<td>1443</td>
</tr>
<tr>
<td>PRODUCTION PLANNING AND CONTROL IN SMALL ENGINEER-TO-ORDER COMPANIES: UNDERSTANDING DIFFICULTIES AND PRAGMATIC APPROACH</td>
<td>1449</td>
</tr>
<tr>
<td>EXPLORING THE ADOPTION INTENTIONS THROUGH DECOMPOSED THEORY OF PLANNED BEHAVIOR: AN EMPIRICAL STUDY ON MOBILE APPLICATIONS</td>
<td>1461</td>
</tr>
<tr>
<td>HOW THE USAGE OF MOBILE MULTIMEDIA INTERNET DEVICES CHANGES INTERNET TV CONSUMER BEHAVIORS IN TAIWAN: USING PPS.TV (PPSTREAM) AS AN EXAMPLE</td>
<td>1467</td>
</tr>
<tr>
<td>EXPLORATORY STUDY ON THE RELATIONSHIP BETWEEN KNOWLEDGE ATTRIBUTES AND INNOVATION BEHAVIOR IN SMES IN THE INFORMATION SERVICE INDUSTRY</td>
<td>1477</td>
</tr>
<tr>
<td>FACTORS FOR SUCCESSFULLY INTEGRATING OPERATIONAL AND INFORMATION TECHNOLOGIES</td>
<td>1513</td>
</tr>
<tr>
<td>LOSS-AVERSION IN R&amp;D INVESTMENT PROPENSITY RESPONDING TO PROFITABILITY</td>
<td>1524</td>
</tr>
<tr>
<td>THE IMPACT OF SOCIO-DEMOGRAPHIC CHARACTERISTICS ON NEW PRODUCT INTRODUCTIONS</td>
<td>1530</td>
</tr>
<tr>
<td>METHODOLOGY FOR OPTIMIZING PRODUCT DIFFERENTIATION IN PRODUCT RANGES</td>
<td>1541</td>
</tr>
<tr>
<td>DEVELOPING A DESIGN FOR SIX SIGMA FRAMEWORK FOR THE ANALYSIS OF PRODUCT DEVELOPMENT PROCESSES</td>
<td>1549</td>
</tr>
<tr>
<td>PROJECT MANAGEMENT IN PRODUCT DEVELOPMENT: TOWARD A FRAMEWORK FOR TARGETED FLEXIBILITY</td>
<td>1562</td>
</tr>
<tr>
<td>MECHATRONICS: FROM SYSTEMS COMBINATION TO BUSINESS INTEGRATION</td>
<td>1576</td>
</tr>
<tr>
<td>CONNECTING CUSTOMERS WITH ENGINEERS FOR THE SUCCESSFUL FUZZY FRONT END: REQUIREMENTS OF TOOLS</td>
<td>1585</td>
</tr>
<tr>
<td>SERVICE MODELING METHOD FOR MACHINE-TO-MACHINE BUSINESSES TO OVERCOME DIFFICULTIES</td>
<td>1596</td>
</tr>
<tr>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>PRODUCT ARCHITECTURE AND PRODUCT DEVELOPMENT: CASE STUDY OF KOREAN</td>
<td></td>
</tr>
<tr>
<td>SHIPBUILDING FIRMS</td>
<td>1603</td>
</tr>
<tr>
<td>Through Open Innovation Conceptual Model Exploring the Relationship</td>
<td></td>
</tr>
<tr>
<td>Between</td>
<td>1610</td>
</tr>
<tr>
<td>Patent and the Key Technology of Smart Battery</td>
<td></td>
</tr>
<tr>
<td>Linking Product Design and Technology: An Empirical Study on</td>
<td></td>
</tr>
<tr>
<td>Performance and Experience in Novel Product Development Teams</td>
<td>1622</td>
</tr>
<tr>
<td>Organizational Context Variables to Be Considered in the Design of</td>
<td></td>
</tr>
<tr>
<td>Rewards</td>
<td>1641</td>
</tr>
<tr>
<td>System Oriented to Product Innovation</td>
<td></td>
</tr>
<tr>
<td>Exploring the Design Factors of Smart Glasses</td>
<td>1657</td>
</tr>
<tr>
<td>Development of a Fuzzy-Rule Based System for Product Development in</td>
<td></td>
</tr>
<tr>
<td>the Garment Industry</td>
<td>1676</td>
</tr>
<tr>
<td>The Impact of Platforms in Product Development: A Case Study in the</td>
<td></td>
</tr>
<tr>
<td>Brazilian Software Industry</td>
<td>1696</td>
</tr>
<tr>
<td>Project Management with High Complexity and Uncertainty in a</td>
<td></td>
</tr>
<tr>
<td>Government Organization: A Case Study of the Sao Paulo Tax Invoice</td>
<td>1706</td>
</tr>
<tr>
<td>System Development</td>
<td></td>
</tr>
<tr>
<td>PM Competency for New Businesses: A Case Study of a Precision Device</td>
<td>1714</td>
</tr>
<tr>
<td>Manufacturer</td>
<td></td>
</tr>
<tr>
<td>A Structured Approach to Risk Identification for Projects in a</td>
<td></td>
</tr>
<tr>
<td>Research Environment</td>
<td>1719</td>
</tr>
<tr>
<td>Determining the Significant Factors for Implementing and Managing a</td>
<td></td>
</tr>
<tr>
<td>Rural Development Program: A Case Study of the Comprehensive Rural</td>
<td>1726</td>
</tr>
<tr>
<td>Development Program (CRDP) in the Mpumalanga Province of South</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td></td>
</tr>
<tr>
<td>Pre-Negotiated Influences on Business-IT Alignment in a Project</td>
<td>1736</td>
</tr>
<tr>
<td>Setting</td>
<td></td>
</tr>
<tr>
<td>Problems and Solutions for the Successful Introduction of a Phase-Gate</td>
<td></td>
</tr>
<tr>
<td>Model For Domain-Specialized High-Tech Manufacturers in Japan</td>
<td>1748</td>
</tr>
<tr>
<td>Development of a Technology Transfer Score to Inform the Selection</td>
<td></td>
</tr>
<tr>
<td>of a Research Proposal</td>
<td>1754</td>
</tr>
<tr>
<td>Organizational Implementation of Product Architecture Development</td>
<td>1769</td>
</tr>
<tr>
<td>Requirements Degradation for the Creation of a First Prototype</td>
<td>1777</td>
</tr>
<tr>
<td>Internal or External Knowledge: Which Is More Important for the</td>
<td></td>
</tr>
<tr>
<td>Performance of National Laboratories in Technology Latecomer</td>
<td>1787</td>
</tr>
<tr>
<td>Countries?</td>
<td></td>
</tr>
<tr>
<td>Q-Mark Model Assessment Using CBAM (Cost Benefit Analysis Method)</td>
<td>1805</td>
</tr>
<tr>
<td>Theoretical Study of the Quantitative Analysis for the R&amp;D Process</td>
<td></td>
</tr>
<tr>
<td>Based on the Modified Ising Model: Cyclic Olefin Polymer of Zeon</td>
<td>1809</td>
</tr>
<tr>
<td>Corporation Case Study</td>
<td></td>
</tr>
<tr>
<td>Visualization of Knowledge Integration in a Japanese Cutting Edge</td>
<td></td>
</tr>
<tr>
<td>Research Institution</td>
<td></td>
</tr>
<tr>
<td>A Multi Level Bibliometric Perspective</td>
<td>1823</td>
</tr>
<tr>
<td>Strategic Alignment in a Consortium: A Case of the Thai Seed Industry</td>
<td>1841</td>
</tr>
<tr>
<td>A Hybrid RFID Case-Based System for Handling Air Cargo Storage</td>
<td></td>
</tr>
<tr>
<td>Location Operations in Distribution Centers</td>
<td>1859</td>
</tr>
<tr>
<td>An Intelligent Fuzzy-Based Storage Assignment System for Packaged</td>
<td></td>
</tr>
<tr>
<td>Food Warehousing</td>
<td>1869</td>
</tr>
<tr>
<td>The Impact of a Shared Pharmaceutical Supply Chain Model on</td>
<td></td>
</tr>
<tr>
<td>Counterfeit Drugs, Diverted Drugs, and Drug Shortages</td>
<td>1879</td>
</tr>
</tbody>
</table>

Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.

Chen, James K.C. ; Lai, Shu-Ching

Hayashida, Hideki ; Funashima, Hiroki ; Katayama-Yoshida, Hiroshi

Kaneko, Hiroaki ; Kabo, Hiroshi

Kho, Tugrul ; Weber, Charles M.


Ok, Ali Emre ; Basoglu, Nuri A ; Daim, Tugrul

Ok, Ali Emre ; Basoglu, Nuri A ; Daim, Tugrul

Robinson, Vernon ; Chiaxson, Mike

Robinson, Alfonso Avila

Srivannaboon, Sabin ; Yoshida, Hiroshi ; Yoshida, Hiroshi

Srivannaboon, Sabin ; Yoshida, Hiroshi ; Yoshida, Hiroshi


Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.

Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.

Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.

Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.

Choi, Jae Bong ; Rogers, Jamie ; Jones, Erick C.
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSITIONING TO POST-WAR SUPPLY CHAIN SYSTEM IN AFGHANISTAN</td>
<td>1890</td>
</tr>
<tr>
<td>Ramdass, Kem</td>
<td></td>
</tr>
<tr>
<td>KEY LEADERSHIP FACTORS TOWARDS BUSINESS PROCESS IMPROVEMENT: A MANAGERIAL FOCUS</td>
<td>1896</td>
</tr>
<tr>
<td>Ramdass, Kem</td>
<td></td>
</tr>
<tr>
<td>INTEGRATING 5S PRINCIPLES WITH PROCESS IMPROVEMENT: A CASE STUDY</td>
<td>1908</td>
</tr>
<tr>
<td>Ramdass, Kem</td>
<td></td>
</tr>
<tr>
<td>MANAGING SUPPLIER TRANSITIONS: DEVELOPMENT AND PERFORMANCE THROUGH WORK TRANSFER</td>
<td>1918</td>
</tr>
<tr>
<td>O’Charoen, Feykit ; Bixpham, Jeffrey H.</td>
<td></td>
</tr>
<tr>
<td>THE EFFECTS OF DISRUPTION ON DIFFERENT TYPES OF TILE MANUFACTURING INDUSTRY-LAYOUTS: AN EMPIRICAL INVESTIGATION ON TILE MANUFACTURING INDUSTRY</td>
<td>1929</td>
</tr>
<tr>
<td>Ikome, John ; Ayodeji, Sesan Peter ; Kanakana, Grace</td>
<td></td>
</tr>
<tr>
<td>DESIGN OF A BALANCED SCORECARD FOR AUTOMOBILE SUPPLIERS IN THE ELECTROMOBILITY MARKET</td>
<td>1937</td>
</tr>
<tr>
<td>DESIGN OF A BALANCED SCORECARD FOR AUTOMOBILE SUPPLIERS IN THE ELECTROMOBILITY MARKET</td>
<td>1937</td>
</tr>
<tr>
<td>RESOLUTION OF OUTSOURCING CONFLICT: A CASE STUDY OF AN ELECTRICAL COMPONENT MANUFACTURER IN CHINA</td>
<td>1946</td>
</tr>
<tr>
<td>Chih-chang Chen ; Ke-Chian Chang ; Taihua Shih</td>
<td></td>
</tr>
<tr>
<td>DECODING DATA ANALYTICS CAPABILITIES FROM TOPIC MODELING ON PRESS RELEASES</td>
<td>1959</td>
</tr>
<tr>
<td>Bonilla, JeanCarlo ; Rao, Bharat</td>
<td></td>
</tr>
<tr>
<td>MULTIPLE OBJECTIVE EVOLUTION STRATEGIES USING DATA ENVELOPMENT ANALYSIS</td>
<td>1969</td>
</tr>
<tr>
<td>Lill, James V. ; Anderson, Tomashi</td>
<td></td>
</tr>
<tr>
<td>DEVELOPING AND IMPROVING QUALITY EFFICIENCY IN THE SOUTH AFRICAN ENERGY INDUSTRY</td>
<td>1985</td>
</tr>
<tr>
<td>Vermeulen, Andre ; Pretorius, Jan-Harm C. ; Motjoade, V. ; Kruger, David</td>
<td></td>
</tr>
<tr>
<td>SUSTAINABILITY AND SOCIAL INNOVATION</td>
<td>1993</td>
</tr>
<tr>
<td>Kaijikawa, Yuya ; Kaburaki, Yuki</td>
<td></td>
</tr>
<tr>
<td>USING PARTICIPATORY PROCESS AND TOOL FOR THE ASSESSMENT OF CLIMATE CHANGE ADAPTATION OPTIONS</td>
<td>2001</td>
</tr>
<tr>
<td>Peljo, Tero ; Makkonen, Saku J.</td>
<td></td>
</tr>
<tr>
<td>CONCEPTUAL EVOLUTION OF TECHNOLOGICAL REGIME AND SOCIOTECHNICAL CHANGE: A THEORY OF PARADIGMATIC SCHOOLS</td>
<td>2041</td>
</tr>
<tr>
<td>Hu, Jonathan C. ; Hsin-Wen Liang</td>
<td></td>
</tr>
<tr>
<td>MODELING TECHNOLOGICAL TOPIC CHANGES IN PATENT CLAIMS</td>
<td>2049</td>
</tr>
<tr>
<td>Chen, Hongshu ; Zhang, Yi ; Zhang, Guangquan ; Zhu, Donghua ; Lu, Jie</td>
<td></td>
</tr>
<tr>
<td>TECHNOLOGICAL CHANGE AS EVOLVING CITATION NETWORKS: THE ANALYSIS OF PROTON EXCHANGE MEMBRANE FUEL CELL</td>
<td>2060</td>
</tr>
<tr>
<td>Liu, John S. ; Lu, Lu; Y.C. ; Hung, Shih-Chung ; Shen, Chia-Chieh ; Lee, Shuo-Jen</td>
<td></td>
</tr>
<tr>
<td>TECHNOLOGICAL COMPETENCES: IDENTIFYING, DESCRIBING AND EXPLOITING TECHNOLOGICAL COMPETENCES: IDENTIFYING, DESCRIBING AND EXPLOITING</td>
<td>2068</td>
</tr>
<tr>
<td>Schuh, Gunther ; von Mangoldt, Julian ; Drescher, Toni</td>
<td></td>
</tr>
<tr>
<td>HOW TO ANALYZE TECHNOLOGY LIFE CYCLE FROM THE PERSPECTIVE OF PATENT CHARACTERISTICS?</td>
<td>2079</td>
</tr>
<tr>
<td>Lee, Pei-Chun ; Su, Hsin-Ning</td>
<td></td>
</tr>
<tr>
<td>TECHNOLOGY READINESS LEVELS AT 40: A STUDY OF STATE-OF-THE-ART USE, CHALLENGES, AND OPPORTUNITIES</td>
<td>2084</td>
</tr>
<tr>
<td>DeWitt, Allison ; Zappeinger, Steven D. ; Inglekar, Nitin</td>
<td></td>
</tr>
<tr>
<td>TECHNOLOGICAL FEASIBILITY AND CULTURAL ACCEPTABILITY STUDY OF SOLAR POWER SYSTEMS FOR MICROWAVE ASSISTED SANDSTONE ARTISANAL MINING</td>
<td>2095</td>
</tr>
<tr>
<td>Agwa-Ejon, J.F. ; Mulaba-Bafubandi, A.F. ; Pretorius, J.H.</td>
<td></td>
</tr>
<tr>
<td>INVESTIGATING TECHNOLOGICAL EVOLUTION OF MOBILE TELECOMMUNICATION INDUSTRY BY INTEGRATING DYNAMIC COMPETITIVE ANALYSIS AND PATENT ANALYSIS</td>
<td>2103</td>
</tr>
<tr>
<td>Lao, Yi-Cheng ; Su, Hsin-Ning</td>
<td></td>
</tr>
<tr>
<td>ASSESSING EMERGING AUTOMOBILE TECHNOLOGIES FOR THE FUTURE</td>
<td>2113</td>
</tr>
<tr>
<td>Oluwashina, Arowbuthd Kabaali ; Khafija, Rufaif ; Chan, Leong</td>
<td></td>
</tr>
<tr>
<td>INNOVATION AND DESIGN PROCESS ONTOLOGY</td>
<td>2121</td>
</tr>
<tr>
<td>Trumbach, Cherie Courseault ; McKesson, Christopher ; Ghandehari, Parisa ; DeCan, Lawrence ; Eslinger, Owen</td>
<td></td>
</tr>
<tr>
<td>TECHNOLOGY FORECASTING: FOCUSING ON MAIN SYSTEM OR AGGREGATION OF SUBSYSTEMS</td>
<td>2133</td>
</tr>
<tr>
<td>Intepe, Gizem ; Koc, Tufan V.</td>
<td></td>
</tr>
<tr>
<td>A TECHNOLOGY FORECASTING METHOD FOR CAPABILITIES OF A SYSTEM OF SUBSYSTEMS</td>
<td>2139</td>
</tr>
<tr>
<td>Kuikka, Vesa ; Nikkari, Juha-Pekka ; Suojanen, Marko</td>
<td></td>
</tr>
<tr>
<td>DEEPER INTO INNOVATION FORECASTING</td>
<td>2151</td>
</tr>
<tr>
<td>Cunningham, Scott W.</td>
<td></td>
</tr>
</tbody>
</table>
FORECASTING OLED TV TECHNOLOGY USING BIBLIOMETRICS AND FISHER-PRY DIFFUSION MODEL ................................................................. 2167

APPLYING TRIZ AND BASS MODEL TO FORECAST FITNESS TRACKING DEVICES TECHNOLOGY ...................................................... 2177

Sengupta, Sovomini ; Kim, Jisun ; Seong Dae Kim

KNOWLEDGE ACCUMULATION AND VALUE OF INVENTIONS ................................................................................................................. 2187

Chandra, Praveena ; Dong, Andy

UNSUPERVISED LEARNING BASED PATENT LANDSCAPES USING FULL-TEXT PATENT DATA ......................................................... 2195


NEW APPROACH FOR ANALYZING INDUSTRIAL DYNAMICS AND ITS APPLICATION TO THE TIRE INDUSTRY ...................................................... 2204

Suzuki, Kaoru

A NOVEL APPROACH TO IDENTIFY RESEARCH FRONTS OF TOURISM LITERATURE .................................................................................. 2211

Lu, Louis Y.Y. ; Liu, John S.

METHODOLOGY TO DEVELOP A TECHNOLOGICAL FRONT ROUTE OF EXPLORATION .............................................................................. 2218


INITIATIVES FOR MULTI CROSS INDUSTRY INNOVATION: THE CASE OF UNIVERSAL HOME .............................................................. 2223

Kerl, Alexander ; Moehrle, Martin G.

PUTTING DESIGN THINKING INTO THE PATENT DEPLOYMENT PRACTICE OF DIMMING LED DRIVER SMES ........................................................................... 2230

Fang-Pei Su ; Pei-Jie Shih ; Wen-Goang Yang ; Kuei-Kuei Lai ; Chien-Yu Lin ; Ping-Chun Chung

KNOWLEDGE NETWORKS TO IMPROVE THE TECHNOLOGICAL CAPABILITY IN A SOLAR ENERGY ENTERPRISE CLUSTER .................................................... 2242

Marino, Jose Carlos Alvarez ; Hatakeyama, Kazuo

ANALYSIS OF THE INTELLECTUAL STRUCTURE AND EVOLUTION OF TECHNOLOGY ROADMAPPING LITERATURE ........................................... 2248

Letaba, Petrus ; Pretorius, Marthins W. ; Pretorius, Leon

A FRAMEWORK FOR IMPROVING THE ROADMAPPING PERFORMANCE ........................................................................................................... 2255

Oliveira, Maicon G. ; Fleury, Andre Leme

COMPARING IMPACTS ON ORGANIZATIONS PARTICIPATING IN ON-GOING INDUSTRY-LEVEL TECHNOLOGY ROADMAPPING VERSUS ONE-TIME ROADMAPPING EFFORTS ........................................................................... 2264

Cheney, Austin C. ; Pence, Kenneth R. ; Dilts, David M.

MULTIPLE SCIENCE DATA-ORIENTED TECHNOLOGY ROADMAPPING METHOD ......................................................................................... 2278

Zhang, Yi ; Chen, Hongshu ; Zhang, Guangquan ; Zhu, Donghua ; Lu, Jie

SYNCHRONIZATION PROCESS OF R&D AND PRODUCT PLAN: ANALYSIS WITH CASE EXAMPLE OF MOBILE PHONE DEVELOPMENT BY TECHNOLOGY ROADMAPPING TOOL ......................................................... 2288

Igarashi, Yoichiro

TECHNOLOGY DEVELOPMENT TOOLS IN BIOMIMETICS UTILIZING TRIZ: BIOMIMETIC-TRIZ MATRIX ............................................................................. 2307

Lim, Chaeuk ; Park, Inchaee ; Yoon, Byungun

IDENTIFYING TARGET FOR TECHNOLOGY MERGERS AND ACQUISITIONS USING PATENT INFORMATION AND SEMANTIC ANALYSIS ............................................................................................................. 2313

Lu Huang ; Lining Shang ; Kangru Wang ; Porter, Alan L. ; Yi Zhang

BARRIERS TO THE WIDE ADOPTION OF ELECTRIC VEHICLES: A LITERATURE REVIEW BASED DISCUSSION ........................................................................... 2329

Hosseinpour, Shima ; Hongyi Chen ; Hua Tang

INVESTIGATING THE ADOPTION OF ELECTRIC VEHICLES USING AGENT-BASED MODEL ............................................................... 2337

Cho, Yonghee ; Blommelestein, Kevin V.

TECHNOLOGY MANAGEMENT TOOLS FOR ASSESSING EMERGING TECHNOLOGIES: THE CASE OF GRID-SCALE STORAGE ........................................................................... 2346

Daim, Tugrul U. ; Harmon, Robert

EXPLORING THE ADOPTION AND USE OF THE SMARTPHONE TECHNOLOGY IN EMERGING REGIONS: A LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT ........................................................................... 2355

Aldhaban, Fahad ; Daim, Tugrul U. ; Haron, Robert

COMPLEMENTARY PRODUCTS PROVIDERS’ TECHNOLOGICAL ADOPTION AND EVOLUTION OF THE BUSINESS ECOSYSTEM: THE CASE STUDY OF NINTENDO’S WII IN JAPANESE VIDEO GAME SECTOR ......................................................................................... 2371

Inoue, Yuki ; Tsujimoto, Masaharu

EXPLORE THE STRUCTURE OF PATENTS TRANSACTION NETWORK: A PERSPECTIVE OF NETWORK ANALYSIS ...................................................................... 2379

Huang, Hung-Chun ; Shih, Hsin-Yu ; Ke, Tsung-Han

THE ADOPTION AND DIFFUSION OF COMMON-POOL RESOURCE-DEPENDENT TECHNOLOGIES: THE CASE OF AQUIFER THERMAL ENERGY STORAGE SYSTEMS ........................................................................... 2390

Jasa-Rozen, Marc ; Kwakkel, Jan ; Bloemendal, Martin

HOW THE DIFFUSION OF SMART PHONES WILL CHANGE PUBLIC OPINION SURVEYS IN TAIWAN: THE FEASIBILITY OF USING BLENDED SAMPLES OF LANDLINE AND CELL-PHONE NUMBERS FOR TELEPHONE SURVEYS ......................................................................................... 2409

Tsai, Mavis
FORECASTING OF DEMAND FOR NEW TECHNOLOGY USING DATA ON ANALOGIES: THE CASE OF LONG-TERM EVOLUTION MOBILE TELECOMMUNICATIONS IN TAIWAN ................................................................. 2417
Tseng, Fang-Mei ; Tzu-Chun Lin

UNDERSTANDING TECHNOLOGICAL DYNAMICS OF KNOWLEDGE INFLUENCE BETWEEN UNIVERSITY AND INDUSTRY ........................................................................................................ 2426
Tsou-Ying Lee ; Hsin-Ning Su

SERENDIPITOUS IDENTIFICATION OF FIELDS DERIVED FROM TECHNOLOGY SPILOVERS FROM PATENT ANALYSIS: CASE STUDY OF MATERIAL SCIENCE ................................................................. 2434
Sasaki, Hajime ; Sakata, Ichiro ; Kajikawa, Yuya

FUZZY COGNITIVE RESEARCH ON INFLUENCING FACTORS OF TECHNOLOGY INNOVATION: IN VIEW OF PATH DEPENDENCE ........................................................................................................ 2444
Jing Hu ; Yong Zhang ; Yilin Wang

DIFFUSION OF INNOVATION IN THE PUBLIC SECTOR: TWITTER ADOPTION BY MUNICIPAL POLICE DEPARTMENTS IN THE U.S. ........................................................................................................... 2453
Anderson, Megan ; Lewis, Kieran ; Dedehayir, Ozgur

EXPLAINING HEALTH TECHNOLOGY ADOPTION: PAST, PRESENT, FUTURE ................................................................. 2465
Brahimi, Nouhad ; Jetter, Antonie

COMPULSORY LICENSING IN MEDICINE: IS IT A SAFEGUARD FOR THE PEOPLE OR AN EVIL TO KILL INNOVATION? ......................................................................................................................... 2496
Mitsumori, Yaeko

A STUDY OF ORGANIC FOOD CONSUMPTION BEHAVIOR USING THE DECOMPOSED THEORY OF PLANNED BEHAVIOR ..................................................................................................................... 2509
Her-Her Tsai ; Min-Jhih Cheng ; Hung, Shiu-Wan ; Dong-Sing He ; Wen-Sheng Wang

THE BUSINESS MODEL AND CO-CREATION VALUE IN MUSIC INDUSTRY: FROM PRODUCT DOMINANT TO SERVICE DOMINANT ........................................................................................................ 2516
Jie-heng Lin ; Pei-Yu Chien

A STUDY ON THE SALES PERFORMANCE OF AUTOMOBILES: A CASE STUDY OF THE US MARKET ................................................................. 2522
Her-Her Tsai ; Min-Jhih Cheng ; Hung, Shiu-Wan ; Dong-Sing He ; Lin-Wei Hu

COMMUNICATION SYSTEM FOR HOME DELIVERY BUSINESS DERIVED FROM AIR COMBAT HISTORY ......................................................................................................................... 2531
Ito, Yu

A COMPREHENSIVE ASSESSMENT OF CLOUD COMPUTING FOR SMART GRID APPLICATIONS: A MULTI-PERSPECTIVES FRAMEWORK ........................................................................................................ 2541
Chaichi, Nina ; Lavoie, Joao ; Zarrin, Soheil ; Khalifa, Rafaa ; Sie, Felix

ANALYSIS ON IMPACT OF INTRODUCING RENEWABLE ENERGY ON LOCAL COMMUNITY: IN CASE OF MICRO HYDRO ..................................................................................................................... 2548
Mitsumori, Yaeko

OPENING THE DOOR TO BREAKTHROUGHS THAT ADDRESS STRATEGIC ORGANIZATIONAL NEEDS: APPLYING TECHNOLOGY ROADMAPPING TOOLS AND TECHNIQUES AT AN ELECTRIC UTILITY ......................................................................................................................... 2564
Hillegas-Elting, James V. ; Oliver, Terry ; BInitus, Joshua ; Daigm, Tugrul ; Estep, Judith ; Kim, Jisun

THE DEVELOPMENT TRAJECTORY AND TECHNOLOGICAL INNOVATION CAPABILITIES IN THE GLOBAL RENEWABLE ENERGY INDUSTRY ........................................................................................................ 2574
Wu, Ching-Yan ; Hu, Mei-Chih

ACTORS’ ENGAGEMENT IN SUSTAINABLE HYDROGEN ENERGY INNOVATION: A COMPARATIVE ANALYSIS ......................................................................................................................... 2581
Islam, Nazrul ; Kajikawa, Yuya

INTERACTIVE ENERGY DEMAND, PRODUCTION AND USAGE OPTIMIZATION IN MANUFACTURING ......................................................................................................................... 2590
Kunt, Meltem ; Kayakutlu, Gulgun ; Secuk, Baris

PRIVATISATION OF POWER INFRASTRUCTURE IN NIGERIA: CONSUMER PERCEPTION ......................................................................................................................... 2597
Oludole, B.A. ; Olapost, T.O. ; Fadare, T.O. ; Ayanlade, O.S. ; Binuyo, G.O.

Author Index