

# **25th International Conference of the International Association for Management of Technology (IAMOT 2016)**

Technology – Future Thinking

Orlando, Florida, USA  
15 - 19 May 2016

Volume 1 of 3

**Editors:**

**Leon Pretorius  
Yasser Hosni  
George Alex Thopil**

ISBN: 978-1-5108-4099-7

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2016) by International Association for Management of Technology (IAMOT)  
All rights reserved.

Printed by Curran Associates, Inc. (2017)

For permission requests, please International Association for Management of Technology (IAMOT)  
at the address below.

International Association for Management of Technology (IAMOT)  
c/o University of Miami  
College of Engineering  
248294 Coral Gables  
Florida 33124-0623  
USA

Phone: (305) 284-2344  
Fax: (305) 284-4040

iamot@miami.edu

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2633  
Email: curran@proceedings.com  
Web: www.proceedings.com

# TABLE OF CONTENTS

## VOLUME 1

<b>LEVERAGING A MATHEMATICS OF INNOVATION TO CREATE SUSTAINABLE COMPLEX ADAPTIVE SYSTEMS</b> .....	1
<i>P. Malik, L. Pretorius, D. Winzker</i>	
<b>THE INFLUENCE OF ENTERPRISE KNOWLEDGE BREADTH AND DEPTH ON INNOVATION PERFORMANCE: THE MODERATING EFFECT OF R&amp;D PATTERNS</b> .....	22
<i>L. Shuncaï, Y. Yanlan, D. Xiuhao</i>	
<b>INDUSTRIAL CONTROL SYSTEM APPLICATIONS GO MOBILE IN THE CLOUD</b> .....	33
<i>J. Daniels, B. Amaba, A. Sargolzaei</i>	
<b>ANALYZING THE INTEGRATION OF TECHNOLOGY PLATFORM STRATEGIES INTO THE SITUATIONAL CONTEXT OF DIVERSIFIED COMPANIES</b> .....	44
<i>G. Schuh, S. Ryschka, A. Rollmann, T. Wetterney</i>	
<b>SOCIAL MANUFACTURING BAMBOO BIKES FOR AFRICA</b> .....	63
<i>C. Ras, G. Oosthuizen, J. Durr, P. De Wet, M. Burger, J. Oberholzer</i>	
<b>ACADEMIC ENTREPRENEURSHIP IN HIGH TECHNOLOGY IN AUSTRIA</b> .....	78
<i>J. Soos, J.E. Kerschenbauer</i>	
<b>MODELING LANGUAGE FOR VALUE NETWORKS</b> .....	94
<i>M. Schneider, T. Mittag, J. Gausemeier</i>	
<b>STRATEGIC AND INNOVATION MANAGEMENT IN A POST-PRIVATIZED BRAZILIAN STEEL COMPANY</b> .....	111
<i>M. Amaral, G.D.S. Motta, R.J.D.C. Lima, M.C. Fagundes, M.M. Schocair</i>	
<b>AN ASSESSMENT OF THE ADVANCEMENT OF SMALL TO LARGE CIVIL ENGINEERING CONTRACTORS</b> .....	125
<i>N. Govender, A. Telukdarie</i>	
<b>A METAPHOR FOR PLATFORM DEVELOPMENT PROCESSES</b> .....	141
<i>G. Papachristos, G.V.D. Kaa</i>	
<b>PLATFORM COMPETITION PROCESSES: A FUTURE RESEARCH OUTLOOK</b> .....	153
<i>G. Papachristos, G.V.D. Kaal</i>	
<b>LESSONS LEARNED OF SCIENCE PARKS DEVELOPMENT IN COLOMBIA</b> .....	175
<i>E.R. Riano, L.E. Becerra, G.A. Cuentas</i>	
<b>CHOICE OF TECHNOLOGY ACQUISITION MODES WITHIN A BUSINESS CYCLE</b> .....	189
<i>A. Paton, E.V.D. Lingen</i>	
<b>A PROPOSED SCENARIO-BASED, COST-DRIVEN APPROACH TO ENHANCE RISK PRIORITISATION IN FMEA</b> .....	207
<i>J. Maistry, E.V.D. Lingen</i>	
<b>USING DELPHI AS A BASIS TO DESIGN A TECHNOLOGY ROADMAP</b> .....	219
<i>L.A.B.D. Silveira, E.P.G.D. Vasconcellos, L.F.A. Guedes, L.V. Guedes</i>	
<b>CREATIVITY AND INNOVATION PERFORMANCE AT THE INDUSTRY LEVEL: AN EMPIRICAL STUDY IN BRAZILIAN FIRMS</b> .....	238
<i>J.A.G. Pereira, R. Sbragia</i>	
<b>A SYSTEM DYNAMICS MODEL OF EHEALTH ACCEPTANCE: A SOCIOTECHNICAL PERSPECTIVE</b> .....	256
<i>G.B. Fanta, L. Pretorius, L. Erasmus</i>	
<b>ELECTRONIC MEDICAL RECORDS: A DEVELOPING AND DEVELOPED COUNTRY ANALYSIS</b> .....	270
<i>N.C. Sikhondze, L. Erasmus</i>	
<b>ELEMENTS OF A SYSTEM DYNAMICS MODEL FOR REQUIREMENTS ELICITATION</b> .....	288
<i>N. Scribante, L. Pretorius, S. Benade</i>	
<b>ADOPTION OF HEALTH TECHNOLOGY IN HEALTHCARE FACILITIES: A CASE STUDY</b> .....	305
<i>A.J.V.D. Watt, M. Pretorius, L. Pretorius</i>	
<b>WEB-BASED STAR-VALUE SYSTEM FOR TECHNOLOGY VALUATION</b> .....	316
<i>T. Sung, S. Kim, S. Jun, H. Park</i>	
<b>AGILE SOFTWARE DEVELOPMENT AND IT PROJECT PERFORMANCE IN SOUTH AFRICA: A POSITIVE RELATIONSHIP?</b> .....	335
<i>N. Joseph, C. Marnewick, M.J. Santana</i>	

<b>APPLYING GOVERNANCE PRINCIPLES TO IMPROVE AGILE PROJECT SUCCESS</b> .....	356
<i>L.V. Wyk, C. Marnewick</i>	
<b>THE USE OF PROJECT PORTFOLIOS IN EFFECTIVE STRATEGY EXECUTION</b> .....	374
<i>P.A. Ramashala, M. Pretorius, H. Steyn</i>	
<b>A MANAGEMENT FRAMEWORK FOR TITANIUM RECYCLING: A SOUTH AFRICAN CASE STUDY</b> .....	390
<i>J.F.W. Durr, G.A. Oosthuizen</i>	
<b>COMPETENCIES OF IT PROJECT MANAGERS: A SOUTH AFRICAN PERSPECTIVE</b> .....	405
<i>W. Erasmus, N. Joseph, C. Marnewick</i>	
<b>UTILIZATION OF APPROPRIATE TECHNOLOGIES FOR A REAL “COMPETITIVE EGYPT”</b> .....	427
<i>M. Azzam, N. Sami, T. Khalil</i>	
<b>A STUDY OF THE ENTREPRENEURIAL PROFILE OF STUDENTS IN THE STATE OF RIO DE JANEIRO</b> .....	447
<i>M.H.R. Bastos, C.T. Hernandez, M. Amaral</i>	
<b>A CASE STUDY INVESTIGATION INTO MOBILE TECHNOLOGY ACCEPTANCE, DIFFUSION AND PENETRATION</b> .....	467
<i>M.J. Mabea, J.E. Amadi-Echendu</i>	
<b>ON EXTENDING THE USABLE LIFE OF LEGACY SOFTWARE</b> .....	475
<i>B.A. Ekanem, E.E. Woherem, J.E. Amadi-Echendu</i>	
<b>HEALTHCARE SERVICE DELIVERY: A LITERATURE REVIEW</b> .....	484
<i>L.E. Arhete, L. Erasmus</i>	
<b>TECHNOLOGY SKILLS DEVELOPMENT TOWARDS SUSTAINABLE MANUFACTURING IN SOUTH AFRICA</b> .....	503
<i>C.O. Ijagbemi, H.M. Campbell, K. Mpoju</i>	
<b>MANAGERIAL COMPETENCIES MODEL FOR PROMOTING OPEN INNOVATION BETWEEN COMPANIES AND UNIVERSITIES</b> .....	513
<i>V.D. Matta, E. Vasconcellos, D. Diogenes, E. Polo</i>	
<b>OBSERVING NEW PRODUCT IMPACTS ON SECTORS VALUE CHAINS: THE CASE OF A FRENCH ELECTRONIC SME</b> .....	533
<i>B. Marche, V. Boly, R. Ortt</i>	
<b>OPEN INNOVATION IN THE OIL AND GAS INDUSTRY IN BRAZIL</b> .....	553
<i>M. Borba, C.G. Neto, O. Figueiredo</i>	
<b>PATENT ANALYSIS FOR GUIDING TECHNOLOGY TRANSFER FROM EU/EEA TO CHINA: THE CASE OF CO<sub>2</sub> COMPRESSOR IN CCUS COOPERATION</b> .....	573
<i>X. Liu, X. Yu</i>	
<b>THE CORRELATION BETWEEN TQM CONSTRUCTS AND SUPPLIER PERFORMANCE</b> .....	616
<i>N. Sukdeo, A. Vermeulen, J.H.C. Pretorius</i>	
<b>FACTORS TO HELP DECIDING WHEN TO USE OPEN INNOVATION: FRAMEWORK AND APPLICATION</b> .....	631
<i>E. Vasconcellos, L. Guedes, L. Hashiba, L.V. Guedes, H.L. Vega, V.D. Matta</i>	

## VOLUME 2

<b>EXPRESS DEPLOYMENT TOOLSET FOR MANUFACTURING SYSTEMS ENABLEMENT</b> .....	651
<i>A. Telukdarie</i>	
<b>THE IMPACT OF THE INDUSTRIAL INTERNET OF THINGS ON ESTABLISHED BUSINESS MODELS</b> .....	669
<i>D. Kiel, C. Arnold, M. Collisi, K. Voigt</i>	
<b>FOOD STANDARDS, TECHNOLOGY TRANSFER AND KNOWLEDGE AMONG SMALL AND MEDIUM AGRO-FOOD COMPANIES IN BRAZIL</b> .....	692
<i>F.S. Flores</i>	
<b>MANAGEMENT TECHNIQUES IN EFFICIENCY PROJECTS</b> .....	703
<i>A.M.B. Gordillo, A.C.A. Maximiano, D.I. Miyake</i>	
<b>BUSINESS MODEL BASED CONFIGURATION OF VALUE CREATION NETWORKS</b> .....	717
<i>T. Mittag, M. Schneider, J. Gausemeier</i>	
<b>SOCIAL SUSTAINABILITY INITIATIVES IN COCOA SUPPLY CHAINS IN AFRICA: AN ANALYSIS OF SUSTAINABILITY REPORTING OF WORLD’S MAJOR CHOCOLATIERS</b> .....	735
<i>S. Lalwani, B. Nunes, D. Chicksand</i>	
<b>THE MAIN CRITERIA OF BIOMASS SELECTION FOR ENERGY GENERATION IN BRAZIL</b> .....	755
<i>A. Kraiphanont, B. Nunes, D. Bennett</i>	

<b>CATALYZING NEW PRODUCT ADOPTION AT THE BASE OF THE PYRAMID</b> .....	771
<i>Y.D. Marinakis, S.T. Walsh, R. Harms</i>	
<b>DEALING WITH TECHNOLOGY ACQUISITION AND ORGANIZATIONAL LEARNING IN FAST GROWING SMES</b> .....	791
<i>M. Ballu, M. Camargo, L. Morel</i>	
<b>TECHNOLOGY TRANSFER IN PRESS TOOL INDUSTRY: EFFECTIVENESS AND EFFICIENCY IN THE SOUTH AFRICAN CONTEXT</b> .....	803
<i>H.S. Phuluwa, J.A. Trimble</i>	
<b>ENHANCING THE CLIENT EXPERIENCE OF AN E-COMMERCE SITE USING EYE-TRACKING TECHNOLOGIES</b> .....	814
<i>M. Vincent, L. Morel, M. Camargo</i>	
<b>EVALUATION OF TOGAF AS A MANAGEMENT OF TECHNOLOGY FRAMEWORK</b> .....	827
<i>T. Tambo, J. Bargholz, L. Yde</i>	
<b>EVALUATION OF INTEGRATION MODELS IN INTRA-FIRM TECHNOLOGY TRANSFER BETWEEN RESEARCH AND DEVELOPMENT</b> .....	844
<i>F.P. Maranzato, M.S. Salerno, L.A.D.V. Gomes, A.S.O. Yu, P.T.D.S. Nascimento, L.H.H. Horta</i>	
<b>DYNAMIC CAPABILITY THEORY AS AN INPUT VARIABLE FOR SUPPLIER PERFORMANCE EVALUATION AND SELECTION</b> .....	864
<i>N.J. Kganyago, A. Marnewick, J.H.C. Pretorius</i>	
<b>IDENTIFYING AND EVALUATING DISRUPTIVE TECHNOLOGIES USING TECHNOLOGY SCANNING</b> .....	882
<i>G. Schuh, P. Kabasci, T. Drescher, S. Ryschka, T. Wetterney</i>	
<b>DEVELOPING EXECUTIVE FUTURE THINKING SKILLS</b> .....	902
<i>A.P. Botha</i>	
<b>SMES' INNOVATION AND EXPORT CAPABILITIES: TOWARD A COMMON CONCEPTUAL FRAMEWORK</b> .....	925
<i>M. Enjolras, M. Camargo, C. Schmitt</i>	
<b>DEVELOPING EXECUTIVE FUTURE THINKING SKILLS</b> .....	945
<i>A.P. Botha</i>	
<b>LONG-TERM R&amp;D-BASED CONSORTIA: PATHS TO INTEGRATE BASIC RESEARCH WITH COMPANY STRATEGY</b> .....	967
<i>F.F. Fernandez, E. Vasconcellos, L.F. Guedes, R. Carlana, V.D. Matta</i>	
<b>EXPLORATION: OPEN QUESTIONS IN ORGANIZATIONAL ANALYSIS, WHAT WE KNOW AND WHAT WE DO NOT KNOW</b> .....	987
<i>R.A.S.R.D. Paula, V.C. Brasil, F.P. Maranzato, M.S. Salerno, R. Marx</i>	
<b>STUDY ON THE IMPACT OF GOVERNMENT SUBSIDIES ON INNOVATION PERFORMANCE</b> .....	1004
<i>Y. Yi, L. Shunca, Z. Fumin</i>	
<b>WILL UNIFIED CONTROL OF GOVERNMENT LEADS TO GREATER KNOWLEDGE SPILL OVER? -EVIDENCE FROM CHINA</b> .....	1015
<i>K. Tan, Z. Wang</i>	
<b>VERIFYING ENTREPRENEURSHIP PROGRAMS IN MBAS WITH ARTICLE CLUSTERS</b> .....	1029
<i>T. Kuroda, S. Iwami, I. Sakata</i>	
<b>PROPOSAL FOR AN INNOVATION MODEL FOR BRAZILIAN SMALL AND MEDIUM TECHNOLOGY-BASED ENTERPRISES</b> .....	1044
<i>M.B. Moraes, E.A.A.Q.D. Oliveira, M.A.S. Miranda</i>	
<b>PROPOSING A STRUCTURED MODEL OF AGENCY IN SOCIO-TECHNICAL TRANSITION: THE CASE OF WIND ENERGY IN BRAZIL</b> .....	1060
<i>D.G. Chavarria, E.A. Pedroso</i>	
<b>UNIVERSITIES' THIRD MISSION ACTIVITIES: CASE STUDY FROM EGYPT</b> .....	1080
<i>M.G. El-Katanty, M.M. Awny</i>	
<b>REGIONAL INNOVATION SYSTEM OF BRAZILIAN AERONAUTICAL INDUSTRY</b> .....	1100
<i>M.B. Moraes, E.A.A.Q.D. Oliveira, A. Lobosco, V.B.R. Souza</i>	
<b>TECHNOLOGY TRANSFER AND CAPACITY BUILDING IN THE BRAZILIAN SHIPBUILDING AND OFFSHORE INDUSTRY</b> .....	1110
<i>G. Clasen, A. Avila, A. Alves, P. Zawislak</i>	
<b>ANTECEDENTS AND OUTCOMES OF UNIVERSITY STUDENTS' IT PURCHASE INTENTION: EXPLORING EWOM ADOPTION ON E-LEARNING</b> .....	1128
<i>T. Tung, S.S. Chuang, K. Niu</i>	
<b>TECHNOLOGY MANAGEMENT AND SUSTAINABILITY: INSIGHTS FROM RENEWABLE ENERGY IN INDIA</b> .....	1142
<i>G. Surie</i>	

<b>BUSINESS COMPETITIVENESS: MODEL OF COMPUTERIZED FINANCIAL PLANNING</b> .....	1162
<i>A. Rasoto, G. Ishikawa, V.I. Rasoto, R.D.F. Stankowitz, E.F. Pietrovski, H.A.D. Carvalho</i>	
<b>CHANGE MANAGEMENT AND KNOWLEDGE MANAGEMENT, WHICH RELATION?</b> .....	1175
<i>N. Armaghan</i>	
<b>THE DEVELOPMENT OF A RAPID DEPLOYMENT TOOL SET FOR GREEN ICT EVALUATIONS IN THE BANKING SECTOR</b> .....	1183
<i>M. Dzoro, A. Telukdarie</i>	
<b>CROSS-FUNCTIONAL COLLABORATION VERSUS A SINGLE FUNCTIONAL TEAM IN INDUSTRIAL DESIGN DEVELOPMENT: A TECHNOLOGY MANAGEMENT PERSPECTIVE</b> .....	1205
<i>T. Yoshioka-Kobayashi</i>	
<b>EXAMINING STRATEGIES OF FIRMS LEVERAGING AGRICULTURAL BIOTECHNOLOGY IN INDIAN SEED INDUSTRY: A QUALITATIVE CASE STUDY APPROACH</b> .....	1224
<i>S. Menon, S.K. Jha, K. Jain</i>	
<b>FORESIGHT IN RTD PROJECTS</b> .....	1233
<i>M. Horlesberger, A. Kasztler, B. Wepner</i>	
<b>THE UNIVERSITY INDUSTRY LINKAGES AND THE FIRM'S INNOVATIVE PERFORMANCE: EVIDENCE FOR BRAZIL</b> .....	1249
<i>G. Spricigo, S.M.M. Monteiro, R.D.S. Freguglia</i>	
<b>REDUCING CARBON EMISSION - FORESIGHT OF CCS TECHNOLOGY DEVELOPING, IP MANAGEMENT AND GLOBAL TECHNOLOGY TRANSFER</b> .....	1266
<i>Y. Xiang, Z. Dong, H. Dan</i>	
<b>AN ANALYSIS OF USED BEVERAGE CAN RECYCLING SUPPLY CHAIN</b> .....	1277
<i>R.R. PHEME, H.M. Campbell</i>	

### VOLUME 3

<b>THE ROLE OF COLLABORATIVE R&amp;D IN FIRMS</b> .....	1288
<i>A. Jabalbarezisarbijan, S. Golhosseini, M. Talebi</i>	
<b>MODELING TECHNOLOGICAL TRANSITIONS THROUGH MULTIAGENT SYSTEMS</b> .....	1296
<i>D.G. Chevarria, E.A. Pedroso</i>	
<b>SUSTAINABILITY AND SUCCESS IN PROJECT MANAGEMENT: A FORUM WITH ACADEMIC EXPERTS</b> .....	1316
<i>M.L. Martens, M.M.D. Carvalho, C.D.P. Martens</i>	
<b>AN INVESTIGATION INTO SKILLS DEVELOPMENT IN THE MANUFACTURING, ENGINEERING AND RELATED SERVICES SECTOR, IN SOUTH AFRICA</b> .....	1330
<i>H.M. Campbell</i>	
<b>UNIVERSITY-FIRM TECHNOLOGY TRANSFER, A LITERATURE REVIEW</b> .....	1349
<i>J.J. Arenas, M.D. Gonzalez</i>	
<b>SENIORS' MOBILE INSTANT MESSENGER USE: MOTIVE AND OUTCOMES</b> .....	1369
<i>A. Chaisakdiyod, J. Hong</i>	
<b>THE IMPACT OF TECHNOLOGY IN IMPROVING PRODUCTIVITY AND COST SERVE IN SUPPLY CHAIN: CASE STUDY - WOOLWORTHS</b> .....	1388
<i>J. Bopape, H.M. Campbell, T. Munyai</i>	
<b>TECHNOLOGY STRATEGIES AND AMBIDEXTROUS ORGANIZATIONS</b> .....	1395
<i>S. Vorbach, C. Mueller, K. Egger</i>	
<b>THE DILEMMA OF INDUSTRY-UNIVERSITY COOPERATION PROCESSES WITHIN TECHNOLOGY TRANSFER OFFICES: EVIDENCE FROM THREE BRAZILIAN CASE STUDIES</b> .....	1412
<i>E. De-Carli, M. Ferasso, A.P. Segatto, F.S. Alves</i>	
<b>CONNECTION POINTS BETWEEN DIMENSIONS OF RELATIONAL CAPABILITY: DIFFERENCES AMONG PROFIT AND NON-PROFIT TECHNOLOGIES</b> .....	1427
<i>F.S. Alves, A.P. Segatto, E. De-Carli</i>	
<b>ALLIANCES AND PARTNERSHIPS FORMATION IN INNOVATION AGENCY OF FEDERAL UNIVERSITY OF PARANA (EDUARDO DE-CARLI UFPR): A CASE STUDY</b> .....	1447
<i>E. De-Carli, A.R.W. Takahashi, A.P. Segatto, F.S. Alves</i>	
<b>THEORETICAL FRAMEWORK ABOUT RELATIONAL CAPABILITY ON INTER-ORGANIZATIONAL COOPERATION</b> .....	1460
<i>F.S. Alves, A.P. Segatto, E. De-Carli</i>	
<b>INNOVATION MANAGEMENT IN A FOOD COMPANY. A CASE STUDY</b> .....	1477
<i>P. Morales, D. Gonzalez</i>	

<b>THE FOURTH HELIX OF THE INNOVATION SYSTEM: A NEW ROLE OF THE CIVIL SOCIETY ORGANIZATIONS</b> .....	1496
<i>M.L. Tostes, C.M. Silva</i>	
<b>A COMPARATIVE STUDY ON E-COMMERCE RELATED TECHNOLOGY AND ITS PATENTABILITY BETWEEN CHINA AND THE U.S.</b> .....	1505
<i>N. Yu, X. Yu</i>	
<b>PROPOSING A THREE DIMENSIONAL MODEL FOR SELECTING A PORTFOLIO OF R&amp;D PROJECTS</b> .....	1519
<i>N. Mokhtarzadeh, S.S. Ahangari, M. Faghei</i>	
<b>STRATEGIC TECHNOLOGY MANAGEMENT IN AN INDIAN AUTOMOBILE CLUSTER</b> .....	1526
<i>R.Z. More, K. Jain</i>	
<b>MATURITY OF IT GOVERNANCE IN THE SOUTH AFRICAN PUBLIC SECTOR</b> .....	1550
<i>M. Ngoma, W. Erasmus</i>	
<b>THE EFFECTS OF ENTREPRENEURIAL ORIENTATION ON PROJECT SUCCESS</b> .....	1570
<i>F.J. Machado, C.D.P. Martens, M.L. Martens, H.M.R.D. Freitas</i>	
<b>THE SOUTH AFRICAN PERSPECTIVE IN THE VISION OF THE GLOBAL TECHNOLOGY DEVELOPMENT OF HYDROGEN FUEL CELLS</b> .....	1589
<i>J. Agwa-Ejon, J. Mabiza, C. Mbohwa</i>	
<b>WHICH KIND OF INNOVATION MODE IS OPTIMAL FOR ENTERPRISE: EXPLORE HOW THE MARKET AND ORGANIZATION RESOURCES INFLUENCE THE CHOICE OF INNOVATION MODE</b> .....	1600
<i>H. Zhang, Z. Li, X. Chen</i>	
<b>TECHNOLOGICAL CAPABILITY DEVELOPMENT IN CHINA'S ENERGY SERVICE COMPANY INDUSTRY</b> .....	1615
<i>P. Qiu, B. Nunes, K. Vaidya</i>	
<b>THE IMPACT OF R&amp;D INVESTMENTS ON PERFORMANCE OF FIRMS IN DIFFERENT DEGREES OF PROXIMITY TO THE TECHNOLOGICAL FRONTIER</b> .....	1636
<i>L.R. Andrarde, L.Q. Cardenas, F.D. Lopes, F.P.S.D. Oliveira, K.C. Fernandes</i>	
<b>RESOURCE EFFICIENT PROCESS CHAIN STRATEGIES FOR GLOBAL COMPETITIVE MANUFACTURERS</b> .....	1656
<i>D. Hagedorn-Hansen, E. Hagedorn-Hansen, G.A. Oosthuizen</i>	
<b>IMPACT OF CHANGING BUSINESS STRATEGY ON R&amp;D PORTFOLIO</b> .....	1667
<i>B. Ngqulunga, D. Walwyn</i>	
<b>INNOVATION SURVEYS: A PROPOSAL FOR COMPLEMENTARY INDICATORS AT THE FIRM-LEVEL</b> .....	1686
<i>A.M. Torres, C.A.C.D. Moraes, M.F.L.D. Almeida</i>	
<b>INNOVATION AND QUALITY INFRASTRUCTURE IN THE BRAZILIAN ELECTRICITY SECTOR</b> .....	1696
<i>C.R. Justen, M.F.L.D. Almeida, R.C. Souza</i>	
<b>THE PUBLIC FUNDS INFLUENCE FOR INNOVATION: AN ANALYSIS OF BRAZILIAN UNIVERSITY-INDUSTRY INTERACTION</b> .....	1708
<i>D.P. Puffal, G. Spricigo, J. Ruffoni, R. Teixeira</i>	
<b>ASSESSMENT OF INNOVATIVE CAPACITY OF SMALL AND MEDIUM ENTERPRISES: A FUZZY-LOGIC-BASED APPROACH</b> .....	1723
<i>J.E.D.O. Trindade, M.F.L.D. Almeida, R. Tanscheit, M.M.B.R. Vellasco</i>	
<b>TECHNOLOGICAL TRENDS ON THE FUNCTIONAL TEXTILES SECTOR</b> .....	1734
<i>C. Eller, R.M. Naveiro</i>	
<b>CAN WE PLAY THE GAME? THE CASE OF FOUR BRAZILIAN SEMICONDUCTORS FIRMS</b> .....	1749
<i>G.F. Camboim, P.A. Zawislak, D. Barbieux, F.M. Reichert</i>	
<b>BRAZILIAN COMMUNITY UNIVERSITIES AND REGIONAL POLICIES FOR TECHNOLOGY AND INNOVATION</b> .....	1774
<i>C. Fontanela, M.I.A.S.D. Santos, J.D.S. Albino</i>	
<b>A SYSTEMATIC APPROACH FOR THE IMPLEMENTATION OF AN EFFECTIVE MANAGEMENT MODEL FOR GLAND SERVICE</b> .....	1786
<i>G.S. Robinson, J.H.C. Pretorius, L. Pretorius</i>	
<b>LOCAL SUPPLIER DEVELOPMENT FRAMEWORK</b> .....	1813
<i>M. Vermeulen, G.A. Oosthuizen</i>	
<b>MAPPING COUNTRIES COOPERATION IN PHOTOVOLTAIC TECHNOLOGY DEVELOPMENT BASED ON PATENT ANALYSIS</b> .....	1825
<i>A.F.D. Paulo, E.M.S. Ribeiro, G. Porto</i>	

<b>LEAN PERSPECTIVES AND KNOWLEDGE MANAGEMENT APPLICATION IN SERVICE DEPARTMENT OF CNC MACHINE TOOL MANUFACTURER.....</b>	1843
<i>P. Zhao, I. Rasovska, B. Rose, E. Calliaud</i>	
<b>STUDY ON THE TECHNOLOGICAL CHANGE PATH:THE CASE OF NEW ENERGY PUBLIC TRANSPORTATION IN SHENZHEN .....</b>	1853
<i>B. Sun, X. Xu, T. Liang</i>	
<b>THE IMPACT OF TOTAL QUALITY MANAGEMENT SYSTEM ON SUSTAINABILITY OF SMALL AND MEDIUM BUSINESSES IN SOUTH AFRICA.....</b>	1866
<i>P. Kholopane</i>	
<b>OPTIMIZING ON-SITE MACHINING OPERATIONS FOR A SOUTH AFRICAN POWER GENERATION MAINTENANCE COMPANY .....</b>	1875
<i>V. Sompa, H.M. Campbell</i>	
<b>CRITICAL LOWER-TIER SUPPLIER IN A SUPPLY NETWORK .....</b>	1889
<i>M.G. Reinisch, U. Bauer</i>	
<b>INVESTIGATING THE INNOVATION DIFFUSION BASED ON NETWORK EFFECT AND INNOVATION ATTRIBUTES .....</b>	1899
<i>B. Sun, S. Tian</i>	
<b>ENGINEERING OPTIMAL NETWORK EFFECTS AND QUALITY FOR INFORMATION GOODS.....</b>	1905
<i>B. Sun, X. Su, Y. Liu</i>	
<b>LOOKING FOR A FIRM LEVEL MODEL TO EVALUATE SECTORIAL PUBLIC PROGRAMS IN LATE INDUSTRIALIZED COUNTRIES: A THEORETICAL REVIEW .....</b>	1914
<i>J.D.A. Francelino, L.M.S. Urbina, A.T. Furtado</i>	
<b>THE FIVE FORCES OF COMPETITION FOR THE ICT INDUSTRY IN EGYPT .....</b>	1931
<i>M. El-Nawawy, A.M. Gamaleldin</i>	
<b>Author Index</b>	