



**8<sup>TH</sup> ANNUAL CONFERENCE OF THE EUROPEAN  
DECISION SCIENCES INSTITUTE (EDSI 2017):  
INFORMATION AND OPERATIONAL DECISION  
SCIENCES**

**CONFERENCE PROGRAM**

**Granada, Spain  
May 29 - June 1, 2017**

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**SUNDAY MAY 28, 2017**

**WORKSHOP ON PLS PATH MODELING USING ADANCO 2.0: INTRODUCTION, EXTENSIONS, AND ADVANCES** (organized by the PLS School, by registration, not included in the Conference registration)

**May 28, 2017 from 9am to 7pm**

**Salon Loja of Hotel Abades Nevada Palace**

**Session Chairs**

Jose Benitez, University of Granada, Spain.

Jorg Henseler, University of Twente, The Netherlands.

**MONDAY MAY 29, 2017**

**DOCTORAL STUDENT WORKSHOP** (by registration, included in the Conference registration)

**May 29, 2017 from 9pm to 1pm**

**Salon Loja of Hotel Abades Nevada Palace**

**Session Chairs**

Keong Leong, California State University Dominguez Hills, USA.

Krishna Dhir, University of Hawaii at Hilo, USA.

**REGISTRATION**

**May 29, 2017 from 2pm to 3pm**

**Hotel Abades Nevada Palace**

**COFFEE BREAK**

**May 29, 2017 from 3pm to 3:30pm**

**Hotel Abades Nevada Palace**

**PARALLEL SESSIONS**

**SESSION OPERATIONS MANAGEMENT (OM) 1: RISK MANAGEMENT AND SUPPLY CHAIN**

**May 29, 2017 from 3:30pm to 5pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

**Session Chair**

Jatinder Gupta, University of Alabama in Huntsville, USA.

**17. Stock replenishment and buffer management when supplier is unreliable and lead-time is non-negligible**, by Esmail Mohebbi, University of West Florida, USA.

This paper outlines a simulation study of a supplier-retailer setting where the retailer faces an uncertain demand and the availability of an unreliable supplier is influenced by two types of disrupting events; namely, frequent operational failures and occasional catastrophic system failures. Replenishment lead-times is non-negligible, and is affected by the supplier's availability accordingly. The study is intended to seek insights into a practical but analytically challenging decision-making problem.

**72. Risk aversion and supply chain dynamics: A multimethod study**, by Alessandro Ancarani, University of Catania, Italy, Salvatore Cannella, University of Catania, Italy, Carmela Di Mauro, University of Catania, Italy, Roberto Dominguez, Technical University of Lisbon, Portugal, and Florian Schupp, Schaeffler Industries, Germany.

The literature on the impact of risk aversion on supply chains is quite limited. Particularly, there is no evidence concerning (1) the impact of individual risk aversion on supply chain dynamics (e.g. order patterns and inventory stability), and (2) the effect of possible combinations of risk aversion (i.e. high and low) across supply chain echelons on the performance of the chain as a whole. In this work, we explore these gaps through a multimethod approach (i.e., human experiments and agent based simulation) and using both empirical and simulated data. Results show that risk aversion significantly influences supply chain dynamics.

**91. The lean and resilient management of the supply chain and its impact on performance**, by Rocio Ruiz, Pablo de Olavide University, Spain, Cristina Lopez, Pablo de Olavide University, Spain, and Juan Real, Pablo de Olavide University, Spain.

This paper aims to investigate the relationship and links between lean and resilient supply chain (SC) practices and their impact on SC performance. To achieve this objective, the aerospace sector is chosen as the study sector. Interpretive structural modeling (ISM) approach is used in order to identify the relationships' map between practices and performance measures. Lean SC practices appear as drivers/enablers for resilient SC practices and their impact on SC performance is higher than that one of the resilient SC practices. In addition, several managerial implications are drawn from this study that will help practitioners to make better decisions.

**90. Exploring the role of the supply chain collaborations in the production of low-carbon vehicles**, by Cristina De Stefano, ESCP Europe, Spain, and Maria Montes, Carlos III University, Spain.

Climate change has deeply altered the competitive landscape of many manufacturing industries, which have increasingly recognized that the production of eco-friendly products is a strategic priority for market survival. In this context, the analysis of supply chain collaboration has become key for academics and practitioners seeking to understand why some companies achieve greater environmental performance than others. Using 222 dyadic relationships through 2000-2008 as a unit of the analysis, this study examines the effects of environmental R&D cooperation on the production of vehicles with lower CO<sub>2</sub> emissions over time, as well as the potential amplifying effects of sourcing and co-location strategies. The findings suggest that a multiple sourcing strategy amplifies the effects of environmental R&D cooperation on CO<sub>2</sub> emissions. Conversely, co-locating in a supplier park jeopardizes the outcomes.

**12. Inspirational leadership as a driver of HAW in healthcare: New evidence for AMO's theory**, by Andres Salas, Catholic University of Valencia, Spain, Anna Ferrer, Hospital Arnau of Vilanova, Spain, Maria Gil, Catholic University of Valencia, Spain, and Cristina Simone, Sapienza University of Roma, Italy.

The present study aims to investigate the relationship between inspirational leadership, participative decision making and happiness at work. The sampling frame consists of medical specialists in allergy of Spanish public hospitals (n=167). The authors used structural equation modeling to verify if the relationship between inspirational leadership and happiness at work is mediated by participative decision making. Results suggest that participative decision making fully mediates the relationship between inspirational leadership and happiness at work. Thus, participative decision making plays an essential role in explaining how inspirational leader behaviors. We put forward a cross-sectional research, which does not guarantee similar results in the future. This research provides evidence of the direct and positive effect of inspirational leadership on happiness at work. However, fostering inspirational is not sufficient on its own to foment happiness at work, and should be complemented by applying other organisational factors such as participative decision making. This study proposes a theoretical model that attempts to develop this human resource "black box" by empirically validating a conceptual proposal that links inspirational leadership, participative decision-making and happiness at work.

## **SESSION OM 2: CREATING BUSINESS VALUE FROM OPERATIONS**

**May 29, 2017 from 3:30pm to 5pm**

**Salon Loja of Hotel Abades Nevada Palace**

### **Session Chair**

Rafaela Alfalla, University of Seville, Spain.

**89. Supply chain's agility, adaptability and alignment and competitive advantages in emerging countries**, by Rafaela Alfalla, University of Seville, Spain, Jose Machuca, University of Seville, Spain, and Juan Marin, Polytechnic University of Valencia, Spain.

Based on his experience as a consultant, Lee (2004) postulates that an agile, adaptable and aligned supply chain is crucial for achieving a sustainable competitive advantage. The aim of the present study is to empirically analyze the impact of each of these variables and their joint effect on obtaining competitive advantages in the supply chain. SEM-PLS and regression analysis are used on an international multiple informant sample of 158 manufacturing plants in 6 emerging countries. The results for the relationships between the analyzed variables and competitive advantage confirm the relationship between agility and adaptability and the supply chain, but there is only partial corroboration for alignment and the joint effect of all three variables. The joint effect of supply chain adaptability and alignment seems to have the most obvious impact on competitive advantage.

**98. Success determinants in crowdlending projects: A crowd-credit-scoring approximation**, by Carlos Sanchis, University of Seville, Spain, and Emma Berenguer, Pablo Olavide University, Spain.

Crowdlending is a financial option that is gaining importance for both entrepreneurs and investors. However, the key factors that drive investors to project choice need more research. Some authors have identified some isolated factors, but a holistic approach is needed. To fill this gap we have conducted a literature review in the Web of Science database where 19 papers were selected and 15 success factors identified. This review is a starting point to analyze a series of peer-to-business (P2B) projects to empirically test the identified factors. With this study we would be able to establish a credit-scoring for "the crowd".

**E06. Ideal interaction patterns in transport outsourcing: The Asian case**, by Carlos Sanchis, University of Seville, Spain, Jose Machuca, University of Seville, Spain, and Mar Gonzalez, University of Seville, Spain.

Buyer-seller company outsourcing relationships have to be well managed to ensure that a positive effect comes from said relationships. This paper specifically focuses on transport services, due to their importance in logistics. Thus this study establishes whether relating the ideal interaction patterns to the process dimensions (proposed in the prior literature and adapted to this specific case of transport services) is a determinant of the success of the interaction. To achieve the proposed objective a survey has been conducted at 122 Asian manufacturing plants. Results reveal that these are determinants of process success and of the success of the end results achieved by the outsourcing company.

**E04. Shifting operations to factory of the future: A survey of European manufacturing companies**, by Elena Pessot University of Udine, Italy, Cinzia Battistella, University of Siena, Italy, Alberto De Toni, University of Udine, Italy, Alberto De Zan, University of Udine, Italy, and Elisabetta Ocello, University of Udine, Italy.

Factory of the future (FoF) defines a variety of production technologies and IT solutions enabling the digitisation and automation of operations. Shifting to FoF implies both disruptive changes and far-reaching opportunities in improving competitiveness of manufacturing companies. Building on a literature review and exploratory survey conducted in a European

project, this work outlines current state, challenges and gaps of FoF issues from literature and empirical point of view. It derives clusters in relation to strategies, drivers, enablers, benefits and barriers of FoF technologies adoption; organisational structures, skills and competencies required; roles of the value chain partners; importance of performance management.

**39. A review of governments' strategies aimed to encourage sustainability of the built environment**, by Bilge Celik, Roger Williams University, USA, and Amine Ghanem, Roger Williams University, USA.

Governments around the world have established strategies in an effort to encourage sustainability practices in the built environment. This study presents a review of incentive and mandate related government strategies used by various countries to support these strategies. The objective of this study is to identify connections between these strategies and the success of the green building industry in the countries being studied. This objective is part of a larger research where authors are trying to combine a variety of data points from each country, to create a green building index (GBI). The goal of the GBI is to assess the sustainability performance of the building industry in each country thus creating awareness and competition to ultimately improve sustainability in the built environment.

### **SESSION INFORMATION SYSTEMS (IS) 1: SOCIAL MEDIA INITIATIVES AND VALUE CREATION**

**May 29, 2017 from 3:30pm to 5pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

#### **Session Chair**

Sharmin Attaran, Bryant University, USA.

**68. Integrating social media into Business curricula**, by Sharmin Attaran, Bryant University, USA, and Mohsen Attaran, California State University at Bakersfield, USA.

Social Media (SM) provides a strategic and efficient set of tools to nurture and enhance traditional marketing practices for any business. Therefore, the effective use of SM is now an important criterion for marketing decisions and therefore must find its way into university business curriculum in an effort to prepare students for the current and future demands of industry. Universities are starting to incorporate SM tools within traditional marketing courses as well as offer dedicated courses and certification programs. We will discuss strategies to enhance future marketing decisions by incorporating SM into traditional Business curricula.

**74. The relationship between e-marketing in social media and competitive advantage in Palestinian Internet companies**, by Ahmad Herzallah, Al-Quds University, Palestine, and Omar Abdel, Al-Quds University, Palestine.

Social media marketing involves the use of online social media tools -such as Facebook, Twitter, and LinkedIn- to reach consumers in innovative ways. This paper examines the relationship between e-marketing in social media and competitive advantage in Palestinian Internet companies. An empirical analysis based upon an extensive validation process was applied to refine e-Marketing and competitive advantage scales. In order to achieve the objectives of this study, required data were collected using a questionnaire survey which was designed and developed based on the previous literature. Descriptive analysis was employed in the study with an empirical testing utilizing a questionnaire that was distributed over a sample of 200 employees in three major companies in Palestine. 166 questionnaires were returned usable for analysis. Results show a positive relationship between e-marketing and competitive advantage. Results derived from this study might help managers to implement e-marketing in order to effectively allocate resources and improve performance.

**105. Social networks usage for the company image generation in investors' eyes**, by Andrey Aistov, National Research University Higher School of Economics, Russia, and Yana Shigina, National Research University Higher School of Economics, Russia.

Social networks facilitate a dialogue between company and stakeholder. However, corporations often underestimate the importance of that channel for the business development and typically share only the generally accepted accounting data. But investors seek for information disclosure to build a deep understanding of a company's strategy, current performance, and potential to create long-term value. Gathering data about top companies from NYSE, we will model a 360-degree view that gives an opportunity to investigate activity of both side of dialogue via social networks and strength of relationship based on relevant information.

**110. Marks & Spencer's and Lululemon Athletica: Two narratives on RFID-enabled omnichannel retailing**, by Rebecca Angeles University of New Brunswick Fredericton, Canada.

This research study features the experiences of Marks & Spencer (M&S), a leading UK retailer, and Lululemon Athletica (LLL), a Canadian sports apparel retail chain, in deploying the latest round of their radio frequency identification (RFID) initiatives as a way of laying the foundation for attaining omnichannel retailing capabilities. The prize to be obtained is inventory accuracy and reliability; this study focuses on attempts to reach inventory management improvements in the retail stores and other parts of the firms' supply chain. The RFID exploration of both M&S and LLL is successful. In the future, M&S would like to extend its RFID enablement to its entire supply chain which would include its manufacturers and distribution centers. This research study also uses the qualitative research method of content analysis of conference transcripts of talks given by key M&S and LLL executives who deployed their RFID initiatives in the Annual RFID Journal Live! Conferences

## SESSION IS 2: BIG DATA AND BUSINESS ANALYTICS

May 29, 2017 from 3:30pm to 5pm

Salon Alpujarra of Hotel Abades Nevada Palace

### Session Chair

Rashmi Malhotra, Saint Joseph's University, USA.

**25. Forecasting airport' departure passenger movements using data analytics**, by Nang Ma, Singapore Institute of Management University, Singapore, and Nil Nil.

In this paper, we focus on the forecasting of monthly departure passenger movements for one of the busiest airport in Asia. Firstly, we forecast the monthly airport departure passenger flows for the next 12 months for macro level planning. Next, we used SAS Forecast Studio for detailed-level planning based on airline and per airline-city combinations using hierarchical forecasting. We have also used the actual data to validate the accuracy of the forecast error. We have shown that in most cases, the mean absolute percentage error is less than 3%, which indicates the usefulness of our model for better decision making.

**35. Knowledge management system using text mining: An illustration**, by Kunal Malhotra, School of Engineering and Applied Sciences, USA, and Rashmi Malhotra, Saint Joseph's University, USA.

In this era of information overload, discovering knowledge is a challenge. However, a new generation of text mining tools enables researchers and practitioners to analyze large volumes of data. This paper illustrates the design of knowledge discovery system – Chanakya using text mining. Chanakya works in two stages. Stage 1 uses Naive Bayes Classifier Bayes Classifier, a supervised machine learning algorithm to train for classes, as we explicitly provide training data that is labelled with classes. Stage 2 uses k-means analysis, an unsupervised machine learning algorithm to determine what categories are emerging from the mentions of each class. K-means analysis is. We use the 2016 presidential elections Twitter feeds to illustrate the use of Chanakya.

Chanakya offers a commentary on the current state of the political arena after analyzing the candidate tweets and how people are reacting to these tweets.

**102. How e-business adoption influences leader's efficacy in incumbents**, by Lirios Alos, University of Miguel Hernandez, Spain, Antonio Verdu, University of Miguel Hernandez, Spain, Jose Gomez, University of Miguel Hernandez, Spain, and Maria Estrada.

Incumbents increasingly adopt e-business with the goal of achieving competitive advantage in the pressures of a digital economy. The literature has focused on organizational processes that facilitate e-business adoption in incumbents, but these processes require constant assimilation of technological evolution, followed by persistent adaptation of digital advances in the firm. E-business adoption thus affects the leader's performance. Based on the TOE framework, we propose that e-business adoption influences the leader's efficacy, both directly and indirectly through emotional regulation and the leader's reflection. We test this model by conducting an empirical study, whose results support the significant role that reflection processes play in shaping the influence of e-business adoption on the leader's efficacy.

**109. Mobile secure information system for remote workforce geolocation based control using BYOD policy and proof of identity**, by Sergio Rios, International University of La Rioja, Spain, and Javier Llorens, University of Granada, Spain.

This work proposes a mobile information system that can serve companies to conduct remote workforce geolocation-based control, by means of a non-intrusive use of employees' own smartphones, following the now commonly accepted bring-your-own-device (BYOD) IT policy. A new methodology is proposed in order to specify accuracy and precision requirements for location data provided by standard high-end corporate smartphones. This proposal provides quantitative and qualitative references that should be met with respect to the location information accuracy needed in common control scenarios for the remote workforce.

**114. Science ecosystem: Analyzing data through real-time interactive network graphs**, by Alessandro Comai, ESADE Business School, Spain.

Nowadays information technology and open data have created an enormous opportunity for analyzing and extracting knowledge from data which was not easy before. This work addresses the challenger of visualizing data science utilizing network graphs. These graphs are very powerful in showing scholar's ecosystems focused on a specific topic. Specifically, the work uses a network graph which draws the relationship based on the analysis of papers. To fulfill the need, a list of filters able to reduce the data into subgroup in real time is also presented. To accomplish the whole, the work also discusses the combination of algorithms, taxonomies and visualization techniques able to produce different outcomes. The combination of these techniques allows studying multiple relationships and datasets in real time and the interactive visualization helps tackling any new phenomena in a completely new way.

**VISIT TO THE ALBAYZIN** (included in the Conference registration)

**May 29, 2017 from 6pm to 8:30pm**

**Departure in bus from Hotel Abades Nevada Palace at 6pm**

**WELCOME DINNER AT CARMEN DE LOS CHAPITELES** (included in the Conference registration)

**May 29, 2017 from 8:30pm to 11:30pm**

**TUESDAY MAY 30, 2017**

**REGISTRATION**

**May 30, 2017 from 8:30am to 9:30am**

**Hotel Abades Nevada Palace**

**WELCOME**

**May 30, 2017 from 9am to 9:30am**

**Salon Altiplano of Hotel Abades Nevada Palace**

**Session Chairs**

Pilar Aranda, University of Granada, Spain.

Jatinder Gupta, University of Alabama in Huntsville, USA.

Constantin Blome, University of Sussex, UK.

Pedro Garcia, University of Granada, Spain.

Leopoldo Gutierrez, University of Granada, Spain.

Jose Benitez, University of Granada, Spain.

Javier Llorens, University of Granada, Spain.

**FEATURED SESSION: KEYNOTE SPEAKERS**

**May 30, 2017 from 9:30am to 10:30am**

**Salon Altiplano of Hotel Abades Nevada Palace**

**Session Chair**

Gyula Vastag, Szechenyi Istvan University, Hungary.

**Keynote Speakers: Coping with endogeneity in composite modeling**

Jorg Henseler, University of Twente, The Netherlands.

Jose Roldan, University of Seville, Spain.

**COFFEE BREAK**

**May 30, 2017 from 10:30am to 11am**

**Hotel Abades Nevada Palace**

**PARALLEL SESSIONS**

**SESSION OM 3: HEALTHCARE MANAGEMENT**

**May 30, 2017 from 11am to 12:30pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

**Session Chair**

Christopher McDermott, Rensselaer Polytechnic Institute, USA.

**36. A review of population health management: What do we know? How can it be used?**

by Hale Kaynak, The University of Texas Rio Grande Valley, USA, Jose Pagan, The New York Academy of Medicine and the Icahn School of Medicine, USA, and Subhajit Chakraborty, Coastal Carolina University, USA.

Population health management (PHM) has emerged as an important strategy to improve health care quality, reduce costs and improve health outcomes. Although PHM initiatives are being adopted widely, the term is used somewhat loosely and the components of PHM vary across different health care organizations. We review both the academic and practitioner literatures to better frame what strategies fit into PHM and assess what hospitals are doing for effective PHM. This study attempts to integrate operations management with health care systems and policy research to offer a research framework useful to evaluate the effectiveness of PHM strategies.

**69. Healthcare service environment: How Lean-Six Sigma (LSS) principals improve hospital performance**, by Ana Honda, University of Sao Paulo, Brazil, Vitor Zanetti, University of Sao Paulo, Brazil, Mateus Gerolamo, University of Sao Paulo, Brazil, and Mark Davis, Bentley University, USA.

The healthcare industry continues to emphasize quality and productivity improvements. This study focuses on the implementation of Lean-Six Sigma (LSS) principals in hospitals. Through an analysis of 37 published case-based papers, we found that implementing LSS concepts improves both waiting time reduction and patient flow. This study also shows that having a multidisciplinary team and approach to addressing these issues is critical for success. Implementation limitations relate primarily to the organizational and infrastructure capabilities of the hospitals. Our evaluation of these cases clearly demonstrates that LSS can provide effective solutions to quality and process problems in a healthcare service environment.

**86. Optimizing examination appointments focusing on oncology protocol**, by Eva Konig University of Pannonia, Hungary, Janos Baumgartner, University of Pannonia, Hungary, and Zoltan Sule, University of Pannonia, Hungary.

It is a common social problem that waiting queues are long and chaotic in hospitals and medical centers. In Hungary, a process has been started recently to determine a general medical protocol on the field of oncology. A process that is based on precisely defined rules can be optimized by applying mathematical formalism. In this research, an LP model has been constructed that is capable of providing the optimal schedule of the required examinations to each of the patients. The model and the software were tested on real life cases to ensure the possibility of developing a marketable application.

**E09. Drivers of productivity in radiology**, by Maria Ibanez, Harvard Business School, USA.

Using detailed data on millions of radiological studies interpreted by physicians, we study the drivers of speed and quality of the interpretation, and identify implications for scheduling and allocation of work across workers.

## **SESSION STRATEGY 1: DIVERSITY, LEADERSHIP, AND GENDER ISSUES IN ORGANIZATIONS**

**May 30, 2017 from 11am to 12:30pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

### **Session Chair**

Ales Popovic, University of Ljubljana, Slovenia.

**9. Corporate responsibility, total quality and gender diversity in the top management team: Evidence from the hospitality industry**, by Macarena Marchante, University of Malaga, Spain, Carlos Benavides, University of Malaga, Spain, and Cristina Quintana, University of Malaga, Spain.

The implementation of total quality management and corporate social responsibility may influence the results of hotels' stakeholders as an antecedent of business performance. This paper investigates this relationship as well as the role of gender diversity in top management team and its impact in the implementation of corporate social responsibility. An empirical study of Spanish hotels from the Andalusian region shows that the adoption of such approaches improves the capacity of hotels to create benefits for their stakeholders, and these results have a positive effect on hotel performance. Our findings also provide evidence of the complementarity of both management philosophies as TQM can enhance the development of CSR. Finally, our research demonstrates that higher gender diversity in top management teams increases the level of implementation of corporate social responsibility within the hotel industry.

**8. Assessing investors' earnings expectations: The contextual usefulness of composite forecasts**, by May Lo, Western New England University, USA, Pieter Elgers, Wenjuan Xie, University of New Hampshire, USA, and Emily Xu, University of New Hampshire, USA.

This study adopts a complementarity framework in constructing composite forecasts and evaluates the usefulness of composite forecasts as a proxy for investors' earnings expectations. Our empirical tests utilize composites of financial analysts', time-series and security-price based forecasts, and strongly support the incremental usefulness of the composite forecasts, over and above that of any of the three forecast sources. Moreover, we show that the usefulness of composite forecasts is contextual. Composite forecasts better represent investors' earnings expectations for smaller firms, for firms with relatively light financial analysts' following, and for firms with weaker prior-year performance, measured as either abnormal returns or earnings changes.

**18. Career motivation, perceived barriers and position of the next generation in the family business: Female perspective**, by Anna Akhmedova, International University of Catalonia, Spain, Rita Cavallotti, International University of Catalonia, Spain, and Frederic Marimon, International University of Catalonia, Spain.

The goal of this paper consisted in further exploring why the underrepresentation of family business daughters occurs in high-level management positions and in checking, which internal and external factors may affect their position. To meet the goal a three-step mixed method research was conducted. First, motivational scale was developed. Second, direct causal effects were tested by structural equation modelling. Finally, combined causal effects were tested by qualitative comparative analysis. It was found that the presence of transcendent motivation and the absence of perceived barriers favour promotion. Three pathways to leadership, that were found, were labelled: "no barriers", "challengers" and "rational".

**113. Developing business intelligence capabilities: The effects of top management, user participation and analytical decision-making orientation**, by Ales Popovic, University of Ljubljana, Slovenia, Uday Kulkarni, Arizona State University, USA, and Jose Robles, ESAN Graduate School of Business, Peru.

We draw upon the structurational model of technology in an institutional setting to investigate how top management affects the development of a firm's business intelligence (BI) capability. We propose a multiple mediator model in which organizational factors, such as user participation and analytical decision-making orientation, act as mediating mechanisms that transmit the positive effects of top management championship to advance a firm's BI capability. Drawing on data collected from 486 firms, we found support for the mediating effects of top management championship through user participation and analytical decision-making orientation. These findings contribute to a nuanced understanding for BI capability development within firms.

## **SESSION HUMAN RESOURCE MANAGEMENT 1: LEADERSHIP AND WORKING CLIMATE**

**May 30, 2017 from 11am to 12:30pm**

**Salon Alpujarra of Hotel Abades Nevada Palace**

### **Session Chair**

Krishna Dhir, University of Hawaii at Hilo, USA.

**11. Assessing the psychometric properties of S-haw**, by Andres Salas, Catholic University of Valencia, Spain, and Joaquin Alegre, University of Valencia, Spain.

The notion of happiness at work is becoming increasingly important for HRM research. Despite the widespread existence of different constructs that capture positive attitudes, a comprehensive measure of individual-level happiness is necessary. Starting from Fisher's (2010) conceptualisation

of happiness at work, Salas-Vallina et al. (2016a) developed a 31-item scale to measure happiness at work. This scale accurately captures the different dimensions of happiness in the workplace context. However, it is a long scale. Shorter scales provide major improvements in efficiency and efficacy. Our study, conducted with a Spanish healthcare sample, conceptualises and measures happiness at work. Following the steps suggested by Stanton et al., 2002, we provide a shortened version of the happiness at work scale, while maintaining its psychometric properties. We argue that this new measurement scale presents a high statistical potential to widely capture positive attitudes at work and opens undeveloped research possibilities.

**126. Climate of personal initiative, climate of openness to change and quality of employee performance: Does effective implementation of accreditation in Israel's hospital contribute to the patient? Results from time points 1-2,** by Valerie Isaak, Mla College Israel, Israel.

To examine the relationship between organizational climate during accreditation processes and performances. Based on the argument that as long as the accreditation implementation continue the influence of the climate types on organizational performance will increase and the treatment given to the patient will be in better quality, and to recommend the decision makers a layout to implement accreditation processes in Israeli's hospitals. Surveys will be passed to doctors and nurses in three time points during accreditation process. Analysis level will be worker-manager. The study is in direct linkage to national health law who supports giving high level service and performance.

**28. New leadership styles: Their effects on hospitality employees,** by Irene Huertas, University of Rey Juan Carlos, Spain, Araceli Rojo, University of Granada, Spain, and Marisel Fernandez, University of Granada, Spain.

Focusing on leader behaviors that help followers to realize their full potential, this research built and tested a theoretical model linking three novel leadership styles (namely, paradoxical, empowering and servant) with psychological empowerment and engagement. These relationships were assessed using structural equation modeling (SEM) with survey data gathered from 340 hotel workers in Spain. Results of hypothesis testing showed that empowering and paradoxical leadership styles positively affect psychological empowerment. In addition, servant and empowering leadership styles are both antecedents of job engagement. The findings of this research could help managers to display appropriate behaviors when managing their workforce in hotel settings. Also highlighted for educators is the importance of instruction for future hospitality workers on innovative leadership trends.

**13. A funny thing happened on the way to nurses' innovative behavior: Humor as a mediator of leadership effects,** by Andres Salas, Catholic University of Valencia, Spain, and Anna Ferrer, Hospital Arnau of Vilanova, Spain.

The Spanish healthcare system is one of the most prestigious models in the world. Nursing care is an essential part of medical services, and nursing innovation plays a central role in improving medical quality (Weng et al., 2015). However, given that certain conditions are required to allow individuals to be innovative (Janssen & Van Yperen, 2004), current working circumstances, involving high workloads and adverse social behavior (American Psychological Association, 2015; Eurofond, 2015), do not facilitate positive outcomes in this sense. The personal, organizational and societal benefits of altruistic behavior have been identified as crucial elements for firms, but little research has examined the positive consequences of altruistic leadership on innovative behavior. Our research examines the relationship between altruistic leadership and nurses' innovative behavior, considering the mediating role of affiliative humor.

**SESSION OM 4: INFORMATION INTEGRATION AND DECISION MAKING**

**May 30, 2017 from 11am to 12:30pm**

**Salon Loja of Hotel Abades Nevada Palace**

**Session Chair**

Carmela Di Mauro, University of Catania, Italy.

**27. Extending the operating frontier of a complex job shop production area with a decision support system based on social judgment theory**, by Thomas Ladinig, Szechenyi Istvan University, Hungary, Krishna Dhir, University of Hawaii at Hilo, USA, and Szechenyi Istvan University, Hungary, and Gyula Vastag, Szechenyi Istvan University, Hungary.

A decision support system (DSS) was developed to link individual judgments of an expert team with results of a discrete event simulation to improve the performance of a complex job shop production system. The DSS combines behavioral aspects of social judgment theory with quantitative methods and theory of OR by using a lens model approach. The results improve operational decision making of the management team of the production system by solving conflicts and by integrating several sources of information.

**96. The transformation of operations models in the automotive industry**, by Patrick Hennelly, University of Cambridge, UK, Gary Graham, Leeds University, UK, and Jag Srari, Leeds University, UK.

Our paper will explore the question of how big data could enable the development of new operations models in the automotive sector. It aims at setting out a new research agenda that fuses and crosses the boundaries of operations management and big data technology. It uses a primary and secondary case study research design. Visualisations and text mining in VOS MAX, KNIME cluster analysis of co-occurring terms, sentiment analysis and thematic and narrative analysis. The cases are used to explore the characteristics of the resources and processes used in big data operations models based on a connected car framework.

**107. Value creation by the electronic transactions and information integration in supply chain processes**, by Kari Korpela, Lappeenranta University of Technology, Finland, and Jukka Hallikas, Lappeenranta University of Technology, Finland.

Business process integration combines the information needed for product and service delivery within the supply chain and supports the management of the product life cycle for the customer. In this study, we show how the improved digital integration and automation of information flows enhance the speed of the purchasing and supply chain processes and thus provide cost savings by reducing the amount of manual work required by organizations. This study provides a novel framework for structuring a business process model that is based on global standards. In particular, it presents the methods used to analyse the data, and it discusses the interesting results.

**FEATURED SESSION: MEET THE INFORMATION SYSTEMS AND  
OPERATIONS MANAGEMENT EDITORS<sup>1</sup>**

**May 30, 2017 from 12:30pm to 2pm  
Salon Altiplano of Hotel Abades Nevada Palace**

**Session Chair**

Jatinder Gupta, University of Alabama in Huntsville, USA.

**Session participants**

- Jatinder Gupta, University of Alabama in Huntsville, USA, President of the Decision Sciences Institute, and Associate Editor of Decision Sciences Journal. He has served in the past as Departmental Editor of Production and Operations Management.
- Frantz Rowe, University of Nantes, France, Co-Editor-in-Chief of European Journal of Information Systems.
- Bartholomew MacCarthy, Nottingham University Business School, UK, European Editor of International Journal of Production Economics.
- Constantin Blome, University of Sussex, UK, President of the EDSI, and Associate Editor of Decision Sciences Journal and Journal of Operations Management.
- Gyula Vastag, Szechenyi Istvan University, Hungary, President Elect of the EDSI, and Associate Editor of Decision Sciences Journal.
- Carmela Di Mauro, University of Catania, Italy, Past President of the EDSI, and Associate Editor of Journal of Purchasing and Supply Management.

**NETWORKING LUNCH AT HOTEL ABADES NEVADA PALACE** (included in the  
Conference registration)

**May 30, 2017 from 2pm to 4pm**

**PARALLEL SESSIONS**

**SESSION HUMAN RESOURCE MANAGEMENT 2: LEADERSHIP AND  
EMPLOYEES INVOLVEMENT**

**May 30, 2017 from 4pm to 5:30pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

**Session Chair**

Keong Leong, California State University Dominguez Hills, USA.

**24. Achieving engagement among hospitality employees: A serial mediation model**, by Irene Huertas, University of Rey Juan Carlos, Spain, Javier Llorens, University of Granada, Spain, and Araceli Rojo, University of Granada, Spain.

This research aims at disclosing some mechanisms whereby job engagement can be created in a hospitality context. A study was conducted to examine the relationships among high-performance work practices (HPWPs), empowering leadership behaviors, psychological empowerment, and engagement. A theoretical serial mediation model was developed to examine the proposed relationship. The hypotheses were tested using regression analysis with bootstrapping. 340 hotel workers participated in this study. Both empowering leadership and psychological empowerment were found to be independent mediators of the HPWPs-engagement relationship; in addition, empowering leadership and psychological empowerment serially mediated this relationship. This research highlights the importance of specific

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<sup>1</sup> This session will start with a presentation of the Annual Conference of the EDSI 2018, by Marco Sartor (University of Udine, Italy).

organizational conditions and managerial strategies in achieving the psychological fulfillment of hospitality employees.

**23. The effects of ostracism, psychological empowerment and self-esteem on employee extra-role behaviour: A moderated mediation model**, by Irene Huertas, University of Rey Juan Carlos, Spain, Javier Llorens, University of Granada, Spain, and Jessica Braojos, University of Granada, Spain.

Being ostracized at work has a negative impact on employee self-esteem level. We seek to highlight the potential for organizational interventions designed to generate psychological empowerment among employees in order to bolster an individual's self-esteem level to potentially counteract ostracism's negative effects on self-esteem. The proposed model was tested in the hospitality industry context based on survey data from a sample of 329 Spanish hotel workers. We use the variance-based structural equation modelling (SEM) technique and the partial least squares (PLS) method of estimation to test the hypotheses and to examine the mediation and moderation effects involved in the proposed model. Results provide support to the fact that empowering workers can improve their self-esteem and hence the final service given to customers.

### **SESSION OM 5: SUPPLY CHAIN SUSTAINABILITY**

**May 30, 2017 from 4pm to 5:30pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

#### **Session Chair**

Cristina Quintana, University of Malaga, Spain.

**48. Sustainable supplier development practices: The role of relationship dependability**, by Cristina Sancha, OBS Business School, Spain, Christina Wong, and Cristina Gimenez, ESADE Business School, Spain.

In view of the limited understanding and research on the effect of sustainability practices on supplier performance, this study examines the sustainable supplier development practices in terms of assessment and collaboration conducted by buying firms in affecting supplier performance. To gain understanding of the role of relationship dependency in affecting supplier performance, this study also investigates the moderating effect of relationship dependency on the performance outcomes of assessment and collaboration. The findings suggest that the impact of sustainable supplier development on supplier's performance is higher when the supplier is dependent on the buyer.

**70. Corporate sustainability strategies and triple bottom line: An empirical analysis of companies with environmental impact in Europe**, by Raquel Miranda, University of Malaga, Spain, and Cristina Quintana, University of Malaga, Spain.

This paper seeks to improve our understanding of how the triple bottom line can be integrated into business strategies by analyzing the influence of corporate environmental and social strategies on the economic pillar of sustainability. We carried out an empirical study of parent companies with industrial facilities data reported to the European Pollutant Release and Transfer Register between 2007 and 2011. Results provide empirical evidence on the positive influence of implementing corporate sustainability strategies on profitability and economic conditions of stakeholders. Also, we conclude from this study that the growth rate of companies does not have a significant effect.

**81. Exploring the financial flows in sustainable supply chains: Toward a conceptualization of sustainable supply chain finance (SSCF)**, by Ronald de Boer, Windesheim University of Applied Sciences, The Netherlands, Lydia Bals, University of Applied

Sciences Mainz, Germany, Wendy Tate, University of Tennessee, USA, Luca Gelsomino, Windesheim University of Applied Sciences, The Netherlands, Michiel Steeman, Windesheim University of Applied Sciences, The Netherlands, and Cristof Bals, Technical University Dortmund, Germany.

The extant supply chain literature predominantly emphasizes the role of the physical material flows. To date there has been little research that strives to tie together the flow of finance and information related to sustainability. In practice, the financial aspects have evolved into a tool kit that helps supply chain members optimize the financial flows across the supply chain, but often without addressing sustainability issues. This research strives to explore and conceptualize the interface between sustainable supply chain design (SSCD) and supply chain finance (SCF) to understand the practical and theoretical contribution of SCF to issues of sustainability.

**111. On benefits of just-in-time lot splitting with fixed transportation cost allocation**, by Joong Son, MacEwan University, Canada.

This paper assesses the benefits of just-in-time (JIT) lot splitting and multiple shipment deliveries for an order placed by the retailer with the manufacturer in a decentralized supply chain. In a typical business setting, the treatment of the fixed transportation cost in the order placement and inventory replenishment is not as clear and is often contingent on negotiations between the manufacturer and the retailer. In particular, this paper investigates how the optimal allocation of the fixed transportation cost from the manufacturer to the retailer can be derived with the lot splitting policy to minimize the total inventory related costs for the system as well as how it can be used to identify settings under which job splitting can be beneficial for the system. Both the lot splitting policy parameter (number of shipments,  $k$ , for each order) and fixed cost structures (e.g., the fixed shipping cost to the ordering cost ratio) exert a significant impact on the supply chain cost performance. Numerical results indicate that implementing an additional cost sharing mechanism between the manufacturer and the retailer constitutes an incentive aligned supply chain coordination. General insights gained from the paper can be further applied to other supply chain order coordination mechanisms.

**22. A review of research on information exchange in buyer-supplier NPD efforts**, by Christopher McDermott, Lally School of Management, USA, Greg Stock, University of Colorado, USA, and Peggy McDermott, University of Colorado, USA.

Our study provides a comprehensive review of the research examining the role of information exchange between a firm and its suppliers in buyer-supplier collaborative new product development. While many individual papers have been written on various aspects of this important area, we synergize these existing literatures and provide an overview as well as insight into potential gaps.

### **SESSION IS 3: BUSINESS VALUE OF INFORMATION TECHNOLOGY**

**May 30, 2017 from 4pm to 5:30pm**

**Salon Loja of Hotel Abades Nevada Palace**

#### **Session Chair**

Rebecca Angeles, University of New Brunswick Fredericton, Canada.

**AA. A theory of the evolution of business value of e-business technology over time**, by Jose Benitez, University of Granada, Spain, Yang Chen, Southwestern University of Finance and Economics, China, Thompson Teo, National University of Singapore, Singapore, and Aseel Ajamieh, Princess Nourah bint Abdulrahman University, Saudi Arabia.

This study examines the evolution of the impact of e-business technology on operational competence and profitability using a panel dataset of 154 Spanish firms. We find that: (1) E-business technology has a positive effect on operational competence that decreases over time;

and (2) the firm's proficiency in exploiting a portfolio of operational capabilities has a positive impact on profitability that becomes more significant over time. The findings provide some insights on how the initial and subsequent IT investments affect operational competence and profitability over time. This study illustrates methodologically how to perform a partial least squares estimation using panel data.

**84. Understanding risks and rewards of information technology development**, by Tuncay Bayrak, Western New England University, USA.

Businesses are becoming increasingly dependent on information and Information Technology. This dependence brings with it both risks and rewards, and managers must decide whether or not to stay averse to the risk, or whether to embrace it in order to achieve the potential rewards. This study explores some of the risks and rewards that integrating Information Technology into a corporation can produce. In this study, a research method that is mainly based on a review of the scientific literature was employed. The final contribution of this study lies in the fact that it identifies and articulates the most important risks and opportunities that must be evaluated carefully and extensively by decision makers before making large-scale IT investment decisions

**5. IT investment decision-making: Usability of a normative model**, by Fons Wijnhoven, University of Twente, The Netherlands, Vincent Poot, University of Twente, The Netherlands, and Hans Heerkens, University of Twente, The Netherlands.

This article analyzes the usability of a multi-criteria decision analysis based on a real options AHP (ROAHP) method for IT-investment decisions. The study presents ROAHP to Chief Information Officers (CIO's) and collects their opinions on prerequisites for usability, strengths and weaknesses. To understand these opinions, the opinions are put in an organizational context by profiling their organization's strategic decision making process. The study concludes that CIO's recognize the potential and need of ROAHP but that organizations need much investments in data collection and decision models to make this method useful for its purpose, i.e. increasing IT investment decision rationality. ROAHP lacks usability. Furthermore, this study recommends future research focus on the usability rather than the validity of the method.

**SESSION STRATEGY 2: NEW TECHNOLOGIES, STRATEGY, AND ORDER ENTRY**

**May 30, 2017 from 4pm to 5:30pm**

**Salon Alpujarra of Hotel Abades Nevada Palace**

**Session Chair**

Jaime Gomez, University of La Rioja, Spain.

**99. Understanding the antecedents of different types of technostress: A non-linear approach**, by Helmi Issa, Rennes School of Business, France, Vijaya Lakshmi, Rennes School of Business, France, Rohit Nishant, Rennes School of Business, France, and Bouchaib Bahli, Ryerson University, Canada.

Information technology (IT) is intended to aid efficiency and productivity. However, there are growing concerns about stress arising from the increasing diffusion of IT at workplace, often termed as technostress. This paper empirically investigates how different antecedents relate to different types of technostress. The paper draws from past studies to conceptualize different antecedents and distinct types of technostress to develop a non-linear model linking antecedents to various types of technostress. The model is tested using data collected from 215 end-users in multiple organizations. Implications for research and practice are discussed.

**92. Order of entry and firm competitive strategy: An analysis for European mobile operators**, by Jaime Gomez, University of La Rioja, Spain, Beatriz Perez-Aradros, University of La Rioja, Spain, and Idana Salazar, University of La Rioja, Spain.

Research on first mover advantages is interested in the performance effects of the order of entry into new markets. However, with a few exceptions, the competitive strategies used by different cohorts of entrants have not been studied. In this paper, we advance research on first mover advantages by focusing on the competitive strategies employed by firms that differ in their order of entry. We propose that pioneers, early followers and late entrants differ in terms of the competitive strategy employed. Additionally, we argue that the different competitive strategies used evolve over time. To test our hypotheses we use data from the European mobile industry. Our findings show that pioneers tend to focus on service quality and that they are able to generate more value through higher prices. Unexpectedly, we find that pioneers also benefit from better cost structures than late followers. However, over time, pioneers worsen their relative position in terms of operating costs.

**62. Retaliatory entry: Determinants of entry as a competitive response**, by Beatriz Dominguez, University of La Rioja, Spain, Jaime Gomez, University of La Rioja, Spain, and Juan Maicas, University of Zaragoza, Spain.

Market entry has been considered as a retaliatory movement. Nevertheless, studies that analyze market entry often consider the entry into a rival's market as a competitive attack. Since actions and reactions are two different competitive movements, factors that determine entry as an attack may be different from those that lead to entering as a response. In this study, we center on retaliatory entry and we analyze how multimarket contact (MMC) between the attacker and the attacked firms and the competitive pressure that the attacker exert on the attacked firms determine this kind of entry. Moreover, we study how the competitive pressure of the attackers moderates the relationship between MMC and retaliatory entry. We test our hypotheses in the mobile telecommunications industry. The results confirm that MMC between the attacker and the attacked firms increases the likelihood of retaliatory entry. Additionally, we find that the greater competitive pressure of the attackers on the focal firm, the more likely the attacked firm is to make a retaliatory entry. However, our results do not show that the competitive pressure of the attackers moderates the relationship between MMC and retaliatory entry.

#### **COFFEE BREAK**

**May 30, 2017 from 5:30pm to 6pm**

**Hotel Abades Nevada Palace**

#### **PARALLEL SESSIONS**

#### **SESSION OM 6: NETWORKS AND COLLABORATIONS**

**May 30, 2017 from 6pm to 7:30pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

#### **Session Chair**

Max Finne, Warwick Business School, UK.

**50. Transmission in supply chain networks: On the brink to another evolutionary stage?**, by Lydia Bals, University of Applied Sciences Mainz, Germany, Wendy Tate, University of Tennessee, USA, Kai Foerstl, German Graduate School of Management and Law, Germany, and Cristof Bals, Technical University Dortmund, Germany.

Supply chains are evolving from a typical "chain" structure to a network structure where interconnections between network members are increasing in number, diversity, and strength. These highly connected networks are focused on information flows so that materials and services can be provided that add value to the customer and society as a whole. This research focuses on

understanding how a supply network, which is a complex adaptive organizational system, is able to communicate quickly and effectively via information transmission. The paper looks to the Biological Sciences to help understand the evolutionary and structural aspects of such complex systems.

**88. Effective collaboration in project-based services**, by Mehmet Chakkol, Warwick Business School, UK, and Max Finne, Warwick Business School, UK.

Project-based collaborations are increasingly frequent, and have specific challenges due to being temporary and unique. This research aims to explore characteristics of an effective collaborator. Altogether 27 experienced collaborators from high performing companies were interviewed. 18 main personality attributes and their relative importance for effective collaboration were identified. The most effective collaborators were found to be effective in information exchange, strategic and adaptive and prioritizing common benefits. This indicates that adherence to relational norms (information exchange, flexibility, solidarity) links to effective collaboration. The results of this study can impact the way employees are recruited, selected and trained for collaborative projects.

**93. Institutional fit and firm performance in supply chain management**, by Marisel Fernandez, University of Granada, Spain, Leopoldo Gutierrez, University of Granada, Spain, and Javier Llorens, University of Granada, Spain.

This paper aims to seek to analyze the influence of institutional fit on organizations' substantive performance, in the context of supply networks. More specifically, we consider three organizational variables for the fit: structure, culture, technology. Institutional theory suggests that organizations tend to follow the behavior of the successful firms in the sector, to receive support and legitimacy. However, there is considerable debate about the effect of isomorphism on firm performance. Does imitating the behavior of successful firms with their supply networks improve the performance of mimic firms? To perform this study, we used a final sample with data from 200 Spanish companies, in the high technology sector. The hypotheses are tested using a hierarchical linear regression methodology. The results show that the cultural fit decrease performance of mimic firms, while the technological fit improves their performance. We discuss the implications of these findings for institutional theory and supply chain management.

**E01. Supplier involvement and its impact on product development and enhancement in services**, by Larry Giunipero, Florida State University, USA, Mark Bonn, and Mee Cho.

Supplier involvement (SI) is frequently used in conjunction with new product development (NPD). However, most of the studies focus on the benefits of NPD in the manufacturing sector. For example, Johnson's literature review found that SI had the potential to improve NPD effectiveness and efficiency the literature was fragmented. We propose that SI is a latent construct composed of trust, commitment and shared vision. This construct has an effect on both product development and enhancement. The hypotheses will be tested on a 317 independent restaurant owner sample and expectations are that SI has significant effects on both development and enhancement.

**87. Operational implications of strategic realignment: Adapting to new constraints**, by Mikael Ohman, Aalto University, Finland, and Max Finne, Warwick Business School, UK.

The work explores operational implications of strategic realignment through studying a Nordic airline adapting to a turbulent environment. The study focuses on how aircraft line maintenance adapts to the resulting change in operational objectives and constraints. An extensive dataset is analyzed which consists of interviews, workshops, on-site observations and internal

documentation. The analysis shows how established practices and structures create tensions with amended operational objectives, leading to sub-par performance. The study links strategic change with operations management and development, providing understanding on the ways operations should be developed and operational legacy managed in a response to strategic realignment.

## **SESSION OM 7: RESILIENCE AND RISK MANAGEMENT**

**May 30, 2017 from 6pm to 7:30pm**

**Salon Loja of Hotel Abades Nevada Palace**

### **Session Chair**

Ravi Srinivasan, Loyola University Maryland, USA.

**10. How should firms manage outsourcing after they are underway?** by Ravi Srinivasan, Loyola University Maryland, USA, Ram Narasimhan, Michigan State University, USA.

In this study, we focus on effective management of outsourcing relationship after it is underway (i.e., ex post). We examined the effective configurations of governance mechanisms derived from agency theory and social exchange theory in the presence of relational, task and environmental uncertainty. We derived threat levels from dimensions of task and relational risks in outsourcing relationships and showed that firms with better “fit” in terms of governance practices elicit superior outsourcing relationship performance. We use configurational approach to calculate the “fit” variable using ideal profiles of governance mechanisms at different threat levels. In addition, we test the importance of fit in the presence of environmental volatility. The results suggest that the effective governance mechanisms that elicit superior outsourcing performance are different for different threat configurations. Interestingly, distributive justice is important at three out of four threat configurations. In contrast, procedural justice is important at low threat levels and interactional justice is important at high threat levels. Finally, our results show that the environmental variable moderates the relationship between fit and relationship performance.

**64. Improving resiliency in value creation architectures through hot spot detection and contingency planning,** by Sabine Baumann, Jade University, Germany, Oliver Eulenstein, Iowa State University, USA, Kevin Scheibe, Iowa State University, USA, and Christoph Wunck, Jade University, Germany.

Architectures of value creation are prone to considerable risks if critical partners do not fulfil their functions or drop out at short notice. The paper proposes to design effective graph-algorithmic solutions that will allow analysing highly complex value creation networks in flexible smart-manufacturing settings. Such analysis includes the detection of hot spots, i.e. critical connections with a high potential for negative effects if removed or faulty (high-risk substructures). Modified networks with fewer or no hotspots or stabilizing emergency-edges can provide more resilient architectures.

**82. Self-reference on past performance and firm risk as predictors of lean production implementation,** by Akos Uhrin, University of Jaen, Spain, Jose Moyano, University of Jaen, Spain, and Sebastian Bruque, University of Jaen, Spain.

One of the less studied aspects of Management literature is related to managers’ taking of strategic decisions to bring about an adjustment suitable to external system variability. Present paper examines the role of this variability via the impact of firm risk and past operational performance as the main drivers for the implementation of lean production. The study employs a questionnaire devised for testing the hypotheses, while secondary data for the measurement of the firm risk is derived from the SABI database. The results obtained from the first-tier suppliers of the automotive industry show support for the influence of risk and past performance variability in terms of undertaking strategic decisions in favor of the implementation of lean

production. Thus, present paper contributes to the explanation of the circumstances that ultimately lead to the implementation of lean production in a way that the impact of the external environment of the firm influences the commitment of the company concerning advancements in their degree of lean production implementation.

## **SESSION OM 8: TOTAL QUALITY MANAGEMENT**

**May 30, 2017 from 6pm to 7:30pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

### **Session Chair**

Hale Kaynak, The University of Texas Rio Grande Valley, USA.

**29. Impact of total quality management on organizational performance: Exploring the contingent effects of organizational learning and innovation**, by Jaleh Pezeshk, Shahid Beheshti University, Iran, and Mohsen Modarres.

Total Quality Management involves integrated and dynamic processes. Previous researchers have endeavored to examine the relationship between TQM and organizational performance by untangling the major components of the TQM, such as learning capabilities and process and product innovations. However, past studies have neglected to examine the mediating impact of both organizational learning capabilities and innovations on the relationship between TQM and organizational performance. In the present research we explored the mediating impact of organizational learning and innovations on the TQM-performance relationship. Our results revealed that TQM has a positive and significant association with both organizational learning and innovations. Moreover, organizational learning and innovations were positively and significantly associated with organizational performance. Findings also revealed that TQM-performance is greater when mediated by learning and innovation compared to direct influence of TQM on organizational performance.

**53. Manufacturing flexibility, total quality management practices and financial performance: The case of the Palestinian industrial firms**, by Ahmad Herzallah, Al-Quds University, Palestine.

The purpose of this paper is to examine the relationship between manufacturing flexibility, Total Quality Management (TQM) practices, and firm performance in the Palestinian economy. An empirical analysis based upon an extensive validation process was applied to refine manufacturing flexibility, TQM, and financial performance scales. Data were collected through surveying 205 Palestinian industrial firms. Structural equation modelling was carried out to test the anticipated relationships. Results derived from this study show that manufacturing flexibility have an indirect, positive and significant relationship with financial performance through TQM practices. In addition, a direct, positive and significant relationship between TQM practices and financial performance was observed. Results derived from this study might help managers to implement manufacturing flexibility and TQM practices in order to effectively allocate resources and improve financial performance.

**54. Internalization of quality standards and competitive advantage**, by Juan Tari, University of Alicante, Spain, Jorge Pereira, University of Alicante, Spain, Jose Molina, University of Alicante, Spain, and María Lopez, University of Alicante, Spain.

This paper aims to analyse the relationship between internalization of quality standards, human issues and competitive advantage in the tourism industry. The paper tests these relationships using a sample of 407 tourist organizations that have won a quality certificate. The sample includes six tourist subsectors, grouped into two major categories: (1) tourist firms (hotels and tourist apartments, travel agencies, restaurants, rural accommodation); and (2) tourist institutions (beaches and tourist information offices). Based on a partial least squares (PLS) analysis the

results of this paper contribute to expand the previous studies about the effects of internalization of quality standards on operational and business performance by considering other outcomes related to human issues, such as training, motivation and involvement of employees. It also contributes to extend the results of these previous works by showing the effects of the internalization of quality standards on human issues and competitive advantage in the case of tourist organizations.

**4. Monitoring the process quality for multistage systems with correlated characteristics**, by Jeh Pan, National Cheng Kung University, Taiwan, Chung Li, National Cheng Kung University, Taiwan, and Jun Hsu, National Cheng Kung University, Taiwan.

This study aims to provide a new approach for detecting the small sustained process shifts of multistage systems with correlated multiple quality characteristics. Considering both the auto-correlated process outputs and the correlations occurring between neighboring stages in a multistage manufacturing system with correlated quality characteristics, we first propose a new multivariate linear regression model to describe their relationship. Then, the multistage multivariate residual control charts are constructed to monitor the overall process quality of multistage systems with correlated characteristics. Moreover, an overall run length concept is adopted to evaluate the detecting performances of our proposed multistage control charts. Finally, a numerical example with cascade data is used to demonstrate the usefulness of our proposed multistage multivariate residual control charts in the phase II monitoring. Hopefully, this new approach can lead to the direction of continuous improvement for any product or service within a company.

**SESSION STRATEGY 3: KNOWLEDGE MANAGEMENT AND ABSORPTIVE CAPACITY**

**May 30, 2017 from 6pm to 7:30pm**

**Salon Alpujarra of Hotel Abades Nevada Palace**

**Session Chair**

Abdullahel Bari, University of Texas at Tyler, USA.

**63. Moderating effect of absorptive capacities on the entrepreneurial orientation of family firms**, by Felipe Hernandez, University of Castilla La Mancha, Spain, and Nina Rung.

This paper analyzes the effect of moderating the absorptive capacity in the entrepreneurial orientation of family firms. For the analysis of the results it is proposed the use PLS-SEM through SmartPLS 3.2.6 software, applied to 232 Spanish family firms. The main contribution of this work is the universalization of the model to analyze the influence of the entrepreneurial orientation on the performance of family firms. The second contribution of this research is that the absorptive capacity moderates positively the influence of the entrepreneurial orientation in the performance of the companies, reinforcing this effect.

**47. The role of explicit and tacit knowledge in purchasing and supply management (PSM) today and in future**, by Lydia Bals, University of Applied Sciences Mains, Germany, Steve Kelly, Staffordshire University Business School, UK, Heike Schulze, London South Bank University, UK, and Klaas Stek, University of Twente, The Netherlands.

Competencies in purchasing and supply management (PSM) are the individual-level foundations of PSM performance. While research has shed considerable light on organizational-level maturity of PSM organizations, the individual competencies of PSM have received relatively less attention. This paper identifies current and future competencies required by PSM practitioners, and differentiates them as either explicit ('know-what' and codifiable) or tacit ('know-how' and difficult to articulate), based on the knowledge-based view (KBV). It follows a case study

approach with 10 case companies and a total of 46 interviewees and aims at contributing to higher education curricula development and stimuli for training in practice.

**76. Drivers for performance in innovative research: Mediating effect of transactive memory system**, by Dainelis Cabeza, University of Granada, Spain, Leopoldo Gutierrez, University of Granada, Spain, Javier Llorens, University of Granada, Spain, and Maria Roldan, University of Jaen, Spain.

The goal of this article is to contribute to research on transactive memory system (TMS) by analyzing the relationship between trust (TRUST), collective mind (CM), and network ties (NT) as antecedents of performance in innovative research (PIR), and the mediating effects of the TMS in these relationships. The conceptual model grounded in seven hypotheses is tested through structural equations modelling. The data analyzed are drawn from 257 directors of Spanish university research-and-development (R&D) groups. The results show that TRUST, CM, and NT are positively related to TMS and that the TMS is positively related to PIR. The most striking result is that the TMS mediates the relationships of TRUST, CM, and NT to PIR. The results support the conclusion that managers of university R&D groups should emphasize development of TMS to stimulate PIR and to make these groups more competitive.

**E05. How does complexity influence learning in projects? A multiple case study**, by Elena Pessot, University of Udine, Italy, and Alberto De Toni, University of Udine, Italy.

This work aims to analyse the effects of complexity on decisions and learning in project-based organisations. Complexity is widely acknowledged as one of the main characteristics affecting project outcomes. We investigated factors giving rise to it and the subsequent organisational learning as new and codified knowledge to innovate project operations and we based our analysis on data collected from a sample of vessels projects in a leading company of shipbuilding. Results show that projects with a medium level of complexity (where factors such as variety of technologies and scale were limited but present) enabled learning and better subsequent operational decision-making.

**CONFERENCE DINNER AT EL CLAUSTRO** (included in the Conference registration)

**May 30, 2017 from 8:30pm to 11:30pm**

**Departure by bus from Hotel Abades Nevada Palace at 8:30pm**

**WEDNESDAY MAY 31, 2017**

**PARALLEL SESSIONS**

**SESSION OM 9: OPTIMIZATION AND ADAPTABILITY IN OM**

**May 31, 2017 from 9am to 10:30am**

**Salon Lecrin of Hotel Abades Nevada Palace**

**Session Chair**

Bartholomew MacCarthy, Nottingham University Business School, UK.

**19. Decision support for construction logistics management**, by Pamela Nolz, Austrian Institute of Technology, Austria, Bin Hu, Austrian Institute of Technology, Austria, and Magnus Ahlander, Austrian Institute of Technology, Austria.

We address the challenges of coordinating workers and the timely delivery and storage of material with the objective of optimizing resource-efficiency as well as reducing traffic related to construction activities. Our approach supports construction companies in planning construction schedules and transport, hence it contributes to the objectives of reducing nuisance, emissions and cost. For planning construction works in urban areas, dynamic approaches are needed to be

able to react to unforeseeable incidents on the transportation network, or at the construction sites. Therefore, we present a system-optimal approach for efficient planning, based on data collected through smart applications and stakeholder consultation.

**57. Inventory model for deteriorating items with advertising sensitive demand under inflation and time discounting**, by Abdullahel Bari, University of Texas at Tyler, USA.

In an oligopolistic environment, it is natural for a business to boost their sales through advertising. The goal of this research is to optimize the advertising expenditure of a manufacturer with a constant production and deterioration rate of their item that will maximize profit, while taking into account the effects of inflation and time value of money. Optimal solutions of the proposed model is derived and the effects of various parameters are studied through numerical examples.

**106. Stress tests within the supply chain to increase object security and product safety**, by Jozsef Szendi, University of Public Services, Hungary.

The article describes an optimized factory layout, where the OPEX the CAPEX and labor cost might be flatten out during the whole lifecycle. The factory - including it's all processes - can be described with mathematic or graphical models - such like graphs, control loops or 3D models. Prior to any investment these models can be pretested, than stress tested and fully optimized. If we compare the overall lifecycle, many risks can be identified which are changing all the time. These parameters are normally ignored in case of new installs, purely down to costs. Most investors want to build a cheap factory and they are not optimizing the factory for maintenance, HSE, or long time energy efficiency, as the initial price would be too high. During the years the owner pays much more - comparing what they should - if the plant would have been optimized in advance. The method of optimization should count with so weird risk, what are not there usually, but might affect the product. Most affects are not only cost related, they end up in a lower product quality and bottlenecks within the supply chain. From the power cut until the theft or in-house integrity fail most parameters should be described. The article describes some not usual parameters and tries to describe an ideal factory model within the FMCG sector.

**40. Towards a unifying framework for decoupling points, mass customization, modularization, and postponement**, by Bartholomew MacCarthy, Nottingham University Business School, UK, and Jan Olhager, Lund University, Sweden.

Concepts such as decoupling points, mass customization, modularization, and postponement have all been introduced to aid in the structuring and improvement of supply chains. Some literature has acknowledged that there are some relationships between these – typically discussing pairs of concepts to highlight similarities and complementarities to derive a more holistic view. We show how all four concepts are interrelated and develop a unifying framework that includes the key aspects of all concepts.

**SESSION OM 10: HUMAN RESOURCE AND OM**

**May 31, 2017 from 9am to 10:30am**

**Salon Loja of Hotel Abades Nevada Palace**

**Session Chair**

Adnan Corum, Bahçeşehir University, Istanbul, Turkey.

**66. Gender differences in newsvendor behavior**, by Murat Kaya, Sabanci University, Turkey, and Ummuhan Akbay, Sabanci University, Turkey.

We study gender differences in newsvendor ordering behavior. To this end, we conduct human experiments where subjects face the classical newsvendor problem: They make order quantity decisions in the face of stochastic demand. We find female subjects to order lower quantities and

achieve lower profits than male subjects, in both low profit margin and high profit margin treatments. Compared to male subjects, female subjects are shown to use demand chasing heuristic more frequently; whereas no conclusive result is obtained on the use of the mean anchor heuristic.

**124. Exploring the relationship between innovation, personal freedom and institutions at country level**, by Esma Cinicioglu, Istanbul University, Turkey, Fusun Ulengin, Sabanci University, Turkey, Şule Ekici, Doguş University, Turkey, and Gunduz Ulusoy, Sabanci University, Turkey.

This study aims to reveal the relationship between innovation level of a country and its institutions -public and private- and further related factors such as personal freedom and socio-cultural level prevailing in the countries considered. Initially, countries covered in the Global Competitiveness Index (GCI) of World Economic Forum are clustered according to their innovation levels using hierarchical clustering. For the construction of the Bayesian network and the subsequent sensitivity analyses, the institution factors of GCI are employed supplemented by several related factors from the Legatum Prosperity Index, Freedom House Ranking, and Human Development Index.

**125. Level three leadership in manufacturing strategy implementation**, by Cristina Alcaide, Public University of Navarre, Spain, Alejandro Bello, Public University of Navarre, Spain, and Javier Merino, Public University of Navarre, Spain.

This paper focus on the relationship between leadership tools and manufacturing performance. We consider that the adoption of these tools may have both a direct effect on performance and indirect effect through the effective implementation of manufacturing strategy. We measure the adoption of leadership tools using the scale proposed by Clawson (2009) in 200 manufacturing plants performed in the fourth round of the International High-Performance Manufacturing. Ordinary least square multiple regressions, following Baron and Kenny (1986) procedure for mediating model, were used to test our hypothesis proposed in the theoretical part of the paper. The findings show that different leadership tools influence differently the manufacturing performance of plants (direct effect). Additionally, different leadership tools indirectly influence manufacturing performance through the positive effect on strategy implementation.

**130. The influence of selected factors on service recovery: A set-theoretic approach**, by Marta Reis, ISEG Lisbon School of Economics and Management, Portugal, and Graça Miranda, ISEG Lisbon School of Economics and Management, Portugal.

This study investigates how firms can achieve service recovery performance taking into account a number of factors considered as critical in the literature. The data was collected through a web survey sent to employees of a money transfer operator. The study obtains 81 responses for a response rate of 90%. Using a fuzzy set qualitative comparative analysis (fsQCA), the study uncovers different combinations of antecedents (teamwork intrateam, teamwork inter-team, empowerment, training, organizational commitment, rewarding excellence) that lead to higher proactive and reactive recovery behavior. The results also show that organizational commitment is a necessary condition for higher proactive recovery behavior.

**E02. The relationship between human resource practices and innovation performance**, by Maissa AlHachmi, Bahçeşehir University, Istanbul, Turkey, and Adnan Corum, Bahçeşehir University, Istanbul, Turkey.

This study examines how various human resource management (HRM) practices can enhance or reduce the creativity behavior in an organization, on which firms build their innovation strategies and processes. Innovation is a critical point for companies in terms of sustainability and survival. The expansion of innovation culture has become nowadays essential for any company to earn its

competitive position among other rivals. This study highlights the external and internal factors that affect choosing the specific innovation strategy for a company, and the major HRM practices that influences the innovation performance and process, and at last the desired outcome for a specific company.

## **SESSION OM 11: ORGANIZATIONAL AMBIDEXTERITY**

**May 31, 2017 from 9am to 10:30am**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

### **Session Chair**

Keong Leong, California State University Dominguez Hills, USA.

**16. Examining desorptive capacity in supply chains: The role of organizational ambidexterity**, by Maria Roldan, University of Jaen, Spain, Javier Llorens, University of Granada, Spain, Antonia Ruiz, University of Granada, Spain, Irene Huertas, University of Rey Juan Carlos, Spain.

Extending desorptive capacity research to supply chain management, this study focuses on an organization's desorptive capacity as related to its supply network. Specifically, we study the effect of desorptive capacity on the organization's supply chain competence. Further, since the literature has shown desorptive capacity to be dependent on organizational ambidexterity, we theorize the contingent role of the balanced and combined dimensions of ambidexterity in this relationship. A sample of 270 European firms provides the empirical basis of this study. We apply regression analysis to test the hypotheses, and the results confirm both the positive effect of an organization's desorptive capacity on its supply chain competence and the key moderating role of organizational ambidexterity on the above-mentioned relationship.

**34. Ambidextrous strategy, supply chain flexibility and ISO 9000 standard: An empirical analysis**, by Araceli Rojo, University of Granada, Spain, Javier Llorens, University of Granada, Spain, Nieves Perez, University of Granada, Spain, and Irene Huertas, University of Rey Juan Carlos, Spain.

The literature shows that ambidexterity encourages the adaptation and survival, but its study in the supply chain (SC) is very limited. This article analyzes the effect of ambidexterity on SC flexibility (SCF), taking into account ISO 9000 standard. It also examines whether this certification affects SCF. We introduce ISO 9000 because, it is said that it may encourage ambidexterity. Based on empirical data, our results demonstrate that ambidexterity does not affect all dimensions of SCF in the same way. Rather, its effect depends on ISO 9000 certification, and this certification does not affect level of SCF. Theoretical and practical implications are discussed.

**71. Routines and ambidexterity: Working out the efficiency-flexibility dilemma in project-oriented firms**, by Maria Moreno, University of Valencia, Spain, Maria Gil, Catholic University of Valencia, Spain, and Benjamin Maceda, University of Valencia, Spain.

This article examines the role that routines play in achieving organizational ambidexterity in project-oriented organizations. First, we propose a theoretical model to connect ambidexterity as a dynamic capability with ordinary routines. Second, we analyze through explorative case studies these connections. Our analysis reveals structural ambidexterity coexists with contextual ambidexterity and the key importance of routines for setting the context to ambidexterity. In fact these routines are connected to three types of normalization proposed by Mintzberg (1979). Firstly, companies build up contextual ambidexterity through normalization of skills, because the consultants and experts have embedded implicit routines through training that allow them to decide whether to exploit or explore. Second, routines are developed through normalization of

results that orientate their performance to satisfy demands of customers according to the requirements of the project. Thirdly, explicit enabling routines contribute to set the context for ambidexterity as a result of normalization of work processes.

**83. Supply chain integration and organizational ambidexterity: A theoretical model**, by Juan Escorcia, University of Valencia, Spain, and Maria Moreno, University of Valencia, Spain.

The role of the integration levels is commonly recognized as an important factor to achieve organizational ambidexterity (OA). Many researchers highlight the importance of both internal and external integration levels for the development of this capability. Therefore, considerations must be specified to increase coordination activities between manufacturers, suppliers and customers which allow the achievement of OA, and studies that examine the influences of resources and competencies beyond the organization boundary remain a research opportunity. In this paper, a theoretical model is proposed to explain the relationship between the dimensions of supply chain integration (SCI) and OA. Our purpose is to examine the effects of internal integration, supplier integration and customer integration on exploitation and exploration capabilities that compound OA. This research develops a conceptual model between SCI and OA with the proposal of 15 hypotheses, so we provide novel insight into how OA can be facilitated by internal and external integration, and their complementary effects.

#### **SESSION STRATEGY 4: METHODS AND TOOLS FOR IMPROVING THE MAKING DECISION PROCESS IN FIRMS**

**May 31, 2017 from 9am to 10:30am**

**Salon Alpujarra of Hotel Abades Nevada Palace**

##### **Session Chair**

Helen Moshkovich, University of Montevallo, USA.

**41. An information-theoretic approach to treat inverse S-shaped probability weighting problems**, by Michel Verlaene, ICN Business School, France.

Decision theory under uncertainty has developed two approaches to model aversion to ambiguity. The first approach is based on the multiple prior model and is known as maxmin expected utility (MEU) (Gilboa and Schmeidler 1989). The second approach based on Schmeidler (1989) model ambiguity aversion with non-additive measures called capacities. In the meantime, empirical evidence points out that individuals transform probabilities in an inverse S-shaped way (Prelec 1989). This implies that individuals are neither pessimistic, nor optimistic, but their behaviour is more complex. Academic research in Economics and Finance has mainly focused on specifications of the utility function, as the treatment of probability weighting problems is rather complex. Most of the economic literature also presumes that inverse S-shaped probability weighting (PW) is irrational. The aim of this article is to provide a decision protocol to treat optimization problems for an individual exhibiting inverse S-shaped PW. Incidentally we come up with an explanation of S-shaped PW. We suggest that inverse S-shaped probability weighting can be explained by assuming that decision makers pick set measures by maximizing entropy under the constraint of the observed dataset. In a sense, the decision maker maximizes uncertainty given the dataset at hand and thus puts more weight on the extremes. S-shaped probability weighting can thus be viewed as rational decision making under uncertainty. We argue that our decision maker is ecologically rational (Smith 2009) in the sense that his cognitive mechanisms are such that he unconsciously transforms the so-called objective probability distribution.

**7. Reducing a large pool of job applicants using method ZAPROS**, by Helen Moshkovich, University of Montevallo, USA, and Alexander Mechitov, University of Montevallo, USA.

Multi criteria methods used in the problems of personnel selection usually concentrate on ranking a small number of better applicants. Nowadays, there may be hundreds of applicants for each position, especially in faculty selection problem. Reducing the initial set of applicants to a much smaller one for an additional analysis (e.g., through Skype interviews) becomes an important problem candidate. In this study, the peculiarities of the problem are analyzed and the approach of using method ZAPROS from verbal decision analysis is illustrated and evaluated. Efficiency of an interactive preference elicitation process is estimated through mathematical modeling.

**128. Decision making process in the organization based on simulation and artificial intelligence technics**, by Diana Londono, University of Granada, Spain.

The globalized world, in conjunction with the information revolution and its changing pace has managed to submit a great amount of loose data, packed with potential and value to become usable. In order to build knowledge, information must be recollected, compared, classified and constantly used for ongoing improvement actions that maximize competitiveness. Consequently, this paper intends to generate a qualitative article, reporting secondary data related to the decision making process in the organization, based on the interplay of the agent-based and systems dynamic simulation, in addition with the artificial intelligence technics and software, that result in the understanding of consumers' behavior and data conversion into strategic knowledge.

#### **COFFEE BREAK**

**May 31, 2017 from 10:30am to 11am**  
**Hotel Abades Nevada Palace**

#### **PARALLEL SESSIONS**

##### **SESSION STRATEGY 5: STRATEGY AND INDUSTRIAL ANALYSIS**

**May 31, 2017 from 11:30am to 1pm**  
**Salon Alpujarra of Hotel Abades Nevada Palace**

##### **Session Chair**

Davinder Malhotra, Philadelphia University, USA.

**75. Industrie 4.0 requirements for the design and management of business processes: A case study**, by Isabel Bucker, Technical University Dortmund, Germany, Mario Hermann, and Boris Otto.

Companies are influenced by market and environmental changes, like the increasing customer demand for individual products and faster product lifecycles. Within this paper, Industrie 4.0 is understood as a design concept, which can be utilized to address these changes by supporting companies to redesign their business processes in order to stay competitive. Although, changes have always been an influence on the industrial world, it is a challenge for companies to identify the implications of current changes on business processes and their management. Accordingly, a methodical approach to transform business processes and their management is required. As a first step, this paper investigates the impacts of Industrie 4.0 on existing business processes in a case study. Therefore, they use an Industrie 4.0 framework to develop process visions. Based on these visions, they investigate the implications on the BPM life cycle and derive requirements for the design and management of business processes.

**31. Evaluating bank solvency with support vector machines**, by Davinder Malhotra, Philadelphia University, USA, Robert Nydick, and Kunal Malhotra, University of Pennsylvania, USA.

Banks as financial intermediaries play a very useful role in economic growth by facilitating the flow of funds to various sectors of the economy. Deterioration in a bank's performance and potential failure of the bank may lead to loss of confidence in the financial system that can result loss of household savings and non-availability of funds to the business sector for economic expansion and growth. Banking regulators around are always looking for ways to identifying sooner the banks that can be at risk of failure so that corrective action can be taken with minimal disruption to the economy. This study illustrates the use of support vector machines, an artificial intelligence technique, to predict the pending insolvency of a bank so that regulators can take appropriate steps to prevent a "domino effect." To alleviate the problem of bias in the training set and to examine the robustness of support vector machine classifiers in identifying unsafe banks, we cross-validate our results through different samples of the data.

**2. Identification and ranking of functional strategies towards efficiency improvement of combined-cycle power plant using SWOT analysis, DEMATEL, and ANP techniques: A case study**, by Changiz Valmohammadi, South Tehran Branch- Islamic Azad University, Iran, and Mohammad Safi, Islamic Azad University, Iran.

Most countries which has tremendous economic growth in recent years have gained this growth mainly through increasing the efficiency and productivity of production factors. Among different industries, power industry due to the very high infrastructure and communication with other factors affecting economic growth is a dynamic and influential industry and increasing efficiency and productivity in this industry has great importance. The main purpose of this study is to identify and prioritize functional strategies to improve the efficiency of combined cycle power plant using a combination of qualitative and quantitative techniques vis. SWOT analysis and DEMATEL and ANP techniques. To do so, first we identified strengths and weaknesses and also opportunities and threats of the surveyed power plant by conducting interviews with experts and then following the fuzzy Delphi technique the main factors of SWOT analysis were screened. In the second stage, the selected strengths, weaknesses, opportunities and threats factors were put in TOWS matrix and intended strategies developed according to the confluence of different factors. In order top management of the plant be able to better implement the company's strategies using DEMATEL technique we determined the influential and permeable criteria and sub-criteria of the SWOT matrix. Based on the objective criteria, sub-criteria and relevant alternatives, the structure of the problem was formed. Then with respect to the structure, the design of the related network was done in Super Decisions software. After network design a questionnaire was designed and by using this questionnaire and receiving comments pairwise comparisons matrix was conducted. And the obtained data entered to Super Decisions. The result of the analysis showed that the operation control and load generation of combined cycle block by IGV control system is the best functional strategy to improve the efficiency of Qom combined cycle power plant.

**38. Evaluating cost efficiencies in investment management services using data envelopment analysis**, by Rashmi Malhotra, Saint Joseph's University, USA, and Davinder Malhotra, Philadelphia University, USA.

This study investigates cost efficiencies in the investment management services industry. Data envelopment analysis model has been utilized to evaluate the cost efficiencies in investment and asset management companies with size being measured for each of the five years for the period 2010 to 2014 in two different ways: total assets under management of the firm and total revenue being generated by the firm. The study also evaluates cost efficiencies with cost measured in terms of total expenses, total distribution expenses, and general administrative and selling expenses with respect to total revenue being generated by the firm.

**SESSION TEACHING: ADVANCES IN TEACHING IN DECISION SCIENCES**

**May 31, 2017 from 11:30am to 1pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

**Session Chair**

Tom Foster, Brigham Young University, USA.

**S. Increasing the quality of data-related courses in Decision Sciences programs**, by Jean Maalouf, Addinsoft XLSTAT, Paris, France, and Thierry Fahmy, Addinsoft XLSTAT, Paris, France.

Data analysis has become a critical skill in many Decision Sciences fields, resulting in an increase of data-related courses in academic programs. Student receptiveness to these courses as well as their awareness of the importance data will have in their careers should be addressed and enhanced. Thus, as the developers of the XLSTAT statistical software for Excel, we decided to fund the conference Making Effective Decisions: Teaching Statistics to Students of Business, Bordeaux, 8-9 June 2017. Its aim is to gather testimonies and innovations meant to help improving the teaching of data-related courses. The motivation for this project came from the constant feedback of Statistics professors on how to enhance XLSTAT so that it contributes to increasing the quality of their classes.

**15. A new model for teaching Supply Chain and Operations Management**, by Scott Sampson, and Tom Foster, Brigham Young University, USA.

Supply chain management is a field made up of people from disparate fields of endeavor such as Operations Management, Logistics, Services, Strategy, Purchasing, Analytics, and Supply Chain. All of these individuals are trained using different fundamental approaches to research with differing world views of what construes supply chain management. To get these individuals to agree on how to approach supply chain and operations is a difficult balancing act. During this workshop/panel discussion we will discuss how we overcame this issue at our university to create a cohesive sense of focus and mission. Over ten years, we went from being a program that was on the Dean's chopping block to one that is attracting multi-million dollar donors, is turning students away at a rate of about 3 to 1, and is one of the crown jewels of the Business School while recently being nationally recognized. This discussion is couched within a presentation of how we teach the introductory course in Supply Chain and Operations – now a highly regarded course within the college. We will discuss what we cover, how the different disciplines integrate together, and will provide some handouts outlining class activities.

**80. Teaching with team projects and real clients**, by Meral Demirbag, Concordia University, Canada.

The benefits of experiential learning have been acknowledged in various fields of Decision Sciences; one example is through a semester-long team project with a real-world client. Done right, it is a learning experience unlike any other offered in a classroom. For the students, a satisfactory grade is now only one measure of success; delivering a project that is useful to the client is far more meaningful and relevant to their future careers. For professors, command of the class material is essential however acting as project manager calls upon additional knowledge and skills. First, a review of literature on team projects with real clients will be summarized. Secondly, the roles and responsibilities of the students and professors while working on team projects with real clients will be identified. Thirdly, various tools that have been developed and tested to support the project management functions of professors in such contexts will be discussed.

**44. Universalisation of elementary education: A study of enrolments in elementary schools of undivided Andhra Pradesh**, by Ravi Kumar, Symbiosis Institute of Business Management, India, and K.P. Venugopala, Symbiosis Institute of Business Management, India.

This research paper attempts to examine and evaluate the enrolments in the elementary schools, and the causality between the Mid Day Meal Scheme (MDMS) and the enrolments in the government elementary schools in undivided Andhra Pradesh state for the period 2003 to 2014 employing regression analysis, chi-square test and granger causality test. The study evaluates the enrolments in the government schools in relation to the learning facilities and the Mid Day Meal Scheme (MDMS) in the state. The results indicate that the enrolments in the private elementary schools increased and the overall enrolments in the government elementary schools exhibited a declining trend. The enrolments of the boys were proportionately higher than the girls in the private management schools. The GDP and the growth in population of undivided Andhra Pradesh had no relationship on the enrolments in the elementary schools in the state. The Granger causality test suggests no causality between the enrolments in the government elementary schools and the Mid Day Meal Scheme (MDMS). This leads to the conclusion that the Mid Day Meal Scheme (MDMS) which is considered as an incentive for the parents to enroll their children in the schools may not be effective medium to attract and retain enrolments. Attention should be paid on providing better educational infrastructure for elementary school enrolments in the state.

## **SESSION OM 12: INNOVATION AND QUALITY MANAGEMENT**

**May 31, 2017 from 11:30am to 1pm**

**Salon Loja of Hotel Abades Nevada Palace**

### **Session Chair**

Javier Gonzalez, University of Salamanca, Spain.

**21. Purchasing-marketing decision alignment in dynamic environments**, by Carmen Gonzalez, University of Salamanca, Spain, Javier Gonzalez, University of Salamanca, Spain, and Gustavo Lannelongue, University of Salamanca, Spain.

Recent literature has drawn considerable attention to the benefits of purchasing-marketing functional integration (PMFI). This paper uncovers PMFI relevance during new product development (NPD). Based on information processing theory (IPT), data from 141 Spanish firms are used to conduct a moderated regression analysis to test the direct effect PMFI has on the speed in new product development (NPD), as well as the moderating role that environmental dynamism plays on this effect. The information on supply aspects that the purchasing function shares with marketing is used as a PMFI proxy. Our findings show that the effect is positive when the rate of environmental dynamism is medium or high, but negative when it is low. This study value added lies in the following: (1) its IPT grounding; (2) its unit of analysis; (3) its capacity to reconcile the contradictory results often found while studying the impact of functional integration on innovation speed.

**77. Does organizational learning facilitate innovation? Application of QM practices**, by Antonia Ruiz, University of Granada, Spain, Maria Roldan, University of Granada, Spain, Teresa Ortega, University of Granada, Spain, Carmen Haro, University of Granada, Spain, and Dainelis Cabeza, University of Granada, Spain.

In recent years, organizational learning, quality management (QM), and innovation management practices have served as instruments with which to face the uncertainty inherent in an environment characterized by strong global competitiveness and rapid technological development. This paper seeks to contribute new empirical evidence on how organizational learning can facilitate innovation, differentiating between technical and administrative innovation, and incorporating QM practices as moderating variable in the study of this relationship. The results show that organizational learning does not act as an antecedent of the technical and administrative innovation gap but that learning does become a precursor of innovation when QM practices moderate the relationship.

**129. Causal recipes for product innovation: Quality management practices as ingredients**, by Graça Miranda, ISEG Lisbon School of Economics and Management, Portugal, and Anabela Soares, Plymouth University, UK.

This study uses complexity theory to explore the apparent tension between quality management practices and product innovation. A survey of 112 manufacturing firms was conducted and the resulting data were analyzed using fuzzy set qualitative comparative analysis. The results show three equifinal configurations of quality practices (top management commitment, customer focus, supplier involvement, quality oriented human resources management, benchmarking, and design quality management) that are sufficient to achieve product innovation (outcome). The study also uncovers that two out of the six quality management practices studied are necessary conditions to the outcome. These practices are top management commitment and customer focus.

**131. Market orientations, innovation competence, and absorptive capacity as antecedents of manufacturing flexibility: SEM and fsQCA findings**, by Jose Pinheiro, University of Coimbra, Portugal, Graça Miranda, ISEG Lisbon School of Economics and Management, Portugal, Miguel Torres, University of Coimbra, Portugal, and Luis Filipe, Nova School of Business and Economics, Portugal.

The purpose of this research is to use both symmetric (SEM) and asymmetric (fsQCA) methods to better explain the role of market orientations (reactive and proactive), innovation competences (exploitation and exploration), and absorptive capacity as antecedents of manufacturing flexibility. The study uses a sample of 370 manufacturing firms obtained from an online survey. The fsQCA findings show three equifinal configurations of the above-mentioned antecedents that are sufficient to achieve high manufacturing flexibility. This method also uncovers that reactive market orientation and innovation competence exploitation are necessary conditions for high manufacturing flexibility. The SEM model corroborates these results.

## **SESSION STRATEGY 6: ENTREPRENEURSHIP, INNOVATION, AND NEW VENTURINGS**

**May 31, 2017 from 11:30am to 1pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

### **Session Chair**

Vanesa Barrales, University of Granada, Spain.

**61. Why does entrepreneurial status vary across countries? An institutional approach**, by Javier Montero, University of Zaragoza, Spain, Lucio Fuentelsaz, University of Zaragoza, Spain, and Juan Maicas, University of Zaragoza, Spain.

Although entrepreneurs are very popular in many countries around the world, their social status varies considerably across countries. In some countries (e.g. the United States), entrepreneurs are seen as cultural heroes while, in others (many European countries), their image is not so positive. In this paper, we try to explain these differences using institutional theory, which helps us to understand the governance structures of a country based on informal and formal institutions that affect individuals' perceptions of entrepreneurial status. We use a sample of more than 600,000 individuals from 72 countries that have participated in the GEM project between 2010 and 2014. Our results show that societies with low uncertainty avoidance, a more collectivistic orientation, greater market freedom and a smaller size of government have a better image of entrepreneurs.

**78. Size, location, collaboration partners and financial means to explain when Spanish startups patent their inventions**, by Vanesa Barrales, University of Granada, Spain, and Marta Riquelme, University of Granada, Spain.

Beyond the mere protective intention, strategic motives are becoming prominent to explain why startups patent their inventions. In this study, we use data from 238 Spanish startups of different industries to evaluate the role of size, location, collaboration partners and financial means in their patenting activity. Our results show a quadratic effect of size in patenting activity, explaining that the level of patenting reaches a tipping point for intermediary sizes. Also, our findings describe that, regardless the industry, patenting activity is higher when: (i) startups are located in international clusters or near to other startups; (ii) startups collaborate to specialized research institutes; (iii) medium startups collaborate to universities; and (iv) startups are financed through crowdfunding campaigns. However, location in co-working spaces seems to be associated with a lower patenting activity. These results provide illustrative explanations about the context where startups value patents as a protection instrument or a strategic resource to achieve other goals as reputation, access to networks or attract financial capital.

**67. Understanding the innovative behaviour of firms: The persistence decision**, by Pilar Bernal, University of Zaragoza, Spain, Juan Maicas, University of Zaragoza, Spain, and Pilar Vargas.

The study of the dynamic patterns of behaviour has recently attracted the attention of scholars studying the investments in R&D of firms and the establishment of collaborative agreements. Surprisingly, although extant research has acknowledged that investments in R&D could potentiate the establishment of collaborative agreements, the literature has not analysed the impact on innovation performance that persistence in these two activities have, both individually and jointly. In this paper, we analyse the effect that persistence in R&D and persistence in collaboration have on innovation performance, and the moderating effect that persistence in R&D has on the relationship between persistence in collaboration and innovation performance. We argue that both activities have a positive impact on innovation performance and that persistence in R&D potentiates the relationship between persistence in collaboration and innovation performance. To test empirically these hypotheses, we will use a large panel of Spanish innovating firms for the period 2005-2013.

**49. Analysis and evolution of dynamic capabilities in the area of entrepreneurship: The case of Decathlon**, by Rodrigo Martin, University of Granada, Spain, Pedro Carmona, University of Granada, Spain, Victor Garcia, University of Granada, Spain, Matilde Morales, University of Balearic Islands, Spain.

In the beginning of the 20<sup>th</sup> century, when strategic conflicts arose between organizations; the classic resource-based view became obsolete, and a new theory of how and why organizations create competitive advantages in dynamic environments began to emerge, leading to the dynamic capabilities development. This paper aims to combine all research to date on the concept of dynamic capabilities to offer a formal, global definition enabling understanding of paradigms that influence the creation or development of dynamic capabilities, while also distinguishing the different variants of dynamic capabilities in organizations. Finally, we present a brief practical application of dynamic capabilities in Decathlon.

**E03. Cultural factors influencing domestic adoption of solar photovoltaic roof-top systems in China**, by Xiangrong Liu, Bridgewater State University, USA, Quoc Tran, Bridgewater State University, USA, Ashleigh Bell, Bridgewater State University, USA, and Bingqing Zheng, Bridgewater State University, USA.

In the past 10 years, China observed the rapid economic development and surging demand in energy, accompanied with severe environmental deterioration, which made adopting clean energy such as solar photovoltaic (PV) rooftop system critical. However, even with the largest PV panel production capacity, China's solar PV adoption at the distributed level is comparatively low. This paper then applied Hofstede's six dimensions of national culture to further demonstrate the

opportunities and challenges in the adoption process. The data from 452 college students and 60 residents in China indicated some interesting implications for solar PV industry, especially for its marketing strategies.

**NETWORKING LUNCH AT HOTEL ABADES NEVADA PALACE** (included in the  
Conference registration)

**May 31, 2017 from 1:30pm to 3:30pm**

**PARALLEL SESSIONS**

**SESSION ACCOUNTING AND FINANCE: RISK MANAGEMENT, INVESTOR  
EXPECTATIONS, AND PARTICIPATIVE LOANS**

**May 31, 2017 from 3:30pm to 5pm**

**Salon Alpujarra of Hotel Abades Nevada Palace**

**Session Chair**

Carmelo Reverte, Polytechnic University of Cartagena, Spain.

**56. Participative loans as an alternative policy instrument for promoting SMEs' growth,** by Carmelo Reverte, Polytechnic University of Cartagena, Spain, Fabio Bertoni, and Jose Marti.

We study sales and employment growth of companies that receive a government-sponsored participative loan (PL), a hybrid form of financing between debt and equity. We analyze a sample of 512 firms that received a PL from a Spanish government agency between 2005 and 2011. Using both propensity-score and panel-data estimation, we find evidence that PLs significantly boost the growth of sales and employees of beneficiaries. In the two years after the grant, a 1 million Euro PL generates between 1.1 and 1.9 million Euro in additional sales and between 12.1 and 14.8 additional jobs. The effect on growth is significant and stable, and PLs add 16.2% to annual sales growth and 9.8% to employment growth to beneficiaries. The effect of PLs on growth is larger than what indicated by the literature for both government-sponsored debt (guaranteed loans) and equity (governmental venture capital) programs.

**95. How do anger and anxiety traits affect financial risk tolerance?** by Ecem Huner, University of Mahalleli, Turkey, and Mustafa Gonul, University of Mahalleli, Turkey.

Effects of emotions on behavioral decision making is one of the main topics that has been documented under Decision Sciences (e.g. Lerner & Keltner; Gambetti & Giusberti). Literature suggests that anger and anxiety, both in state and trait level; have opposite influences in terms of propensity to take risk. In present study, trait anger and trait anxiety are investigated with respect to their effects on financial risk tolerance. Data is collected via survey and hierarchical linear regression is used for analyses. The results are discussed and directions for future research are given.

**94. Electronic books: How are they adopted?** by Hatice Bulur, Middle East Technical University, Turkey, and Mustafa Gonul, Middle East Technical University, Turkey.

The last decade has witnessed the steady increase in the use of electronic books (e-books). However, the adoption of this technology for e-books varies according to many determinants. This study is performed to examine the factors that influence the acceptance of technology for e-books. For this purpose, the technology acceptance model (TAM) is adopted. Data is collected through a survey study and the analytic hierarchy process (AHP) method is used for analysis. Results are discussed and further research suggestions are pointed out.

**SESSION IS 4: INFORMATION TECHNOLOGY AND ORGANIZATIONAL CAPABILITIES**

**May 31, 2017 from 3:30pm to 5pm**

**Salon Lecrin of Hotel Abades Nevada Palace**

**Session Chair**

Jose Roldan, University of Seville, Spain.

**30. A theory on the role of information technology in value creation from open innovation**, by Jose Benitez, University of Granada, Spain, Ana Castillo, University of Granada, Spain, Florian Schuberth, University of Wurzburg, Germany, and Rafael Reina, University of Seville, Spain.

Current competition requires firms to carefully manage their relationships with upstream suppliers and downstream customers. Winner firms are jointly involving suppliers and customers to innovate (the so-called open innovation activities). This investigation proposes a theory on the role of information technology (IT) for innovation in the execution and creation of business value from open innovation activities. The theory is tested on a large sample of firms in Spain. Implications for Information Systems research and practice are described and discussed.

**100. Impact of information systems capabilities on firm performance: The mediating role of organizational agility and the contingency effect of the industry's technology intensity**, by Carmen Felipe, University of Seville, Spain, Dorothy Leidner, Baylor University, USA, Jose Roldan, University of Seville, Spain, and Antonio Leal, Loyola University Andalucia, Spain.

To succeed in the current uncertain business environments, it is imperative for firms to develop capabilities that lead them to adapt and offer rapid responses to market changes, in order to outperform competitors. Within the dynamic capabilities view framework, this study develops a model that provides a thorough analysis of two relevant research gaps: (i) the underlying relationships that determine the influence of information systems capabilities (ISC) on firm performance (FP), assessing the mediator role of organizational agility (OA), and (ii) the contingency effect of an important environmental factor – the industry's technology intensity. An empirical study is performed to test the relationships proposed. Data are collected from 153 Spain-based firms. To assess the contingency of technology intensity, the sample is split into two groups: high- and medium-tech companies. Using partial least squares (PLS), the results show that ISC positively affect FP through the full mediation of OA. Also, multigroup analysis reveals that the industry's technology intensity affects one of the relationships proposed, the impact of ISC on OA being greater in the high-tech companies' group than in the medium-tech one. Implications for researchers are identified, mainly in the study of the whole and complex set of dynamic capabilities that may jointly enhance FP through their interaction and synergies, as well as the external environmental factors that may influence these relationships. Managers must pay attention to the deployment of ISC that foster OA when designing firms' IT strategies if they want to optimize its FP.

**60. Linking organizational culture typologies to information systems capabilities: Evidence from Spanish medium-high innovative firms**, by Antonio Leal, Loyola University Andalucia, Spain, Gema Albort, University of Seville, Spain, and Antonio Leal, University of Seville, Spain.

An exhaustive grasp of organizational culture is a central issue as for the analysis of information systems. Nevertheless, the links between organizational culture typologies and information systems capabilities has been scarcely explored. This study aims to shed light gap by assessing the relationships between each of the cultural typologies comprised at Cameron and Quinn's framework and information systems capabilities. This work uses partial least squares (PLS) path-

modeling, a variance-based structural equations modeling technique in order to test and validate the research model and hypotheses posited.

**LR. Obstacles to innovation, open innovation, and value creation: The role of IT investment for innovation**, by Jose Benitez, University of Granada, Spain, and Ana Castillo, University of Granada, Spain.

Based on literatures on innovation, business value of information technology (IT), and the contingency theory, we theorize that firm's IT investment for innovation can help the focal firm to minimize the effects of obstacles to innovation and to maximize the effects of facilitators to innovation on the execution of open innovation initiatives. This is a research in progress. We plan to test the proposed theory using a large sample of small and medium firms in Spain.

### SESSION OM 13: NON-PROFIT AND PUBLIC SECTOR

May 31, 2017 from 3:30pm to 5pm

Salon Loja of Hotel Abades Nevada Palace

#### Session Chair

Joy Field, Boston College, USA.

**3. Job design and work allocation for volunteers in nonprofit organizations**, by Joy Field, Boston College, USA, Tingliang Huang, Boston College, USA, and Deishin Lee, Boston College, USA.

A critical operational question for nonprofit organizations is how to incorporate volunteer labor into their processes to best achieve their mission driven goals. To study this, we develop a model of non-profit organizations, where volunteers have diverse skills and motivations for volunteering, and the organization strives to maximize its social impact given its financial and resource constraints. We find that if volunteers are strategic, the nonprofit organization increases volunteer work allocation. In addition, increasing volunteer job complexity can increase volunteer engagement without sacrificing total productivity. We are gathering data from nonprofit organizations to test the findings of our model.

**58. United Nations Global Compact: Literature review and research directions**, by Guido Orzes, Free University of Bozen-Bolzano, Italy, Antonella Moretto, Milano Polytechnic, Italy, Marco Sartor, University of Udine, Italy, Maling Ebrahimpour, University of Rhode Island, USA, Mattia Moro, Milano Polytechnic, Italy, and Matteo Rossi, Milano Polytechnic, Italy.

This paper presents the first systematic literature review on the United Nations Global Compact (UNGC), one of the most important corporate social responsibility initiatives worldwide. The review addresses key issues related to UNGC, including the motivations for adopting the standard, the main critiques moved toward the initiative, the impacts on firms adhering to the Compact, and the contextual factors affecting the joining decision and the impacts registered. Stemming from the weaknesses of the actual literature, we shed also light on various research gaps and propose a theory-based research agenda on UNGC.

**97. Public procurement relationships with small to medium sized enterprises**, by Christine Harland, Milano Polytechnic, Italy, Jan Telgen, University of Twente, The Netherlands, Guy Callender, University of Curtin, Australia, and Rick Grimm, CEO National Institute for Governmental Purchasing, USA.

Despite recognition of the vital role small to medium-sized enterprises (SMEs) play in innovation and economies, SMEs secure a small proportion of government procurement spending; we need to understand why. Expectancy disconfirmation theory (EDT) and principal agent theory are used here to examine the mismatches between governments' initiatives to engage SMEs in public contracts and governments' and SMEs' perceptions of their effectiveness. Three main contributions are made in this paper. First, a new conceptual framework to explore public

procurement relationships is developed. Second, empirical evidence at the level of the dyadic relationship rather than only the SME perspective is provided. Third, international empirical evidence on public procurement relationships with SMEs is gathered through 15 case studies.

**127. Relational orientation, stakeholder pressure, and collaborative relationships within a humanitarian setting**, by Mohammad Moshitari, Hanken School of Economics, Finland.

This study provides insight into the key drivers of engagement in inter-organizational collaboration between international and local humanitarian organizations, and extend the scope of potential benefits of close relationships among HOs beyond solely operational aspects. Along these lines, we rely on two perspectives of trust-commitment and stakeholder theory. Integrating both perspectives within a single research model and using empirical evidences from 262 international and local humanitarian NGOs, the study reveals that engagement in inter-organizational collaboration is triggered by partners' mutual trust and commitment, not by pressure from (external) stakeholders. In addition, the study demonstrates a positive relationship between partners' involvement within collaborative activities and the collaboration outcomes from both operational and strategic aspects.

**32. The impact of the public procurement control system on the decision making in Hungarian public procurement**, by Gyorgyi Nyikos, National University of Public Service, Hungary, and Gabor Soos, National University of Public Service, Hungary.

Hungary established a strong ex-ante, in process and ex-post public procurement control system to avoid irregularities. The "fear" of being controlled by state authorities and EU auditors is affecting decisions in public procurement on a daily basis. Hungary's rigorous control system, while contributing to an increase in the regularity of procedures is making contracting authorities often extremely careful when they apply the procurement rules. Data from the competent ministry shows that that control reports lead to an amendment of documents on many occasions, affecting also the outcome of procedures. The question arises whether such interference in procurement decisions is necessary and makes the processes more effective or whether a looser approach would be more desirable.

**SESSION STRATEGY 7: SUSTAINABILITY AND VALUE CREATION**

**May 31, 2017 from 3:30pm to 5pm**

**Salon Costa Tropical of Hotel Abades Nevada Palace**

**Session Chair**

Lydia Bals, University of Applied Sciences Mainz, Germany.

**37. The impact of sustainability concepts in improving student learning outcomes in Transportation Engineering Courses**, by Mahour Parast, North Carolina Agricultural and Technical State University, USA, and Elham Fini, North Carolina Agricultural and Technical State University, USA.

This paper describes an intervention to enhance students' learning through involving students in brainstorming activities with regard to sustainability concepts and their implications and counter measures in transportation engineering. The paper discusses the process of incorporating the intervention into a Transportation course as well as the impact of this intervention on students' learning outcomes. To evaluate and compare students' learning as a result of the intervention, the Laboratory for Innovative Technology and Engineering Education (LITEE) survey instrument was used. The survey instrument includes five constructs: Higher-order cognitive skills, self-efficacy, ease of learning subject matter, teamwork, and communication skills. Teamwork promotes the intellectual and social development of students enabling them to function effectively and actively in the process of knowledge acquisition. A survey on pre-assessment and post-assessment of student learning outcomes was conducted to determine the effectiveness of

the intervention on enhancing students' learning outcomes. The results show that the implementation of the intervention significantly improves higher order cognitive domain of learning, self-efficacy, teamwork, and communication skills. Educators involving students in brainstorming activities related to sustainability concepts and their implications in transportation proved to be an effective teaching and learning strategy.

**43. Sustainability in tourism cadre training and selection in Bulgaria**, by Angelova Gergana, South-West University of Neofit Rilski, Bulgaria, Petar Parvanov, South-West University of Neofit Rilski, Bulgaria, and Georgi Chetrafilov, South-West University of Neofit Rilski, Bulgaria.

The topic of human resources management has always been of crucial importance. The most successful organizations are those which have realized that their greatest assets are their employees and therefore take special care of them. Sustainability in tourism cadre training and selection results from the synergies of the state authorities, local authorities, educational institutions and tourism business in Bulgaria. On the other hand, there should be a match between the tourism cadre training, knowledge and skills and the tourism business requirements for hiring staff. This paper has two main objectives: 1) to outline the regulatory framework for the preparation and training of tourism cadre and 2) to research the attitudes of the two target groups in tourism – staff and employers in order to find out if they match or whether measures should be taken in this direction.

**46. Ensuring sustainability in global value chains: A systematic literature review of current and future buyer competencies**, by Heike Schulze, University of Applied Sciences Mains, Germany, and Lydia Bals, University of Applied Services Sciences Mains, Germany.

Implementing sustainability into global value chains remains a challenge for companies. Purchasing and supply management (PSM) is one of the functions with most interaction towards the upstream supply chain network of the firm, thus influencing a substantial part of how its value creation is delivered. While previous sustainable PSM research has shed light on key elements such as stakeholder management on an organizational level, the individual level competences required to perform such tasks are much less understood. Therefore, a systematic literature review is conducted and the competences are classified into tacit and explicit knowledge according to the knowledge-based view (KBV).

**117. Factors influencing the adoption of bicycle-sharing systems in an intermodal local transport context: A hierarchical tree-based regression model**, by Francisco Liebana, University of Granada, Spain, Miguel Ruiz, University of Malaga, Spain, and Sebastian Molinillo, University of Malaga, Spain.

Public bicycle-sharing systems (BSS) are becoming increasingly interesting to researchers and practitioners. However, factors influencing the adoption of a sharing bike as part of the intermodal public transport network in a city are still scarce. This study analyses the socio-demographic and behavioural factors influencing the use of a BSS integrated in the public transport network: local buses, subway lines, coaches and commuter trains. The data were obtained through face-to-face interviews with 1,984 users registered with Malaga bici BSS and analysed using a hierarchical tree-based regression method (CHAID). The findings show the patterns of use of the BSS in combination with other means of transport and the variables that have the most influence on such behaviour. Users habitually use the BSS only or in combination with walking. Three variables with a significant predictive power have been identified: The place of residence, the time required to access the bicycle docking station and the age of the user. Comments are also made on important implications to the theory and the practice.

**116. To use or not to use, that is the question: Analysis of the determining factors for using NFC mobile payment systems in public transportation**, by Francisco Liebana,

University of Granada, Spain, Sebastian Molinillo, University of Malaga, Spain, and Miguel Ruiz, University of Malaga, Spain.

There is growing interest in our society in making payments using mobile phones as an alternative to using cash, checks or credit cards. The objective of this study is to analyze the status of near field communication (NFC) mobile payment systems in public transportation, as well as the factors that affect users' intentions to continue using said systems. To meet this objective, a personal survey was conducted on a sample of 180 users with experience using this type of system. A comprehensive review of the scientific literature justifies the development of a behavioral model that explains the continuance intention of NFC mobile payments through a structural equation model. The results show that satisfaction, service quality, effort expectancy, and perceived risk are determining factors of the continuance intention to use this technology. Finally, the managerial conclusions and implications offer the companies that manage these public services new business opportunities based on user behaviors.

**COFFEE BREAK**

**May 31, 2017 from 5pm to 5:30pm  
Hotel Abades Nevada Palace**

**CONFERENCE CLOSING**

**May 31, 2017 from 5:30pm to 6pm  
Salon Altiplano Hotel Abades Nevada Palace**

**Session Chairs**

Jatinder Gupta, University of Alabama in Huntsville, USA.

Gyula Vastag, Szechenyi Istvan University, Hungary.

Jose Benitez, University of Granada, Spain.

Javier Llorens, University of Granada, Spain.

**EDSI BOARD MEETING** (only for EDSI Board members)

**May 31, 2017 from 6pm to 7pm  
Salon Costa Tropical Hotel Abades Nevada Palace**

**TOURIST TOUR: NIGHT VISIT TO THE ALHAMBRA AND DINNER AT THE ALBAYZIN** (not included in the Conference registration, it requires an additional registration)

**May 31, 2017 from 7:30pm to 11:30pm  
Departure in bus from Hotel Abades Nevada Palace at 7:30pm**

**PLANT TOUR: PLANT TOUR AT RUM MONTERO AND NETWORKING DAY AT SALOBREÑA BEACH WITH LUNCH AT CHIRINGUITO** (not included in the

Conference registration, it requires an additional registration)

**June 1, 2017 from 9am to 4pm  
Departure in bus from Hotel Abades Nevada Palace at 9am**

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