



Global entrepreneurship and innovation in management: Comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings[☆]



Chih-Wen Wu ^{*}

Department of Marketing, College of Management, National Chung Hsing University, 250 Kuo-Kuang Road, Taichung 402, Taiwan

ARTICLE INFO

Article history:

Received 1 October 2015

Received in revised form 1 November 2015

Accepted 1 November 2015

Available online 23 December 2015

Keywords:

Entrepreneurship

Innovation

Management

fsQCA

ABSTRACT

The special issue contains 39 articles, which encompass content from presentations at the Global Entrepreneurship and Innovation in Management (GEIM). The GEIM Conference provides a platform for discussing challenges of comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. The 2nd GEIM Conference took place at the National Chung Hsing University of Taichung, (Taiwan) from July 29 to August 1, 2015. The conference selects high-quality articles for publication in a special issue of the *Journal of Business Research*. After double-blind reviews and revisions, this special issue includes 39 articles, in addition to this editorial. These articles contribute to new perspectives of entrepreneurship and innovation in comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings.

© 2015 Elsevier Inc. All rights reserved.

1. Introduction

The Global Entrepreneurship and Innovation in Management (GEIM) annual conference works with the *Journal of Business Research* in a special issue in comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. The purpose of the special issue is to encourage scholars to focus on research about entrepreneurship and innovation. The GEIM conference provides a platform for answering the challenges pertaining to contemporary issues in comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. The National Chung Hsing University, Taiwan, hosted the 2015 GEIM Conference from July 29 to August 1, 2015. The conference succeeded in gathering scholars from several countries around the world who presented their articles and obtained feedback from the participants. After two double-blinded reviews, this special issue comprises 39 articles.

1.1. The 2015 GEIM Conference

Given National Chung Hsing University's (NCHU) heavy focus on high-tech innovation, entrepreneurship, and very active industry–university working relationships, NCHU provides an ideal context/venue for the GEIM conference. Many of the 2015 GEIM articles and sessions offer bold advances in combining new theory with new research methods—theory methods that go beyond the use of conventional symmetric perspectives and tools. The 2015 GEIM Conference has resulted a tipping point in increasing the quality of entrepreneurship and innovation as a recognized sub-discipline of management. Each session period includes at least an unmissable session. Deciding among competing sessions was really difficult—a good problem to face. The *Journal of Business Research* (JBR) partnership with GEIM is unique. Arch Woodside, as JBR chief editor, the managing editor (Michel Laroche, Concordia University, Canada), and the nine JBR associate editors are particularly happy to be working in partnership with scholars at NCHU because of the university's strong commitment to be a leading source of new knowledge and scholarship in entrepreneurship and innovation—in Asia and at intercontinental level.

Fuh-Sheng Shieu, president of the National Chung Hsing University, Taichung, Taiwan, delivers the message welcome to National Chung Hsing University (NCHU) and the 2015 Global Entrepreneurship and Innovation in Management (GEIM) conference in partnership with the *Journal of Business Research* special issue. NCHU is in the south of Taichung City with an area of approximately 53 ha with four

[☆] The guest editor and authors thank Arch G. Woodside for his valuable comments, encouraging support, and suggestions during the preparation of this special issue, and Domingo Ribeiro Soriano for the help to build this special issue. The author acknowledges and thanks the financial support provided by the Ministry of Education, Taiwan under grant 104-0011-810 and by the Ministry of Science and Technology, Taiwan under grant 104-2916-I-005-002-A1.

^{*} Corresponding author. Tel.: +886 4 22840392x752; fax: +886 4 22860993.

E-mail address: chihwwu@dragon.nchu.edu.tw.

experimental forest stations, two experimental farms, and a horticultural experiment stations. The main campus contains eight colleges, comprising College of Liberal Arts, College of Agriculture and Natural Resources, College of Science, College of Engineering, College of Life Sciences, College of Veterinary Medicine, College of Law and Politics, College of Management, and the Extension Division for In-service and Continuing Education. The mission of NCHU is to advance to world-class university with innovative thinking, active service, and integrated collaboration. The NCHU currently emphasizes global entrepreneurship and innovation in management. The Innovation Incubator is the best one in Taiwan, and the Ministry of Economic Affairs has recognized the Innovation Incubator in the last 4 years as the “Incubator of the Year.” NCHU is a research-oriented institution, which devotes to academia–industry cooperation. In the long run, the National Chung Hsing University demonstrates its quality assurance after a series of continuous improvement during the accreditation progress. GEIM conference articles present applications of empirical research to practical situations and of theoretical findings to the reality of the business world.

Entrepreneurship contributes to the quality and future hopes of a sector, economy, or even a country (Soriano & Huarng, 2013). The entrepreneurial development and entrepreneurs are crucial for socio-economic growth because entrepreneurs create new jobs and generate wealth and growth (Garcés-Ayerbe, Rivera-Torres, & Murillo-Luna, 2012; Soriano & Peris-Ortiz, 2011; Zahra, 1999). Firm entrepreneurship is a growing field of study that is receiving an increasing attention over the last decades (Peterson & Berger, 1972; Shane & Venkataraman, 2000; Soriano & Peris-Ortiz, 2011). Entrepreneurship is as important in small and medium-sized enterprises and local markets as in large companies, and national and international markets, and is just as key for public companies as for private organizations.

Knowledge is a key factor in the innovation process because knowledge allows introducing new products to the market; this innovation process allows cost, risk, and time reduction. Innovation allows companies to increase their profit margins (Fritsch & Meschede, 2001). Different studies cover various aspects of innovation. Therefore, entrepreneurs' innovations tip the balance in the economy and lead to a process of creative destruction (Dibrell, Craig, & Hansen, 2011; Laforet, 2008; Mousa & Wales, 2012). Innovation strategy in organizations is a central interest in recent years because innovation strategy is vital for organizational adaptation and renewal as well as for competitive advantage (Lewis, Welsh, Dehler, & Green, 2002; Parellada, Soriano, & Huarng, 2011; Wu, 2013). Despite the agreement on the importance of innovation to organizations, the literature shows much controversy in the field of innovation and no dominant theoretical perspective exists that integrates the multiple streams of innovation strategy research (Greve, 2003; Wu, 2011).

Woodside (2013) emphasizes the importance of a whole view for exploring actual phenomena and the appropriateness of fuzzy-set qualitative comparative analysis (fsQCA) for analyzing data, which focuses on a case-level recipe for explaining the influence of all ingredients, rather than the unidirectional net effects of the variables. A fuzzy set is a middle dichotomy, in which a qualitative narrative determines the extent to which a person belongs (Woodside, 2013; Woodside, Camacho, & Lai, 2013). Previous studies use statistical methods to establish causal relations in varieties of models to examine individual factors that affect outcome of events (Woodside & Zhang, 2013). A sufficient condition is a variable or combination of variables that could lead to a particular outcome (Ragin, 2009; Woodside, 2013). fsQCA uses consistency and coverage index to evaluate antecedents and their combinations (Ragin, 2008, 2009). A consistency index represents a subset of the relation of antecedent(s) to outcome(s) (Ragin, 2008; Woodside & Zhang, 2013). A consistency index assesses the extent to which cause or causal combination accounts for an outcome (Woodside et al., 2013). Ragin (2008) and Woodside and Zhang (2013) provide more detail on performing calibrations in fsQCA. To demonstrate predictive validity, this special issue conducts a prediction

analysis to compare MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings.

On the basis of the above analysis, the special issue will examine the issues of global entrepreneurship and innovation in management by comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. Feedbacks and suggestions from the audience help the authors to publish their articles. The guest editors are proud to present interesting and quality articles that will provide relevant and rigorous insights in this special issue. The articles in this issue address a variety of global innovation and entrepreneurship themes in comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings within management field. In the next section, the guest editors provide a review of the present contribution in which readers learn how to analyze the articles with interests in the field of global entrepreneurship and innovation in comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. The final section will summarize this special issue and will provide some future research directions on the topic.

2. Contributions to the special issue

Thirty-nine articles in this special issue present knowledge contributions in various aspects of global entrepreneurship and innovation in management by comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. This special issue introduces the reader to many of these important references.

2.1. Job creation through social entrepreneurship

Social entrepreneurship is becoming increasingly popular among researchers because of its prominence in society. The contribution by Rey-Martí, Ribeiro-Soriano, and Sánchez-García focuses on how to promote the creation of social enterprises. The study employs fuzzy-set qualitative comparative analysis (fsQCA) to analyze data from a survey to 51 social enterprises. To do so, this study examines contingent factors such as training, educational level, experience, family history, and the financial support that can promote the creation of employment in these firms.

2.2. Institutional herding, stock return, and implied volatility

Hung, Wu, and Lin investigate the effect of institutional herding between contemporaneous returns and changes in implied volatility. The empirical evidence supports the effect of quintile ranking of changes in institutional ownership, suggesting that larger changes in the institutional ownership have greater explanatory power for the return-implied volatility relation by using fuzzy-set qualitative comparative analysis (QCA).

2.3. Gender matters in venture creation decision

The contribution by Aragon-Mendoza, Raposo, and Roig-Dobón examines the process and the differences between men and women in starting a business. The article shows an interesting point of view on these differences and reveals the need to develop policies that maximize entrepreneurship by both genders. The main finding indicates that new generations of women begin to process information like men do, which indicates that efforts in gender equality policies are working but they are not sufficient yet.

2.4. Microblogging sentiment on the stock market

Piñeiro-Chousa, López-Cabarcos, and Pérez-Pico analyze the possible predictable relationship between the evolution of the action and activity on social networks. Using a fuzzy-set qualitative comparative analysis, this research analyzes the sentiment of stock-related

microblogging messages of S&P500 Index posted between October 2009 and October 2014. The research finds the antecedents of the social network sentiment that increase the financial depth knowledge.

2.5. Organizational linkages for new product development

Cometto, Nisar, Palacios, Meunier-Fitz Hugh, and Labadie's study deals with the influence of two effective internal organizational linkages in developing new products: the relationship between marketing and sales during the realization of new innovative projects. To that purpose, the study analyzes the influence of trust dimension on the perceived effectiveness of cross-functional linkage to highlight how organizational mechanisms like the amount and quality of shared communication affects trust and the relationship between both functions.

2.6. Consumer behavior on cashback websites

In the article "Consumer Behavior on Cashback Websites: Network Strategies," Ballestar, Grau-Carles, and Sainz measure the volume of the user's network, the diversification of the navigation, and the size of the transactions, which are relevant to the decision of the consumer and to his engagements on the affiliate merchants for understanding the users of the webs both in terms of transactions and navigation and registration on cashback sites. These results represent a first step on the understanding of this marketing strategies and open new areas of research.

2.7. Setting up a business and funding sources

Small and medium-sized enterprises (SMEs) are the driving force of the whole economy. Staniewski, Szopiński, and Awruk explore this issue by analyzing the motivations to set up a business and the selected sources of funding. The empirical analysis shows that those non-financial motives use non-refundable EU funds. The results of the study should be helpful in re-considering the European Union procedures for granting a financial non-refundable aid for people.

2.8. Network partner diversity and network capability

Parida, Patel, Wincent, and Kohtamäki explore how firms decrease financial performance because of increased costs of coordinating and integrating diverse knowledge. This study proposes to examine efficiently how the companies manage to reduce their costs and to progress in the performance associated with network partner diversity. On the basis of survey data and prospective five-year sales growth data from archival sources, the study finds that an increased level of network diversity has a negative effect on sales growth, but network capability moderates the relationship.

2.9. The funds' support on Tobin's Q

Vizcaíno and Chousa's article studies the influence of the funds' support over the value of United States banks using Tobin's Q. This research uses structural equation modeling (SEM) and a fuzzy-set qualitative comparative analysis (fsQCA) method to analyze data about votes that funds emit in corporate meetings aiming to address the influence of the funds' support over the Tobin's Q ratio. The main result is that the funds' support is no longer an explanatory factor, indicating that the financial crisis has infringed a significant qualitative change into the antecedents of Tobin's Q during the 2009–2013 period.

2.10. Incubators for new entrepreneurs

Albort-Morant, Oghazi, and Ribeiro-Navarrete's study examines the profile of incubator tenants who find positive the use of advisory and support from business incubators and examines profiles of incubator

tenants who provide the most positive evaluations of the use of advisory services and support from incubators. The study presents an application of qualitative comparative analysis (QCA) to a sample of 54 incubator tenants in Valencia, Spain. The results of the research prove that the incubator tenants who find the services of incubators most useful are young, have good studies, have professional experience, and have family experience.

2.11. Family governance oversight and firm performance

Using the stewardship perspective, agency theory, and the resource-based view of the firm, Tsao, Chen, and Wang empirically examine the relationship among family governance, high performance work systems (HPWS), and performance at family-controlled public firms (FCPFs). The empirical results indicate that independent directors on the board and the level of family member board participation associate with HPWS adoption. Adopting HPWS also mediates the effect of independent directors and perceived performance.

2.12. The correlation coefficient for the fuzzy data

The evaluation of an appropriate correlation with fuzzy data is an important topic in the econometrics and management science, especially when the datasets illustrate uncertainty, inconsistency, and incompleteness. Yang extends the concept of Pearson's correlation coefficient to compute the correlation coefficient of the data sets which are fuzzy in nature. Empirical studies show the proposed methods for evaluating fuzzy correlations' coefficient are useful and efficient from the perspective of econometrics and management.

2.13. Reputations for toughness to anti-dumping rebuttals

Chen, Liu, and Wu take the perspective of the foreign competitor and investigate the conditions that influence the foreign competitor's decision from an anti-dumping rebuttal. Fuzzy set/qualitative comparative analysis (fsQCA) offers additional evidence for the predicted relationships. These findings advance the theoretical understanding of the regulative, normative, and cognitive elements of institutions in the context of anti-dumping rebuttals.

2.14. Non-financial performance, product market competition, and capital expenditure

Liao, Lin, and Lin examine the effect of non-financial performance on capital expenditure and the role of product market competition on the above relationship. This study further adopts fsQCA to produce the comprehensive explanation of how non-financial performance, considering agency cost at the same time, affects capital expenditure. The findings show that current defect-free rate of a product relates negatively to next capital expenditure, implying that the firm will improve product quality by expanding capital expenditure to promote the competitiveness of a firm.

2.15. Institutional ownership and long-run performance

Hsu, Yang, and Sung investigate whether firms' low price, great idiosyncratic volatility, and high skewness affect institutions' participation in share allocation around seasoned equity offerings (SEOs) and firms' post-issue long-run performance. The results show that the level of institutional ownership of lottery-like firms is lower than non-lottery-like firms, but these firms attract more new institutions to purchase SEO shares. These results also indicate that lottery-like firms having the support of institutions are able to improve their performance after SEOs but still underperform non-lottery-like firms. The results imply that many institutional investors are overoptimistic about the investment opportunities of lottery-like firms.

2.16. New mutual fund managers

The reason why a new fund manager changes the mutual fund holding portfolio of his or her predecessor immediately after management turnover is an important issue. Chou, Huang, and Lai employ regression models and an fsQCA configurational approach for the analysis and provide useful complementary information. In their study, fsQCA leads to a full understanding portfolio turnover's misplacement for the 3-month period following a change of manager if the objective is to identify which new managers are likely to outperform and which are likely to underperform their predecessors.

2.17. Marketing research with fuzzy data

Lin, Wang, Chen, and Wu propose new statistical methods on the marketing research and decision making by using a soft computing technique and new statistical tools to evaluate people's thinking. The main idea is to decompose the data into two dimensional type, centroid and its length (area). They propose two dimensional questions to reach precisely for the market information. Because the classical measurement system has difficulties in dealing with the non-real valued information, the study finds an appropriate measurement system to overcome this problem.

2.18. Chief executive officer and top management team

Human resource management is the most important competitive advantage in organizations. Chief executive officer (CEO) and top management team (TMT) dominate the organization strategy. Lo and Fu explore the interface of the CEO and TMT and their effect on organization performance including sustainability, growth, and internationalization. The study uses multiple regression analysis and fsQCA (fuzzy-set qualitative comparative analysis) to address the hypotheses and research questions. The study also uses the OSIRIS database sample of 697 firms in information technology industry. Results support the interface of CEO and TMT that can improve organization performance.

2.19. Innovation spillover on the organizational performances

Huang, Wu, Lu, and Lin contribute to the research on the effect of diversification on organizational performance by using a configurational comparative method, including multiple regression analysis (MRA) as well as fuzzy-set qualitative comparative analysis (fsQCA). These analyses demonstrate that an fsQCA can successfully identify conditions that are adequate for successful organizational performance outcomes. The results indicate that an fsQCA outperforms an MRA and successfully models both types of data with causal complexities. The findings of this study provide useful insights into how firms' members should reinforce their collaborative behaviors and activities to enhance their competitive advantages.

2.20. Equity markets and currency markets

Lin and Fu investigate the panel dynamic relationships between equity markets and currency markets for the four Asian economies including Japan, South Korea, Singapore, and Taiwan over the period January 2001–December 2013 using a panel Granger causality approach. The results of the short-run and long-run panel Granger causality tests find the bi-directional causality runs between the two variables for these Asian economies. The empirical results provide crucial policy implications for the monetary authorities and the mutual funds managers in the equity markets.

2.21. Strategic orientations complementarity

Resource complementarity is beneficial to business performance. Ho, Plewa, and Lu examine the complementarity of four strategic orientations (market, entrepreneurial, relationship, and technology) using both multiple regression analysis (MRA) and fuzzy set qualitative comparative analysis (fsQCA). The fsQCA results confirm that several combinations of strategic orientations lead to high profitability, therefore providing evidence for the complementarity between strategic orientations. This study contributes to the literature by showing the suitability of fsQCA over MRA for studying the complementarity of strategic orientations. Furthermore, previous studies tend to assume that complementarity manifests only when the resources generate synergistic effects on performance. This study demonstrates that complementarity is understandable in terms of configurations rather than synergistic effects.

2.22. Perceptual disparities of global warming communications

Huang extends third-person-effect research by examining a different level, the perception of effects on the nation. As global warming poses a major challenge to humankind, this study explores the perceived influence of global warming communications on the self and others at the individual and national levels. Results reveal self-other perceptual disparities at these two levels from a national survey in Taiwan. The findings suggest that higher news coverage on global warming mitigation policies and action may be helpful to encourage audience members' engagement in environmental behavior.

2.23. Destination loyalty modeling of the global tourism

Wu examines the antecedents of destination loyalty and its relation to destination image, consumer travel experience, and destination satisfaction in the tourism context. Wu empirically tests predicted relationships by using personal interview data from 475 foreign tourists and by using fuzzy-set qualitative comparative analysis (fsQCA) and structural equation modeling (SEM) approach. Findings from the research sample support the argument that destination image, consumer travel experience, and destination satisfaction are the key determinants of destination loyalty. Further, destination image and consumer travel experience influence destination satisfaction.

2.24. Corporate image and intention to apply

Wei, Chang, Lin, and Liang examine person–organization fit to examine the relationship between organizations' corporate image and job seekers' intention to apply. The study explores how recruitment messages affect the relationship between corporate image and person–organization fit by using actual job openings posted by 28 companies. The results show the following: (1) corporate image relates positively to both intention to apply and person–organization fit, (2) person–organization fit fully mediates the relationship between corporate image and intention to apply, and (3) detailed recruitment messages strengthen the positive relationship between corporate image and person–organization fit.

2.25. Customers' switching and free-riding behavior

Chou, Shen, Chiu, and Chou explore the applicability of a theoretical framework (push–pull mooring) in understanding customers' switching behaviors and analyze the factors that constrain customer switching. Structural equation modeling and fuzzy set qualitative comparative analysis (fsQCA) provide techniques for analyzing survey data from 530 respondents. The results demonstrate that the perceived risk and switching barriers associated with an online channel have significant direct effects on cross-channel free riding.

2.26. Customer pressure, customer–manufacturer–supplier relationships, and firm performance

Ueki investigates how the pressure to adopt the ISO 9000 or 14,000 series from downstream customers affects customer–supplier collaborations and process improvement in Southeast Asia. This study finds that the ISO requirements to the suppliers promote the development of collaborative relationships between the focal firms and their suppliers and improve process control. Regression analysis and fsQCA indicate the importance of analyzing combinations of the factors rather than individual factors that may affect quality control improvement.

2.27. Corporate governance on research and development

Corporate governance plays an important role for the research and development (R&D) investments. Chu, Yang, and Yang examine the impact of corporate governance on the effectiveness of R&D investments by using fuzzy set/qualitative comparative analysis (fsQCA). This study contrasts results by employing panel regression analysis (PRA) and using data from 38 countries. The findings show that the market value of the company is more sensitive to R&D in the country with effective investor protection and strong corporate control mechanisms.

2.28. Alternative paths to high brand strength

Grohs, Raies, Koll, and Mühlbacher examine the simultaneous influence of the number, favorability, consensus (measured and perceived), and uniqueness of brand associations on the strength of gasoline and toothpaste brands. The study combines multiple regression analysis (MRA) and fuzzy-set qualitative comparative analysis (fsQCA) to gain a nuanced understanding of how distinct combinations of brand association characteristics influence brand strength. The findings illuminate complex brand association configurations that drive brand equity and contribute to the development of a full-fledged theory of brand strength and its drivers. Such a theory serves managers who position their brands in the marketplace and aids companies' brand building activities.

2.29. Behavioral intention on multimedia teaching materials

Jiang, Chen, and Chen indicate the value of a set-theoretic comparative technique (i.e., fuzzy-set qualitative comparative analysis (fsQCA)) as a tool to supplement other traditional techniques, such as regression analysis and structural equation modeling (SEM). The major contribution of the study is to explore the instructors' behavioral intention on multimedia teaching materials. The secondary contribution is a comparison of the results of both methods: SEM and fsQCA.

2.30. Perceived environment and physical activity behavior intention

Wu, Li, and Sung further propose a physical activity policy appropriate for senior citizens by employing 326 valid questionnaires. This study uses partial least squares (PLS) and fuzzy set qualitative comparative analysis (fs/QCA) on the data for model verification. Within the model, environmental accessibility has significant influences on the physical activities behavior attitude, subjective norm, and perceived behavior control of senior citizens. Two policy implications and suggestions derive from these results: First, in planning decision for promoting physical activity for the elderly, the first priority should be the accessibility of the exercise environment. Second, policy makers should try to strengthen senior citizens' perceived behavior control and attitudes toward physical activity to enhance their behavior intentions.

2.31. Effective marketing communication via social networking site

Facebook provides a brand-new way for users to send messages to friends online, which increases the effectiveness of Internet advertising

that comes from social capital. Shen, Chiou, Hsiao, Wang, and Lin investigate what factors influence the impact of consumers sharing advertising (peer-to-peer) on communication effectiveness. The research results conclude the following: (1) interactive advertising gains greater consumer attitude toward the ad, (2) the social tie is an important factor in moderating the effects of the message format, (3) advertising literacy conditions is relatively steady when consumers receive advertising from a strong tie, (4) participants in a weak tie condition have lower attitudes toward advertising, and (5) participants with higher advertising literacy are more likely to share the ad.

2.32. Causal complexity of economic development

Yu, Huang, and Huang explore the association between the energy-consumption-related antecedents and economic development. Fuzzy set/qualitative comparative analysis (fsQCA) yields the causal recipes (causal combinations) for the outcome, GDP. The analysis results find two groups of causal recipes: One group explains the conditions for knowledge-intensive industrialized economies, and the other group explains those for traditional industrialized economies. The results provide one causal recipe, which is hard for describing the association between the energy-consumption-related antecedents and the economic development. This study also applies multivariate regression analysis (MRA) for similar analysis, and the results report that not every variable of each individual year is significant, illustrating the problem of MRA.

2.33. Online impulse buying

Huang examines the influences of affective and reactive factors and two mediators to investigate consumers' online-buying impulse behavior in social commerce by following the stimulus–organism–response (SOR) paradigm, social capital theory, and flow theory. This study conducts structural equation modeling (SEM) and the fuzzy-set qualitative comparative analysis (fsQCA) method to analyze an online questionnaire. The results of the fsQCA show a recipe for increasing consumers' desire to purchase impulsively, including reactive and affective factors. However, the recipe for impulse buying only includes social capital, peer communication, urge to buy, and vividness.

2.34. Multilevel Shewhart control chart and fuzzy theory

Chang, Kao, Sha, Wu, and Chen analyze a sample of general acute inpatient unit with fall-related injuries through a combination of fuzzy and multi-level control chart. Traditional Shewart control chart lacks consideration in detecting the severity incidence of the inpatient with fall-related injuries; however, by developing a multi-level control chart applying fuzzy rules, the study can monitor the severity of error incidence in time. This development of multi-level control chart would reduce low sensitivity disadvantages and the errors that the traditional control chart causes, ensuring patient safety.

2.35. Perceived risk on dual-route information adoption processes

Tseng and Wang investigate how perceived risk (PR) affects individual information–adoption processes on travel websites. The study uses structural equation modeling to evaluate the conceptual model and the hierarchical regression analysis tests the moderating effects on 212 successful questionnaires. The results show that perceived risk significantly increases information–adoption intention directly and perceived information usefulness indirectly. Additionally, the result from reanalyzing the data using fsQCA (fuzzy-set qualitative comparative analysis) finds the combination of perceived risk and perceived utility to be sufficient for information–adoption intention.

2.36. Intellectual property, research intensity, and scale effect

Lo extends trade model by simply incorporating the “standing on shoulders” and “stepping on toes” effects in their technology-accumulated formation to allow for the externalities of knowledge spillovers and the duplication of research efforts. By retaining all the merits of the proposed trade model and in greater harmony with real practice, the study demonstrates that the larger a country is, the greater the country's research intensity is.

2.37. Organizational learning-orientation in high-technology firms

Sheng and Chien emphasize the need to move beyond multiple regression analysis to algorithms and shift a paradigm from symmetric to asymmetric thinking in data analysis and crafting theory by using two types of data analyses, comparing PLS-SEM with fsQCA. The results show that a high-level learning orientation fosters myopic learning and incremental innovation but inhibits experimentation with regard to radical innovation in emerging domains. For the high-tech industry and entrepreneurial ventures, superior capability in a particular field leads to exploitative learning and promotes incremental innovation.

2.38. Co-creation with customer and new travel product performance

Tseng and Chiang examine which moderating factors affect the relationship between co-creation of travel products with customers and the performance of those new products. Travel product designers and managers of travel agencies explore the moderating factors. The study applies fuzzy set/qualitative comparative analysis (fsQCA) and hierarchical regression analyses to determine the influence of these moderators. The results indicate that the relationship between customer co-creation and the performance of new travel products is contingent upon the moderating effects of organizational culture and communication quality.

2.39. Achieving high performance in a mobile workplace

Yueh, Lu, and Lin examine the relationship among employees' attitude, behavior, and performance to address the problems of workplace mobile technology adoption. The study analyzes the data by means of structural equation model (SEM) and fuzzy-set qualitative comparative analysis (fsQCA) to understand the statistical associations and the set relations of the variables and conditions from a sample of 692 employees in Taiwanese companies. The finding suggests that using mobile technology in workplace positively influences employees' perceived improvement of work performance, and the performance expectancy of mobile technology also affects work performance improvement. The two methods this study uses also contribute to the methodological understanding in the research field.

3. Summary and future directions

The 2015 GEIM Conference was a large success in that the conference features excellent studies from many different countries and international institutions and offers business leaders and academics opportunities to share their insights and learn from others.

Thirty-nine articles in this special issue present new theories on global entrepreneurship and innovation comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. This special issue represents an important contribution to the state-of-the-art research results. Much of the high-quality work benefits from the in-depth discussions during the conference. Accordingly, these articles improve the understanding of the research on global entrepreneurship and innovation in management comparing MRA/SEM versus fuzzy-set QCA theory creation, data analysis, and findings. This special issue and the forthcoming one will stimulate more research in this area and lead to a better understanding and modeling of global entrepreneurship and innovation in management. Future research can probe into the new problems in the current research framework. In addition, future research can explore new research areas relevant to global entrepreneurship and innovation in management. Both directions can create new theories or novel research models for global entrepreneurship and innovation research.

References

- Dibrell, C., Craig, J., & Hansen, E. (2011). Natural environment, market orientation, and firm innovativeness: An organizational life cycle perspective. *Journal of Small Business Management*, 49(3), 467–489.
- Fritsch, M., & Meschede, M. (2001). Product innovation, process innovation, and size. *Review of Industrial Organization*, 19(3), 335–350.
- Garcés-Ayerbe, C., Rivera-Torres, P., & Murillo-Luna, J. L. (2012). Stakeholder pressure and environmental proactivity: Moderating effect of competitive advantage expectations. *Management Decision*, 50(2), 189–206.
- Greve, H. R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal*, 46(6), 685–702.
- Laforet, S. (2008). Size, strategic, and market orientation effects on innovation. *Journal of Business Research*, 61(7), 753–764.
- Lewis, M. W., Welsh, M. A., Dehler, G. E., & Green, S. G. (2002). Product development tensions: Exploring contrasting styles of project management. *Academy of Management Journal*, 45(3), 546–564.
- Mousa, F. -T., & Wales, W. (2012). Founder effectiveness in leveraging entrepreneurial orientation. *Management Decision*, 50(2), 305–324.
- Parellada, F. S., Soriano, D. R., & Huarng, K. -H. (2011). An overview of the service industry futures (priorities: Linking past and future). *The Service Industries Journal*, 31(1), 1–6.
- Peterson, R., & Berger, D. (1972). Entrepreneurship in organizations. *Administrative Science Quarterly*, 16, 97–106.
- Ragin, C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: Chicago University Press.
- Ragin, C. (2009). *Qualitative comparative analysis using fuzzy sets (fs/QCA)*. In B. Rihoux, & C. C. Ragin (Eds.), *Configurational comparative analysis: Qualitative comparative analysis (QCA) and related techniques (application social research methods)*. Thousand Oaks and London: Sage Publications.
- Shane, S. A., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 26(1), 217–226.
- Soriano, D. R., & Huarng, K. H. (2013). Innovation and entrepreneurship in knowledge industries. *Journal of Business Research*, 66(10), 1964–1969.
- Soriano, D. R., & Peris-Ortiz, M. (2011). Subsidizing technology: How to succeed. *Journal of Business Research*, 64(11), 1224–1228.
- Woodside, A. G. (2013). Moving beyond multiple regression analysis to algorithms: Calling for a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory. *Journal of Business Research*, 66(4), 463–472.
- Woodside, A. G., & Zhang, M. (2013). Cultural diversity and marketing transactions are market integration, large community size, and world religions necessary for fairness in ephemeral exchanges? *Psychology and Marketing*, 30(3), 263–276.
- Woodside, A. G., Camacho, A. R., & Lai, W. H. (2013). Sense making, dilemma, and solutions in strategic management. *International Journal of Business and Economics*, 12(2), 91–95.
- Wu, C. (2011). Global marketing strategy modeling of high tech products. *Journal of Business Research*, 64(11), 1229–1233.
- Wu, C. (2013). Global-innovation strategy modeling of biotechnology industry. *Journal of Business Research*, 66(10), 1994–1999.
- Zahra, S. A. (1999). The changing rules of global competitiveness in the 21st century. *Academy of Management Executive*, 13(1), 36–42.