AARHUS UNIVERSITY

Coversheet

This is the accepted manuscript (post-print version) of the article.

Contentwise, the post-print version is identical to the final published version, but there may be differences in typography and layout.

How to cite this publication

Please cite the final published version:

Hussain, T., Eskildsen, J. K., & Edgeman, R. (2018). The intellectual structure of research in ISO 9000 standard series (1987–2015): A bibliometric analysis. *Total Quality Management & Business Excellence*, 1-30. doi:10.1080/14783363.2018.1469977

Publication metadata

Title:	<i>The intellectual structure of research in ISO 9000 standard series (1987–2015): A bibliometric analysis</i>
Author(s):	<i>Hussain, T., Eskildsen, J. K., & Edgeman, R.</i>
Journal:	<i>Total Quality Management & Business Excellence</i>
DOI/Link:	10.1080/14783363.2018.1469977
Document version:	<i>Accepted manuscript (post-print)</i>

General Rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

The Intellectual Structure of Research in ISO 9000 standard Series (1987-2015): A Bibliometric Analysis

Tajammal Hussain^{1,2}, Jacob Kjær Eskildsen³, Rick Edgeman^{1,4,5}

¹ Department of Business Development and Technology – Aarhus University, Herning, Denmark

² Department of statistics – COMSATS Institute of information technology, Lahore-Pakistan

tajammal@ciitlahore.edu.pk

³ Department of Management Aarhus BSS, Aarhus University, Aarhus-Denmark

eskildsen@mgmt.au.dk

⁴ Jon M. Huntsman School of Business

Shingo Institute and Management Department – Utah State University, Logan, Utah – USA

⁵ Division of Quality Science – Uppsala University, Visby, Sweden

rick.edgeman@usu.edu

Abstract

Since its inception in 1987, the ISO 9000 standards series has received remarkable appreciation as a quality management system as well as a prolific field of research. The substantial amount of ISO standards scholarly research has contributed over the years to accumulation of sound scientific knowledge. This article aims to develop a better view of ISO 9000 standards, as a field of research, by investigating the intellectual structures of summative knowledge, underlying dynamics, temporal progression, current development, and future evolution of research dimension. The Elsevier Scopus Bibliometric database searched for journal articles largely focused on ISO 9000 series, published during 1987-2015 period. The synchronized use of Bibliographic Coupling Technique and Factor Analysis yields eight prominent research streams. The study suggests that within the domain of ISO 9000 standards, some issues have been more frequently researched, such as organizational motives behind seeking ISO 9000 certification, perceived operational, marketing, business outcomes, and cultural transformation essential for successful adaption of ISO 9000 standards. Secondly, research is still inconclusive about some other well-researched issues: comprehended performance outcomes, challenges in acquiring, registering, and maintaining certification, lessons learned, and effectiveness of certification, internal and external challenges, and the trade-off between cost and benefits.

Keywords: ISO 9000, ISO 9001, Bibliographic coupling, ISO motives, ISO diffusion, ISO certification, processes, performance

1. Introduction

This research aims to explore the past and recent research themes in the field of ISO 9000-ISO 9001 during the prolific period of 1987-2015 and to supplement the on-going research efforts in tracking the research concerns and future directions.

In 1987, the International Organization for Standardization (ISO) launched the first version of the ISO 9000 standards. ISO 9000 is a Quality Management System (QMS) for organizations to improve and document their system for better quality and efficiency that might be essential to claim for a certification of process quality from an internationally respected certification body. The global diffusion of ISO 9000 certification is evident from the data: 1,138,155 organizations from 188 nations received ISO 9001 certification by 2014, in comparison to 46,571 in 1993; the number of certified organizations increased with an average growth rate of 5.8 per year for the 2005-2014 period (<http://www.iso.org/iso/iso-survey>). There are multifaceted explanations behind the remarkable popularity of the ISO 9000 standards series: improving organizations' internal quality management system, portraying positive image to stakeholders, getting competitive edge at marketplace, doing the business with credibility, and satisfying customers' quality consciousness mind-sets.

Being a popular QMS, ISO 9000 received a considerable response as an emerging field of academic research, and the intellectual structure of the cumulative scientific knowledge within the research field is experiencing growth on horizontal and vertical scales. The contents to the ISO 9000 field of research are drawn from multidisciplinary fields, such as engineering, management sciences, social sciences, and behavioral sciences.

To understand any growing field of research, there is a need to explore its dynamics, intellectual structure, knowledge streams, contributing sources, growth trends, and the contents analyses (Börner, Chen, & Boyack, 2003; Shafique, 2013). The intellectual

structure of a research field reflects a networking between the knowledge nodes contributed at different periods with variable degree of similarities-dissimilarities, hence, investigation of these knowledge networks can provide a better view of evolution of the field, more established research themes, and expectations of future research directions (Di Stefano, Peteraf, & Verona, 2010; Nerur, Rasheed, & Natarajan, 2008; Zupic & Čater, 2015).

This paper provides a quantitative review of literature by employing the Bibliometric methods to explore the intellectual structure of research published within ISO 9000 standards series domain, the approach followed herein is consistent with (Annarelli & Nonino; Pilkington & Meredith, 2009; Shafique, 2013), however, the bibliographic coupling method is used here, instead of co-citations. The bibliographic coupling method is more accurate in projecting the intellectual structure of a research field than the complementary co-citation approach (Boyack & Klavans, 2010; Vogel & Güttel, 2013). The investigation of cumulative scientific knowledge networks and their interconnected node provides a clear longitudinal and structural evolution of the field of research- ISO 9000 standards series. The next section is of literature review, followed by methodology, description of Bibliometric statistics of complete and core datasets, respectively. Then, in the next sections, presentation of data analysis, findings, discussions, conclusions, research limitations, and future research directions are provided respectively.

2. Literature Review

The concept of quality is mostly perceived as vague and hard to define, if not difficult to realize. Achieving the quality in either manufacturing or services is an outcome of an integrated system of several organizational processes. The notion of Certified Management Standards (CMS) is aligned with organizations' mission to achieve the quality through cohesiveness and standardization of their processes (Terlaak, 2007). This standardization is facilitated by adopting a set of practices desirable on socio-economic fronts. Seeking an ISO

9000 certification reflects organizational commitment towards adopting a QMS for better performance and efficiency, keeping in the view the interests of both internal and external stakeholders. ISO 9000 standard was launched with the aim to provide a sophisticated QMS to the organizations committed to improve their processes in their effort to achieve financial outcomes, customer satisfaction, global recognition and reputation (Prodromos Chatzoglou, Dimitrios Chatzoudes, & Nikolaos Kipraios, 2015; Iñaki Heras-Saizarbitoria, Arana, & Boiral, 2015). There are several standards introduced by ISO (ISO 9000, ISO 14000 etc.) with sound third-party audit mechanisms, a formal successful audit is essential to ~~get~~ certification. Third party audit is a way to ensure the creditability not only of processes but also of certification itself. The magnitude and diversity of research studies concentrated on CMS in general and ISO 9000 standards in particular reflects the vitality and scope for this research area. The variety of topics addressed comprised but not limited to: ISO 9000 clauses, motivation behind opting for certification, challenges in implementation process, financial benefits of certification, international diffusion, certification and operational performance (Albuquerque, Bronnenberg, & Corbett, 2007; Fiorenzo Franceschini, Galetto, & Gianni, 2004; Iñaki Heras-Saizarbitoria et al., 2015; Hongyi Sun & Cheng, 2002). Over the last couple of decades, several researchers conducted studies to monitor the research growth of ISO 9000 standards – as a field of research – through either Narrative literature review or Meta-analysis. A study on ISO 9000 based research publications by S. Jain and I. Ahuja (2012) revealed the most frequently investigated research issues were: management issues, implementation, customer orientation, barriers and advantage of certification. A meta-analysis of ISO 9001-2000 publications by Evangelos L Psomas and Fotopoulos (2009) aimed to infer about the effectiveness of ISO certification in delivering the desired performance outcomes, findings suggested a positive impact of certification towards business excellence. Heras-Saizarbitoria and Boiral (2013) conducted a comprehensive Meta-analysis

to get a better insight of research agenda on management standards – understanding main research theme, research patterns, and main conclusions.

Conventionally, researchers aiming to explore the knowledge base and intellectual structure of an emerging or established field of research adopt either a systematic qualitative literature review (Narrative literature review) or the more sounder quantitative approach of Meta-analysis. Recently, however, Bibliometric methods have received augmented recognition and acknowledgment as a productive technique to uncover the knowledge base of a research field, especially if the field is vast and complex to analyze by conventional methods ((Acedo, Barroso, Casanueva, & Galán, 2006)Acedo et al., 2006; Ramos-Rodríguez and Ruíz-Navarro, 2004; Vogel and Güttel, 2013). Recent interests in Bibliometric analysis are motivated by the increasing accessibility of publication databases containing bibliometrics (e.g., citations, co-citations, bibliographic couplings). As in many other sectors, technical and computational advancement has made it feasible to conduct analyses on very large and complex Bibliometric data; data that previously would have been difficult to address with limited resources (i.e., time, technology, and expertise).

Despite of being most frequently used literature review approach; narrative review is exposed to some very serious methodological issues: 1) there is no systematic protocol of searching the literature, thereby literature collection is restricted to availability, accessibility and researcher's selection – causing availability bias, accessibility bias, and selection bias , 2) seeks a high level of expertise in the topic under studies as there is every chance to make out-of-context interpretations from a limited literature, of which researcher might not have knowledge about analogous topics, 3) research question is rather broader in nature, thereby produces a diverse and heterogeneous literature, 4) inferences are not essentially evidence-based – due to subjective in nature, and 5) repeatability of narrative review may produce high dissimilarity in inference (Bartolucci & Hillegass, 2010; Green, Johnson, & Adams, 2006;

Jesson, Matheson, & Lacey, 2011). In comparison, Meta- analysis is a systematic literature review approach perceived sounder scientifically for following reasons: 1) literature search is exhaustive and scientific , 2) least exposed to personnel selection biased due to criterion-based selection, 3) research question is often focused –essential to avoid heterogeneity, 4) due to quantitative in nature, inferences are more evidence-based, and 5) repeatability of Meta-analysis results are likely higher than those of narrative review. Meta-analysis approach has some serious methodological challenges 1) publication bias, as it is believed that studies with positive outcomes are more likely to be published, 2) search bias, there is always a chance to miss important publications associated to a specific database, 3) the decision of inclusion or exclusion of certain publications may cause a great degree of selection bias, 4) heterogeneity of publications – in terms of scope, hypotheses, quality of data, data analysis techniques and conclusions (Garg, Hackam, & Tonelli, 2008; Jukola, 2015; Walker, Hernandez, & Kattan, 2008). The aforementioned issues, associated with Narrative and Meta-analysis literature reviews, can be minimized by deploying Bibliometrics review technique: as set of Bibliometric and statistical analyses techniques. The Bibliometric techniques (BTs) approach is an established and reliable scientific method to investigate a research field objectively (for details, see: Boyack & Klavans, 2010; Černe, Kaše, & Škerlavaj, 2016; García-Lillo, Úbeda-García, & Marco-Lajara, 2016; Tang et al., 2015; Walter & Ribièrè, 2013; Zupic & Čater, 2015; Koumaditis and Hussain,2017). Bibliometric analysis embraces several benefits. First, the bibliometric coupling analysis provides clear understanding into the literature research method, as it simplifies why a specific section of literature is part of the study. This reduces selection bias, as the researcher does not intervene in the choice of the representative publications, as researcher only sets the qualitative constraints.

Bibliometric analysis is gaining an appreciable momentum as a field of Information science to reveal the dynamics of a particular research, publications' frequency, citations, trends, and

patterns (Bakker, Groenewegen, & Hond, 2005; Maureen, M., J., Carolina, & Fernando, 2017; Merigó & Yang, 2017). Several studies across the academic disciplines have used Bibliometric techniques, for example: (Alonso, Cabrerizo, Herrera-Viedma, & Herrera, 2009; Brown, 1996; Chiu & Ho, 2007; De Bakker, Groenewegen, & Den Hond, 2005; Merigó & Yang, 2017; Wagstaff & Culyer, 2012). The Bibliographic Coupling (BGCs) is one of the bibliometric methods that identifies the clusters of publications and those linked to each other through the same cited publication (Zupic and Čater, 2015). Originating in the late 1960s, this method was introduced by M. M. Kessler (1963) to the scientific society through a number of publications and was primarily described as a method for grouping technical and scientific documents, facilitating scientific information provision and document retrieval. The main principle of BGC is that the number of co-coupled documents defines the strength of links and associations (Boyack and Klavans, 2010; Jarneving, 2007).

2.0 Methodology

Precisely, in this research, we follow two stage step-by-step procedure: at first stage database was searched and collected, while at second stage data design preparation and analysis were conducted, details of these steps is given in following subsections;

2.1. Articles search and selection process

The search for the field relevant ('ISO 9000' and ISO 9001) research articles was grounded in Elsevier's database of journal published in English language from January 1987 to December 2015. As, the focus at this stage was to retrieve an exhaustive set of published research in the field of ISO 9000 series, therefore, initially search was made to locate articles with keywords 'ISO 900' and 'ISO 9001' appearing in either title, keywords, on abstract. This search approach recovered an extensive and greater number of articles, but an initial review of randomly chosen publications suggested a lack of similarity and cohesiveness in theme and contents with the scope of this study. Similar, research approach was first replicated with keywords 'ISO 900' and 'ISO 9001' appearing in either title or keywords by

excluding abstract, but again retrieved a portion of articles beyond the scope. Finally, after a recalibration of the keywords search, the focus was placed on the title of the publications exclusively. This search algorithm with keywords 'ISO 900' and 'ISO 9001' appearing in publication's title located 719 research publication with all bibliometrics information: for example: authors' details, publication year, number of citations, and cited references. These publications were initially analyzed as depicted in Section 3.1 and subsequently processed by Bibexcel software for Bibliographic Coupling (BGCs) Analysis.

2.2 Bibliographic Coupling Analysis

- First, retrieved 719 publications were ranked by the number of citations each paper had (on data collection date) along with details regarding the authors, publication year, and journal.
- Secondly, to ensure that the research data to be explored had at least a minimum impact/influence on the field, ranked data were reduced to the number of publications with at least one citation (541 articles). At this point, it is worth clarifying that our investigation aims to reveal the body of literature that shaped trends and inspired the field.
- Thirdly, the refined data set (i.e., the 541 articles) was processed to standardize the number of citations received by an article against the article age in years (Average Weighted Citation Rate (AWCR) – AWCR calculated for each of 541 articles and ranked accordingly. A set of top 279 publications each having AWCR score of at least one was filtered. The rationale for this approach is rooted in the fact that the number of citations a publication receives is directly linked with age (exposure to audience).
- Fourthly, the refined dataset of 279 was processed by imposing the condition of at least 3 bibliographic coupling (BGCs) between the articles – resulted in a set of 123 core publications (table. 1). This decision was strategic, as the unit of analysis was the number

of BGCs, and including other pool of publication might diminished the concept of core publication- (e.g. by including publication with 2 BGCs – number of filtered publications could raise to 169.

- Fifthly, the BGCs square matrix, comprised of R_i rows and C_j columns, was generated. Each corresponding row and column (R_iC_j) in the BGCs square matrix represented two publications where $i \neq j$, while the corresponding values of each i th row and j th column (R_iC_j) showed the number of times the two publications were citing the same reference. For example, the corresponding value against 20th row and 7th column ($R_{20}C_7$) was 5, suggesting that these two publications cited 5 common references.
- Sixthly, The BGCs square matrix was then transferred from Bibexcel to an Excel sheet. Here, the unit values in diagonal order were replaced with zeros, as no publication could be cited within itself. Pearson's correlation matrix (PCM) was then generated in Excel. The coefficients of Pearson have revealed the interrelationships between the publications listed in rows and columns; in simple terms, the higher the value of the correlation coefficient, the higher the level of similarity between two publications. A positive correlation co-efficient depicted a similarity between the related articles, while a negative value of co-efficient depicted a dissimilarity.
- Finally, to develop factors containing publications contributing to a common knowledge base in the field. To do so, a statistical package for data analysis (i.e., SPSS 20), was utilized as a software solution and the Principal Component Analysis (PCA) as a methodology. From a technical perspective, the main PCA settings applied to define the factors to be extracted were: Varimax as a rotation method with a cut-off value of 0.35, rotated solutions, Kaiser's criterion (default option for Varimax rotation), and scree plot. Without going into technical detail, it is worth mentioning that the Varimax option (instead of Equamax, Promax, or Direct Oblimin) was chosen after testing the alternatives

(Varimax produced more ‘readable’ outcome) and rotation method instead of unrotated in order to obtain a higher degree of organized data (for further technical details, one might seek inspiration in similar approaches, like Annarelli and Nonino, 2016; Di Stefano et al., 2010. This procedure distributed 94 articles from the set of 123 core articles into eight major distinct clusters explaining 50.497 % to total variation. The remaining factors were discarded due to their lower explained variation ($< 3.0\%$). The nomenclature of each factor is assigned after finding common theme among publications those formed the factor by going through their titles and abstracts. Table. 2 and table. 3 provide results of factor analysis comprised of factors’ loadings, nomenclatures of factors, percentage of explained variation by each of the factor.

3. Bibliometric Characteristics

The industrial popularity of ISO 9000 in the early 1990s complemented with overwhelming response from researchers, the first article was published in 1987, since then ISO 9000 standards has maintained its vitality for practitioners as well as for researchers. Figure 1 demonstrated the two distinctive temporal clusters based on the number of published articles within ISO 9000 domain. In comparison to 366 (50.90%) of ISO 9000 based research articles published during the 1990-2002 period, 353 (49.10%) were published during same span of time (2003-2015). The moving averages for entire period suggested a consistency in research publications within ISO 9000.

Figure 1. Year-wise ISO 9000 based research articles from 1990-2015

Figure 2 provides the list of authors who have at least five research articles within ISO 9000 research domain. Collectively, these authors contributed 182(25.31%) of the total published journal articles.

Figure 2. Authors with at least 5 publications in ISO 9000 research

Figure 3 provides the list of journals, which have published at least five ISO 9000-based articles. Out of 683 total articles, 297 (41.31%) were published with these 12 publication outlets.

Figure 3. Source journal published at least 9 ISO 9000 research articles

Figure 4. provided a visual description of top 200 publications with highest number of bibliographic couplings, which carry 21,468 links within these publications, while, there are 54,531 total links of these publications spread over the entire dataset of 719 publications.

Figure 5. Geographical distribution of authors contributed in ISO-9000 research

VOSviewer

Figure 6. Co-citations of publications in ISO 9000 field of research

Figure 6 provided a visual description of set of 123 core publications, which carry 4161 links within the core set, while, there are 15168 total links of these publications spread over the entire dataset of 719 publications.

Table 1. List of Core Publications

Article	AWCR Scores	Ranking_ core	# of Citations	Ranking Citations	Typology	Methodology
Guler et al.(2002)	28.71	01	402	01	Empirical	Survey
Heras-Saizarbitoria et al.(2013)	16.67	02	50	58	Conceptual	Meta-Analysis
Mart��nez-Costa et al.(2009)	15.57	03	109	11	Empirical	Survey
Benner et al.(2008)	13.88	04	111	10	Empirical	Survey
Sampaio et al.(2009)	12.29	05	86	22	Conceptual	Literature Review
Naveh et al. (2015)	11.64	06	128	07	Empirical	Mixed
Mart��nez-Costa et al.(2008)	11.25	07	90	18	Empirical	Mixed
Singh et al. (2011)	9.40	08	47	66	Empirical	Survey
Prajogo (2011)	9.20	09	46	68	Empirical	Case study
Sroufe et al. (2008)	8.63	10	69	33	Conceptual	Case study
Feng, M et al. (2008)	8.50	11	68	37	Empirical	Survey
Singh, P.J.(2008)	8.38	12	67	38	Empirical	Survey
Gotzamani (2002)	8.07	13	113	09	Empirical	Survey
Boiral et al. (2007)	8.00	14	72	30	Empirical	Survey
Viadiu et al. (2006)	7.90	15	79	27	Empirical	Secondary Data
Lee et al. (2009)	7.57	16	53	53	Empirical	Survey
Jang et al. ()	6.88	17	55	47	Empirical	Survey
Nair (2009)	6.57	18	46	69	Empirical	Survey
Karapetrovic et al. (2010)	6.50	19	39	89	Empirical	Survey
Dick et al. (2008)	6.50	20	52	54	Conceptual	Literature Review
Heras et al.(2002)	6.43	21	90	19	Empirical	Survey
Casades��s (2008)	6.38	22	51	55	Empirical	Survey
Psomas et al. (2010)	5.83	23	35	99	Empirical	Survey
Psomas (2011)	5.80	24	29	127	Empirical	Survey
Singh et al. (2006)	5.50	25	55	48	Empirical	Mixed
Casades��s et al. (2005)	5.45	26	60	44	Empirical	Survey
Yahya (2001)	5.33	27	80	25	Empirical	Survey
Yaya et al. (2011)	5.20	28	26	141	Empirical	Survey
Bayo-Moriones(2011)	5.20	29	26	142	Empirical	Survey
Lo (2009)	5.14	30	36	97	Empirical	Survey
Lo (2013)	5.00	31	15	210	Empirical	Secondary Data
Rusjan et al.(2010)	5.00	32	30	120	Conceptual	Literature Review
Psomas et al.(2013)	4.67	33	14	218	Mixed	Survey
Wahid et al. (2009)	4.57	34	32	112	Empirical	Case study
Van Der Wiele(2005)	4.55	35	50	60	Empirical	Survey
Mart��nez-Lorente et al.(2014)	4.50	36	54	50	Empirical	Survey
Zaramdini (2007)	4.44	37	40	86	Empirical	Survey
Kanji (1998)	4.44	38	80	26	Empirical	Survey
Magd (2008)	4.38	39	35	100	Empirical	Survey
Psomas(2013)	4.33	40	13	226	Empirical	Mixed
Beattie et al.(1999)	4.29	41	73	29	Mixed	Mixed
Tsekouras (2002)	4.29	42	60	45	Empirical	Survey
Poksinska et al. (2002)	4.21	43	59	46	Empirical	Survey
Llach (2011)	4.20	44	21	169	Empirical	Secondary data
McGuire et al. (2008)	4.13	45	33	108	Empirical	Mixed
Lee et al. (1999)	4.12	46	70	32	Empirical	Survey
Zeng et al. (2007)	4.11	47	37	96	Empirical	Survey
Douglas et al. (2003)	3.92	48	51	57	Empirical	Survey
Mart��nez-Costa et al.(2007)	3.89	49	35	101	Empirical	Survey
Casades��s (2000)	3.88	50	62	44	Empirical	Survey
Marimon (2009)	3.86	51	27	132	Empirical	Survey
Magd (2003)	3.85	52	50	61	Conceptual	-
Bhuiyan (2005)	3.82	53	42	81	Empirical	Survey
Heras-Saizarbitoria.(2011)	3.80	54	19	179	Empirical	Mixed
Al-Refaie et al. (2012)	3.75	55	15	211	Empirical	Survey
Bayati et al.(2007)	3.67	56	33	109	Empirical	Survey
Magd et al.(2003)	3.46	57	45	71	Empirical	Audit Reports
Pekovic (2010)	3.33	58	20	172	Empirical	Mixed
Fotopoulos (2010)	3.33	59	20	173	Empirical	Survey
Naveh et al. (2004)	3.33	60	40	87	Empirical	Survey
Gustafsson et al. (2001)	3.33	61	50	62	Empirical	Survey
Santos (2002)	3.21	62	45	72	Empirical	Survey

Sampaio et al.(2010)	3.17	63	19	180	Empirical	Audit reports
Wilkinson et al. (2002)	3.14	64	44	75	Conceptual	Literature Review
Van Den Heuvel (2005)	3.09	65	34	106	Empirical	Case study
To, W.M et al.(2011)	3.00	66	15	213	Empirical	Literature Review
Chiarini (2011)	3.00	67	15	214	Empirical	Mixed
Gotzamani (2010)	3.00	68	18	187	Empirical	Clustering
Gotzamani et al. (2007)	3.00	69	27	133	Empirical	Algorithm
BÄ©nÄ©zech et al. (2001).	3.00	70	45	73	Conceptual	-
Gotzamani (2005)	2.91	71	32	113	Empirical	Survey
Hashemet al. (2007)	2.89	72	26	145	Empirical	Survey
Piskar et al. (2006)	2.80	73	28	130	Empirical	Survey
Withers et al. (2000)	2.75	74	44	77	Empirical	Survey
Singhe t al. (2006)	2.70	75	27	134	Empirical	Survey
Psomas (2013)	2.67	76	8	283	Empirical	Survey
Franceschiniet al. (2010)	2.67	77	16	201	Conceptual	Clustering
Marimon et al. (2010)	2.50	78	15	215	Conceptual	-
RodrÄ©guez-Escobar et al. (2006)	2.50	79	25	151	Empirical	Survey
Pina et al. (2008)	2.38	80	19	181	Empirical	Survey
Turk (2006)	2.30	81	23	161	Empirical	Survey
Quazi et al. (2004)	2.25	82	27	135	Empirical	Survey
Lewis et al. (2005)	2.18	83	24	158	Empirical	Survey
Escanciano et al. (2001)	2.13	84	32	115	Empirical	Panel Data
Najmi et al. (2001)	2.07	85	31	116	Conceptual	-
Ebrahimipour et al. (1997)	2.05	86	39	90	Empirical	Case study
Prajogo et al. (2012)	2.00	87	8	284	Empirical	Survey
Han et al. (2012)	2.00	88	8	285	Empirical	Survey
Chittenden et al. (1998)	2.00	89	36	98	Empirical	Mixed
Fonseca (2015)	2.00	90	2	414	Conceptual	Focus group
Ismyrlis et al. (2015)	2.00	91	2	415	Empirical	Survey
Gray et al. (2015)	2.00	92	2	418	Empirical	Case study
Najmi et al. (2000)	1.94	93	31	116	Mixed	Mixed
AliÄ© et al. (2010)	1.83	94	11	244	Mixed	Case study
Jain et al. (2012)	1.75	95	7	297	Empirical	Case Study
Starke et al. (2012)	1.75	96	7	298	Empirical	Panel data
Yang (2001)	1.53	97	23	163	Conceptual	Literature Review
Allur et al. (2014)	1.50	98	3	382	Empirical	Case study
Lafuente et al. (2010)	1.50	99	9	267	Empirical	Survey
Kale et al. (2006)	1.50	100	15	216	Empirical	Survey
Landin (2000)	1.44	101	23	165	Mixed	Case study
Yeung et al. (2011)	1.40	102	7	300	Empirical	Secondary data
Mallaket al. (1997)	1.37	103	26	150	Empirical	Survey
Ho (1994)	1.36	104	30	126	Empirical	Survey
Motwani et al. (1996)	1.35	105	27	139	Mixed	Case study
Hernandez (2010)	1.17	106	7	302	Mixed	Case study
Van der Wiele et al. (2009)	1.14	107	8	287	Empirical	Survey
Han et al. (2007)	1.11	108	10	256	Empirical	Case study
Jeng (1998)	1.11	109	20	176	Empirical	Case study
Withers et al. (1996)	1.05	110	21	171	Empirical	Case study
Ataseven et al. (2014)	1.00	111	2	420	Empirical	Survey
Ivanova et al. (2014)	1.00	112	2	423	Conceptual	-
Psomas et al. (2014)	1.00	113	2	424	Empirical	Survey
Al-Rawahi et al. (2011)	1.00	114	5	337	Empirical	Survey
Cagnazzo et al. (2010)	1.00	115	6	318	Empirical	Survey
Shalij et al. (2009)	1.00	116	7	303	Conceptual	Case study
Karltnun et al. (1998)	1.00	117	18	192	Mixed	Case study
Ismyrlis et al. (2015)	1.00	118	1	464	Empirical	Survey
Georgiev et al. (2015)	1.00	119	1	465	Empirical	Survey
Psomas et al. (2015)	1.00	120	1	466	Empirical	Survey
Ismyrlis et al. (2015)	1.00	121	1	468	Empirical	Survey
Chatzoglou et al. (2015)	1.00	122	1	469	Empirical	Survey

4.0 Findings from the Factor Analysis

Table 2. Results of factor analysis with articles and their factor loadings

Publication	MDS	F1	F2	F3	F4	F5	F6	F7	F8
(D. I. Prajogo, 2008)	P252	.853							
(D. Prajogo, Huo, & Han, 2012)	P237	.826							
(P. Chatzoglou, D. Chatzoudes, & N. Kipraios, 2015)	P279	.786							
(B. E. Withers & Ebrahimpour, 2001)	P96	.719							
(Clougherty & Grajek, 2008)	P150	.714							
(Rodríguez-Escobar, Gonzalez-Benito, & Martínez-Lorente, 2006)	P151	.703							
(Sroufe & Curkovic, 2008)	P33	.701							
(D. I. Prajogo, 2011)	P68	.696							
(Kale & Arditi, 2006)	P208	.683							
(Singels, Ruël, & van De Water, 2001)	P3	.683							
(P. J. Singh & Mansour-Nahra, 2006)	P134	.669							
(Tari & Molina, 2002)	P145	.666							
(Yahya & Goh, 2001)	P25	.661							
(Cagnazzo, Taticchi, & Fuiano, 2010)	P255	.612							
(Han & Chen, 2007)	P229	.609							
(P. J. Singh, 2008)	P37	.543							
(Srivastav, 2010)	P249	.542							
(P. J. Singh, Power, & Chuong, 2011)	P66	.542							
(H. Magd & Curry, 2003b)	P61	.541							
(Shalij, Devadasan, & Prabhushankar, 2009)	P251	.502							
(B. Withers & Ebrahimpour, 2000)	P77	.430							
(Casadesús, Marimon, & Heras, 2008)	P55	-.386							
(Marimon, Heras, & Casadesús, 2009)	P132	-.378							
(Marimon, Casadesús, & Heras, 2010)	P207	-.371							
(Martínez-Costa, Choi, Martínez, & Martínez-Lorente, 2009)	P11		.856						
(Martínez-Costa & Martínez-Lorente, 2007)	P100		.847						
(I. Heras-Saizarbitoria, Casadesús, & Marimón, 2011)	P109		.805						
(Martínez-Lorente & Martínez-Costa, 2004)	P50		.797						
(Martínez-Costa & Martínez-Lorente, 2003)	P113		.789						
(Georgiev & Georgiev, 2015)	P275		.754						
(Martínez-Costa, Martínez-Lorente, & Choi, 2008)	P18		.721						
Bayo-Moriones et al. (2011)	P142		.469						
(Casadesús & Giménez, 2000)	P42		-.398						
(Mangiarotti & Riillo, 2014)	P261			.872					
(H. Sun et al., 2004)	P81			.853					
(Santos & Escanciano, 2002)	P72			.818					
(Poksinska, Dahlgaard, & Antoni, 2002)	P46			.813					
(Fotopoulos, Psomas, & Vouzas, 2010)	P172			.782					
(Escanciano, Fernández, & Vázquez, 2001)	P115			.767					
(Lo, Yeung, & Cheng, 2009)	P97			.688					
(Han, Sim, & Ebrahimpour, 2012)	P238			.528					
(Ivanova, Gray, & Sinha, 2014)	P272			.486					
(Rusjan & Alič, 2010)	P127			.391					
(Motwani, Kumar, & Cheng, 1996)	P139			.387					
(E. L. Psomas, Fotopoulos, & Kafetzopoulos, 2011)	P126				-.808				
(E. L. Psomas, Kafetzopoulos, & Fotopoulos, 2013)	P216				-.792				
(E. Psomas & Kafetzopoulos, 2014)	P273				-.788				
(E. L. Psomas, Fotopoulos, & Kafetzopoulos, 2010)	P98				-.770				
(E. L. Psomas, Pantouvakis, & Kafetzopoulos, 2013)	P209				-.757				
(Ismyrlis & Moschidis, 2015a)	P263				-.727				
(E. Psomas & Pantouvakis, 2015)	P276				-.722				
(S. K. Jain & I. S. Ahuja, 2012)	P246				-.647				
(Ismyrlis, Moschidis, & Tsiotras, 2015)	P274				-.621				
(Ismyrlis & Moschidis, 2015b)	P278				-.485				
(Sampaio, Saraiva, & Rodrigues, 2010)	P178					.807			
(Sampaio, Saraiva, & Monteiro, 2012)	P247					.751			
(H. Magd & Curry, 2003a)	P71					.738			
(Park, Kim, Kang, & Jung, 2007)	P173					.668			
(Sampaio, Saraiva, & Rodrigues, 2009b)	P22					.654			
(F. Franceschini, Galetto, Maisano, & Mastrogiacomio, 2010)	P195					.631			
(Starke, Eunni, Fouto, & de Angelo, 2012)	P253					.599			
(Ilkay & Aslan, 2012)	P210					.562			
(H. A. E. Magd, 2008)	P99					.544			
(Lo, Wiengarten, Humphreys, Yeung, & Cheng, 2013)	P203					-.422			
(Ataseven, Prajogo, & Nair, 2014)	P269					-.392			
(Bénézech, Lambert, Lanoux, Lerch, & Loos-Baroin, 2001)	P75					-.351			
(Casadesús & Karapetrovic, 2005)	P44						-.893		
(Zaramdini, 2007)	P86						-.864		
(Iñaki, Landín, & Fa, 2006)	P101						-.807		
(Jang & Lin, 2008)	P47						-.782		
(Lin & Jang, 2008)	P163						-.742		

(Caro & García, 2009)	P224	-.678	
(Viadiu, Fa, & Saizarbitoria, 2006)	P27	-.649	
(Dick, Heras, & Casadesús, 2008)	P54	-.599	
(Boiral & Roy, 2007)	P29	-.564	
(To, Lee, & Yu, 2011)	P206	-.373	
(Gotzamani & Tsiotras, 2002)	P9		-.710
(van der Wiele, van Iwaarden, Brown, Steimle, & Zink, 2009)	P241		-.681
(Gotzamani, Theodorakioglou, & Tsiotras, 2006)	P165		-.670
(Vouzias & Gotzamani, 2005)	P106		-.663
(Heras, Dick, & Casadesús, 2002)	P19		-.654
(Van Der Wiele, Van Iwaarden, Williams, & Dale, 2005)	P60		-.621
(Gotzamani, 2005)	P112		-.614
(Gotzamani, Tsiotras, Nicolaou, Nicolaidis, & Hadjiadamou, 2007)	P133		-.610
(Douglas, Coleman, & Oddy, 2003)	P57		-.486
(Najmi & Kehoe, 2001)	P116		-.465
(I. Heras-Saizarbitoria & Boiral, 2013)	P58		-.842
(McGuire & Dilts, 2008)	P108		-.820
(Karapetrovic, Fa, & Saizarbitoria, 2010)	P89		-.817
(Yeung, Lee, & Chan, 2003)	P73		-.777
(Guler, Guillén, Muir, & Macpherson, 2002)	P1		-.708
(Nair & Prajogo, 2009)	P69		-.499
(Benner & Veloso, 2008)	P10		-.419
(Naveh & Marcus, 2005)	P7		-.369

Table 3. Summary of Principal Component Analysis results

Factors	# of articles	% of variance	Primary theme
F1	24	18.465	ISO 9000 certification and organizational competitiveness
F2	9	9.883	Organizational motivates behind acquiring ISO 9000 certification
F3	11	7.357	ISO 9000 certification as a roadmap for quality management
F4	10	6.638	Critical success factor and their measurement scales
F5	12	5.593	Lesson learned from ISO 9000 certified organizations
F6	10	5.534	Impact of ISO 9000 certification on organizational performance
F7	10	4.686	Challenges and perspectives of revised ISO 9000 standards
F8	8	3.956	Global diffusion of ISO 9000 standards
Total	94	50.497	

Figure 7 portrayed the clustering of core set of publications. Each factor is comprised of research publication interlinked through a bibliographic network. The relative size of each node (representing a publication) depicts the frequency of BCGs each publication secured.

Figure 7. Clustering of core set of publications

4.1. ISO 9000 Certification and organizational competitiveness

Cluster 1 comprised of 24 articles, which mainly addressed the issues related to multidimensional competitiveness achieved by ISO 9000 certified organizations on different internal and external fronts. ISO 9000 standards, as Quality Management System (QMS), are becoming increasingly popular around the manufacturing and services sectors, and exhibiting a positive spreading trend (Marimon et al., 2010; Marimon et al., 2009). During the infancy phase of ISO standardization the primary objective of interested organizations in ISO certification was to have a documented organizational system, and privilege to do business with credibility in ethnically diverse global markets (Rodríguez-Escobar et al., 2006; C. Singh & Sareen, 2006; Yahya & Goh, 2001). Subsequently organizations seek certification

with ambitions of process improvement, synchronising documentation of systems, enhancing customers' satisfaction, ornamenting organizational image, and flourishing financial performance (Cagnazzo et al., 2010; P. Chatzoglou et al., 2015; Clougherty & Grajek, 2008; Han & Chen, 2007; D. I. Prajogo, 2011; Singels et al., 2001; P. J. Singh, 2008). Many articles tried to determine the competitive edge that certified organizations harvest in supply chain management due to the effective implementation of an ISO 9000 quality management system (D. Prajogo et al., 2012; Shalij et al., 2009; Sroufe & Curkovic, 2008). Organizational environment ~~has~~ plays a vital relative to the success of ISO 9000 certified organizations in creating competitiveness and vice versa (D. I. Prajogo, 2008; P. J. Singh et al., 2011; Srivastav, 2010). The relationship between ISO 9000 certification and organizational competitiveness has a strong likelihood of remain a viable research topic that will need to be revisited periodically and new organizational forms arise.

4.2. Organizational motivates behind acquiring certification

Why do organizations seek ISO 9000 certification? Is this intention driven either by external factors such as market image, competitive advantage, customers' requirements, markets' demand, government regulatory requirement, or internal factors such as process improvement, better efficiency, and system documentation? Does ISO certification provide a path that leads to TQM? Do organizations having higher level of commitment towards TQM; have higher motivation for acquiring ISO certification?

Factor 2 is comprised of research articles, which mainly addressed the aforementioned research concerns. Organizations are seeking ISO certification inspired by both internal and external factors but extent and degree of priorities varied from organizations-to-organization (Georgiev & Georgiev, 2015; Martínez-Costa et al., 2008; Sharma, 2005). These triggering motivators define the ways of implementing an ISO system within the certified organization, and the success of the implemented system (Casadesús & Giménez, 2000; Martínez-Costa &

Martínez-Lorente, 2007). A considerable volume of research identified organizational passion for TQM as the main motive behind seeking ISO certification, as developing an ISO based organization system is a foremost step towards TQM milestone (for details, see; Martínez-Costa et al., 2009; Martínez-Costa et al., 2008; Martínez-Lorente & Martínez-Costa, 2004). Further, a couple of articles compared the ISO 9000 and EFQM models in terms of organizational motives and perceived performances outcomes (Bayo-Moriones et al., 2011; I. Heras-Saizarbitoria et al., 2011). This theme of ISO-based research is evolving in nature, and has strong ability to sustain as a critical research issue.

4.3. ISO 9000 certification as a roadmap for quality management

ISO 9000 standards provide a foundation to establish a well-documented system necessary for quality assurance purposes, which may facilitate knowledge codification and process alignment. The research theme portrayed by Factor 3 is a blend of articles, which addressed the ISO standards as a sophisticated and effective quality management system (Escanciano et al., 2001; Motwani et al., 1996; Poksinska et al., 2002; Santos & Escanciano, 2002). A number of articles intended to explore the underlying relationships between Total Quality Management (TQM) and the ISO 9000 series, and their synergistic effects on organizational strategic mission of continuous quality improvement and competitiveness (Han et al., 2012; Rusjan & Alič, 2010; H. Sun et al., 2004). Another, sub-theme covered within this factor is developing a theoretical framework for effective implementation of ISO standards across the different industries (Ebrahimpour, Withers, & Hikmet, 1997; Fotopoulos et al., 2010; Ivanova et al., 2014; Lo et al., 2009). “Does standardization hurt the innovation”? remain a critical area of inquiry across disciplines. In this context, Mangiarotti and Riillo (2014) investigated the relationship between ISO 9000 standards and innovation in both manufacturing and services.

4.4. Critical success factor and their measurement scales

Factor 4 is comprised of more recent period articles, which focused on identifying organizational practices, quality tools and techniques, success factors, and performance dimensions associated with ISO 9000 standards (Ismyrlis & Moschidis, 2015b; Ismyrlis et al., 2015; S. K. Jain & I. S. Ahuja, 2012; E. Psomas & Pantouvakis, 2015; E. L. Psomas et al., 2011). Further, efforts extended to develop measurement instruments of ISO effectiveness in different sectors (E. Psomas & Kafetzopoulos, 2014; E. L. Psomas et al., 2010; E. L. Psomas, Kafetzopoulos, et al., 2013).

4.5. Lesson learned from ISO 9000 certified organizations

Factor 5 is comprised of research articles, which explored and shared the practical experience of ISO certified organizations in term of devising the implementation strategies, creating a supportive environment, promoting the awareness, and establishing a quality culture to realize better performance outcomes. A very significant domain of ISO based research is investigation of whether organizations categorized as small, medium, large experience similar implementation challenges, sharing similar motives for seeking ISO certification, and realize similar performance results (Ilkay & Aslan, 2012; Lo et al., 2013; H. A. E. Magd, 2008; Sampaio et al., 2010). The second sub-theme of factor 5 is comprised of articles, which addressed the role of ISO in facilitating and promoting the quality culture in certified organizations and vice versa (Ataseven et al., 2014; H. Magd & Curry, 2003a; Park et al., 2007). A couple of articles (Sampaio et al., 2012; Sampaio, Saraiva, & Rodrigues, 2009a) provided the details of research questions, answers, and approaches adopted by the different researchers in the field of ISO based research. This theme of ISO based research remains vital and of great interest to the developers and users of ISO standards, as learning experiences from the certified organization could prove effective in improving the standards on continuous basis.

4.6. Impact of ISO 9000 certification on organizational performance

The research articles clustered within factor 6 meant to explore and provide answers to the most prevailing concerns regarding ISO certification: whether the ISO 9000 certification is prolific enough to have positive impact on the organizational performance. This research theme is universal in nature and ends up with inconclusive inferences, as the performance results achieved by certified organization are understandably different in both direction and magnitude. This research theme explored in multidimensional perspectives to unfold the nature and impact of critical driving characteristics behind the ISO certification and organizational performance. The relationship between the motivation behind opting for ISO certification and organizational performance achievements have been the primary goal for the research article within factor 6 (Boiral & Roy, 2007; Caro & García, 2009; Casadesús & Karapetrovic, 2005; Dick et al., 2008; Iñaki et al., 2006; Zaramdini, 2007). The second enabler of organizational performance in context of ISO certification explored was the pattern and mode of implementation of ISO system (Jang & Lin, 2008; Lin & Jang, 2008; To et al., 2011). This ISO certification based research theme has both viability and time-tested sustainability, as there would remain an apprehensive attitude towards the effectiveness of ISO 9000 certification in enhancing the organizational performance.

4.7. Challenges and perspectives of revised ISO 9000 standards

The main theme covered in cluster 7 highlights the theoretical debate concerning revisions versions of ISO 9000 systems standards over time. Salient features include potential benefits, hidden challenges, and pitfalls of revised standards deliberated in the context of quality improvement systems (Gotzamani, 2005; van der Wiele et al., 2009; Vouzas & Gotzamani, 2005). The organizational strategic intents associated with a decision to seek-certification are driving forces to attract and engage organizational resources towards the goal of quality improvement (Douglas et al., 2003; Gotzamani & Tsiotras, 2002; Heras et al., 2002). The proponents of ISO certification claim its great perspectives with plenty of valuable

deliverables (Gotzamani et al., 2007; Naveh & Marcus, 2007). Many researchers reported assessment studies of ISO certified organizations to explore whether certification caused organizations to achieve desired performance outcomes and quality improvement goals (Van Den Heuvel, Koning, Bogers, Berg, & Van Dijen, 2005; Vouzas & Gotzamani, 2005).

4.8. Global diffusion of ISO 9000 standards

This cluster represents research articles largely focused on the spread, adoption, and organizations' experience with ISO standards on a global scale. The acknowledgment, popularity, and adoptability of ISO standards have been a dominating research area and remains of great interest for its stakeholders. The research articles addressed this issue in terms of challenges at the international level that might create hurdles in spread, adoption of ISO standards, and the practices organizations in different regions of the world adopted to gain maximum benefits from ISO certification (for details, see; Guler et al., 2002; I. Heras-Saizarbitoria & Boiral, 2013; Nair & Prajogo, 2009). The second aspect covered within this factor are the organizational capabilities essential to realize the proclaimed performance outcomes of ISO certification (Benner & Veloso, 2008; Karapetrovic et al., 2010; McGuire & Dilts, 2008; Naveh & Marcus, 2005). Further, the soft aspects of organizational practices were explored in context of ISO certification effectiveness (Yeung et al., 2003).

5.0 Discussion

A combination of Bibliometric and advanced statistical analyses techniques revealed eight main streams of ISO 9000 based research dealing with the ISO 9000 standards series in view of development, spread, implementation, effectiveness, and future progression. Two of the research streams: certification and organizational competitiveness (F1) and organizational motivates behind acquiring certification (F2), concentrated on the organizations' strategic and operational goals and challenges associated with their decision of acquiring the ISO 9000 certification. Although, this theme was more dominating in infancy phase of ISO standards,

however, it still sustains its viability due to spread of standards to new sectors of industries and services. Another two research streams: certification as a roadmap for quality management (F3) and critical success factors and their measurement scales (F4), largely addressed ISO standards in context of a quality management system, efforts made to develop and validate the measurement scale for ISO effectiveness in different industries across the globe. As quality improvement is a continuous process that demands a consistent and enduring organizational approach towards a zero-defect goal, therefore, an integrated research on ISO 9000 standards and quality management will retain its position in future endeavours. The next couple of research streams; lessons learned from ISO certified organizations (F5) and impact of certification on organizational performance (F6), were comprised of articles intended to explore the experience of ISO 9000 certified organizations at different phases: decisions to seek certification, applying for certification, documenting the quality management system (QMS), implementing the QMS, and performance outcomes derived from certification. Articles addressing these research themes spread almost evenly over the ISO 9000 life period, and these have better viability to sustain as critical research entity. The last couple of research streams: challenges and perspectives of revised standards (F7) and global diffusion of standards (F8), are the reflection of research that addressed the multiple issues related to horizontal and vertical diffusion of ISO standards. Although, these topics have been researched in past the recent research trend has been more vigorous as ISO 9000 standards series have been revised repeatedly, while, the global diffusion of standards have explored new challenges, opportunities, and the areas of improvement. This study further explored that larger proportion of ISO 9000 research based on empirical studies exercised through either survey, case study or mixed approaches. The Meta-analysis by Heras-Saizarbitoria and Boiral (2013) identified seven research areas within ISO 9000 research domain, five of those are similar to the factor what we identified herein: 1)

international diffusion process of meta-standards(F-8), 2) motivation to adopt meta-standards (F-2), 3) benefits of adoption and impact on performance (F-1&F-6), 4) difference in adoption level – internationalization (F-8), and 5) Integration of standards (F-7). However, this study explored another two major research areas: 1) ISO 9000 certification as a roadmap for quality management (F-3), 2) Lesson learned from ISO 9000 certified organizations (F-5).

6.0. Conclusion

This study explored the knowledge dynamics and intellectual structure of research conducted within the ISO 9000 standards series during 1987-2015 through the scientifically sound technique of Bibliometric analysis. Analysis of publications identified eight major sub-themes or research directions: i) ISO 9000 certification and organizational competitiveness, ii) organizational motivates behind acquiring ISO 9000 certification, iii) ISO 9000 certification as a roadmap for quality management, iv) critical success factor and their measurement scales, v) lesson learned from ISO 9000 certified organizations, vi) impact of ISO 9000 certification on organizational performance, vii) challenges and perspectives of revised ISO 9000 standards, and viii) global diffusion of ISO 9000 standards. The findings support understanding of the formation of this research field, publications' patterns, and future progression and suggest the vitality and evolutionary research pattern over the years- a phenomenon that spread across the globe in appreciable fashion. However, although several scholars extended their efforts provide a sound theoretical foundation, ISO 9000 - being a research field still needs serious contribution in theory building domain.

This study projects a prolific future for the research in the ISO 9000 standards series domain. There is a strong future potential for expanding existing research streams vertically, and exploring emerging quality management issues in context of ISO 900 standards. In future, research needs to be more intensive to address ISO 9000 standards as an integral part of organizational QMS, and requires discovering the synergic composition of ISO 9000

standards with other management philosophies and techniques: Total Quality Management (TQM), Lean Six- Sigma, supply chain, and other standards introduced by International Organization for Standardization (ISO). Furthermore, as the research domain progressing towards maturity phase, the theory building research needs to be encouraged in the field of research - ISO 9000 standards series.

7.0 Limitations

Drawbacks associated with this article are more consistent with other publications adopted the similar Bibliometric methods (Shafique, 2013; Vogel & Güttel, 2013; Zupic & Čater, 2015). One limitation of this study is that articles clustering made purely on the bibliographic coupling trends, although, this might reduce subjectivity bias but at the same time it may increase risk to improper clustering in some cases. Another limitation is that publications dataset used herein retrieved from only Scopus database and it comprised of journal articles only.

References

- Acedo, F. J., Barroso, C., Casanueva, C., & Galán, J. L. (2006). Co-Authorship in Management and Organizational Studies: An Empirical and Network Analysis*. *Journal of Management Studies*, 43(5), 957-983
- Albuquerque, P., Bronnenberg, B. J., & Corbett, C. J. (2007). A spatiotemporal analysis of the global diffusion of ISO 9000 and ISO 14000 certification. *Management science*, 53(3), 451-468.
- Alonso, S., Cabrerizo, F. J., Herrera-Viedma, E., & Herrera, F. (2009). h-Index: A review focused in its variants, computation and standardization for different scientific fields. *Journal of Informetrics*, 3(4), 273-289.
- Al-Rawahi, A. M. S., and H. A. Bashir. 2011. "On the implementation of ISO 9001:2000: A comparative investigation." *TQM Journal* 23 (6):673-687.
- Al-Refaie, A., O. Ghnaimat, and M. H. Li. 2012. "Effects of ISO 9001 certification and KAAE on performance of Jordanian firms." *Jordan Journal of Mechanical and Industrial Engineering* 6 (1):45-53.
- Alič, M., and B. Rusjan. 2010. "Contribution of the ISO 9001 internal audit to business performance." *International Journal of Quality and Reliability Management* 27 (8):916-937.
- Allur, E., I. Heras-Saizarbitoria, and M. Casadesús. 2014. "Internalization of ISO 9001: A longitudinal survey." *Industrial Management and Data Systems* 114 (6):872-885.
- Anderson, S. W., J. D. Daly, and M. F. Johnson. 1999. "Why firms seek ISO 9000 certification: Regulatory compliance or competitive advantage?" *Production and Operations Management* 8 (1):28-43.
- Annarelli, Alessandro, and Fabio Nonino. 2016. "Strategic and operational management of organizational resilience: Current state of research and future directions." *Omega* 62(C):1-18.

- Ataseven, C., D. I. Prajogo, and A. Nair. 2014. "ISO 9000 internalization and organizational commitment - Implications for process improvement and operational performance." *IEEE Transactions on Engineering Management* 61 (1):5-17.
- Bartolucci, A. A., & Hillegass, W. B. (2010). Overview, strengths, and limitations of systematic reviews and meta-analyses *Evidence-based practice: Toward optimizing clinical outcomes* (pp. 17-33): Springer.
- Bayati, A., and A. Taghavi. 2007. "The impacts of acquiring ISO 9000 certification on the performance of SMEs in Tehran." *TQM Magazine* 19 (2):140-149.
- Bayo-Moriones, A., J. Merino-Díaz-De-Cerio, S. Antonio Escamilla-De-León, and R. Mary Selvam. 2011. "The impact of ISO 9000 and EFQM on the use of flexible work practices." *International Journal of Production Economics* 130 (1):33-42.
- Beattie, K. R., and A. S. Sohal. 1999. "Implementing ISO 9000: A study of its benefits among Australian organizations." *Total Quality Management* 10 (1):95-106.
- Bénézech, D., G. Lambert, B. Lanoux, C. Lerch, and J. Loos-Baroin. 2001. "Completion of knowledge codification: An illustration through the ISO 9000 standards implementation process." *Research Policy* 30 (9):1395-1407.
- Benner, M. J., and F. M. Veloso. 2008. "ISO 9000 practices and financial performance: A technology coherence perspective." *Journal of Operations Management* 26 (5):611-629.
- Bhuiyan, N., and N. Alam. 2005. "An investigation into issues related to the latest version of ISO 9000." *Total Quality Management and Business Excellence* 16 (2):199-213.
- Boiral, O., and M. J. Roy. 2007. "ISO 9000: Integration rationales and organizational impacts." *International Journal of Operations and Production Management* 27 (2):226-247.
- Börner, Katy, Chaomei Chen, and Kevin W. Boyack. 2003. "Visualizing knowledge domains." *Annual Review of Information Science and Technology* 37 (1):179-255.
- Boyack, Kevin W., and Richard Klavans. 2010. "Co-citation analysis, bibliographic coupling, and direct citation: Which citation approach represents the research front most accurately?" *Journal of the American Society for Information Science and Technology* 61 (12):2389-2404.
- Brown, L. D. (1996). Influential accounting articles, individuals, Ph.D. granting institutions and faculties: A citational analysis. *Accounting, Organizations and Society*, 21(7), 723-754.
- Cagnazzo, L., P. Taticchi, and F. Fuiano. 2010. "Benefits, barriers and pitfalls coming from the ISO 9000 implementation: The impact on business performances." *WSEAS Transactions on Business and Economics* 7 (4):311-321.
- Caro, L. M., and J. A. M. García. 2009. "Does ISO 9000 certification affect consumer perceptions of the service provider?" *Managing Service Quality* 19 (2):140-161.
- Casadesús, M., and G. Giménez. 2000. "The benefits of the implementation of the ISO 9000 standard: Empirical research in 288 Spanish companies." *TQM Magazine* 12 (6):432-441.
- Casadesús, M., and S. Karapetrovic. 2005. "Has ISO 9000 lost some of its lustre? a longitudinal impact study." *International Journal of Operations and Production Management* 25 (6):580-596.
- Casadesús, M., F. Marimon, and I. Heras. 2008. "ISO 14001 diffusion after the success of the ISO 9001 model." *Journal of Cleaner Production* 16 (16):1741-1754.
- Černe, M., R. Kaše, and M. Škerlavaj. 2016. "Non-technological innovation research: Evaluating the intellectual structure and prospects of an emerging field." *Scandinavian Journal of Management* 32 (2):69-85.
- Chatzoglou, P., D. Chatzouides, and N. Kipraios. 2015. "The impact of ISO 9000 certification on firms' financial performance." *International Journal of Operations and Production Management* 35 (1):145-174.
- Chiu, W.-T., & Ho, Y.-S. (2007). Bibliometric analysis of tsunami research. *Scientometrics*, 73(1), 3-17.
- Chiarini, A. 2011. "Integrating lean thinking into ISO 9001: A first guideline." *International Journal of Lean Six Sigma* 2 (2):96-117.
- Chittenden, F., P. Poutziouris, and S. M. Mukhtar. 1998. "Small firms and the ISO 9000 approach to quality management." *International Small Business Journal* 17 (1):73-88.
- Clougherty, J. A., and M. Grajek. 2008. "The impact of ISO 9000 diffusion on trade and FDI: A new institutional analysis." *Journal of International Business Studies* 39 (4):613-633.

- De Bakker, F. G., Groenewegen, P., & Den Hond, F. (2005). A bibliometric analysis of 30 years of research and theory on corporate social responsibility and corporate social performance. *Business & Society*, 44(3), 283-317.
- Di Stefano, Giada, Margaret Peteraf, and Gianmario Verona. 2010. "Dynamic capabilities deconstructed : a bibliographic investigation into the origins, development, and future directions of the research domain." *Industrial and Corporate Change* 19 (4):1187-1204.
- Dick, G. P. M., I. Heras, and M. Casadesús. 2008. "Shedding light on causation between ISO 9001 and improved business performance." *International Journal of Operations and Production Management* 28 (7):687-708.
- Douglas, A., S. Coleman, and R. Oddy. 2003. "The case for ISO 9000." *TQM Magazine* 15 (5):316-324.
- Ebrahimpour, M., B. E. Withers, and N. Hikmet. 1997. "Experiences of US- and foreign-owned firms: A new perspective on ISO 9000 implementation." *International Journal of Production Research* 35 (2):569-576.
- Escanciano, C., E. Fernández, and C. Vázquez. 2001. "ISO 9000 certification and quality management in Spain: Results of a national survey." *TQM Magazine* 13 (3):192-200.
- Feng, M., M. Terziovski, and D. Samson. 2008. "Relationship of ISO 9001:2000 quality system certification with operational and business performance: A survey in Australia and New Zealand-based manufacturing and service companies." *Journal of Manufacturing Technology Management* 19 (1):22-37.
- Fonseca, L. M. 2015. "ISO 9001 quality management systems through the lens of organizational culture." *Quality - Access to Success* 16 (148):54-59.
- Fotopoulos, C. V., E. L. Psomas, and F. K. Vouzas. 2010. "ISO 9001:2000 implementation in the Greek food sector." *TQM Journal* 22 (2):129-142.
- Franceschini, F., M. Galetto, D. Maisano, and L. Mastrogiacomo. 2010. "Clustering of European countries based on ISO 9000 certification diffusion." *International Journal of Quality and Reliability Management* 27 (5):558-575.
- García-Lillo, F., M. Úbeda-García, and B. Marco-Lajara. 2016. "The intellectual structure of research in hospitality management: A literature review using Bibliometric methods of the journal International Journal of Hospitality Management." *International Journal of Hospitality Management* 52:121-130.
- Garg, A. X., Hackam, D., & Tonelli, M. (2008). Systematic Review and Meta-analysis: When One Study Is Just not Enough. *Clinical Journal of the American Society of Nephrology*, 3(1), 253-260.
- Georgiev, S., and E. Georgiev. 2015. "Motivational factors for the adoption of ISO 9001 standards in eastern europe: The case of Bulgaria." *Journal of Industrial Engineering and Management* 8 (3):1020-1050.
- Gotzamani, K. 2010. "Results of an empirical investigation on the anticipated improvement areas of the ISO 9001:2000 standard." *Total Quality Management and Business Excellence* 21 (6):687-704.
- Gotzamani, K. D. 2005. "The implications of the new ISO 9000:2000 standards for certified organizations: A review of anticipated benefits and implementation pitfalls." *International Journal of Productivity and Performance Management* 54 (8):645-657.
- Gotzamani, K. D., Y. D. Theodorakioglou, and G. D. Tsiotras. 2006. "A longitudinal study of the ISO 9000 (1994) series' contribution towards TQM in Greek industry." *TQM Magazine* 18 (1):44-54.
- Gotzamani, K. D., and G. D. Tsiotras. 2002. "The true motives behind ISO 9000 certification: Their effect on the overall certification benefits and long term contribution towards TQM." *International Journal of Quality and Reliability Management* 19 (2):151-169.
- Gotzamani, K. D., G. D. Tsiotras, M. Nicolaou, A. Nicolaides, and V. Hadjiadamou. 2007. "The contribution to excellence of ISO 9001: The case of certified organisations in Cyprus." *TQM Magazine* 19 (5):388-402.
- Gray, J. V., G. Anand, and A. V. Roth. 2015. "The influence of ISO 9000 certification on process compliance." *Production and Operations Management* 24 (3):369-382.

- Guler, I., M. F. Guillén, J. Muir, and Macpherson. 2002. "Global competition, institutions, and the diffusion of organizational practices: The international spread of ISO 9000 quality certificates." *Administrative Science Quarterly* 47 (2):207-232.
- Gustafsson, R., B. Klefsjö, E. Berggren, and U. Granfors-Wellemets. 2001. "Experiences from implementing ISO 9000 in small enterprises - A study of Swedish organisations." *TQM Magazine* 13 (4):232-246.
- Han, S. B., and S. K. Chen. 2007. "Effects of ISO 9000 on customer satisfaction." *International Journal of Productivity and Quality Management* 2 (2):208-220.
- Han, S. B., K. L. Sim, and M. Ebrahimpour. 2012. "Relationships among ISO 9001, competitive dimensions and profitability." *International Journal of Services and Operations Management* 11 (2):222-236.
- Hashem, G., and J. Tann. 2007. "The adoption of ISO 9000 standards within the Egyptian context: A diffusion of innovation approach." *Total Quality Management and Business Excellence* 18 (6):631-652.
- Heras-Saizarbitoria, I. 2011. "Internalization of ISO 9000: An exploratory study." *Industrial Management and Data Systems* 111 (8):1214-1237.
- Heras-Saizarbitoria, I., and O. Boiral. 2013. "ISO 9001 and ISO 14001: Towards a Research Agenda on Management System Standards." *International Journal of Management Reviews* 15 (1):47-65.
- Heras-Saizarbitoria, I., M. Casadesús, and F. Marimón. 2011. "The impact of ISO 9001 standard and the EFQM model: The view of the assessors." *Total Quality Management and Business Excellence* 22 (2):197-218.
- Heras, I., G. P. M. Dick, and M. Casadesús. 2002. "ISO 9000 registration's impact on sales and profitability: A longitudinal analysis of performance before and after accreditation." *International Journal of Quality and Reliability Management* 19 (6):774-791.
- Hernandez, H. 2010. "Quality audit as a driver for compliance to ISO 9001:2008 standards." *TQM Journal* 22 (4):454-466.
- Ho, S. K. M. 1994. "Is the ISO 9000 Series for Total Quality Management?" *International Journal of Quality & Reliability Management* 11 (9):74-89.
- Ilkay, M. S., and E. Aslan. 2012. "The effect of the ISO 9001 quality management system on the performance of SMEs." *International Journal of Quality and Reliability Management* 29 (7):753-778.
- Iñaki, H. S., G. A. Landín, and M. C. Fa. 2006. "A Delphi study on motivation for ISO 9000 and EFQM." *International Journal of Quality and Reliability Management* 23 (7):807-827.
- Ismyrilis, V., and O. Moschidis. 2015a. "The effects of ISO 9001 certification on the performance of Greek companies: A multidimensional statistical analysis." *TQM Journal* 27 (1):150-162.
- Ismyrilis, V., and O. Moschidis. 2015b. "The use of quality management systems, tools, and techniques in ISO 9001:2008 certified companies with multidimensional statistics: the Greek case." *Total Quality Management and Business Excellence* 26 (5-6):497-514.
- Ismyrilis, V., O. Moschidis, and G. Tsiotras. 2015. "Critical success factors examined in iso 9001:2008-certified greek companies using multidimensional statistics." *International Journal of Quality and Reliability Management* 32 (2):114-131.
- Ivanova, A., J. Gray, and K. Sinha. 2014. "Towards a unifying theory of management standard implementation: The case of ISO 9001/ISO 14001." *International Journal of Operations and Production Management* 34 (10):1269-1306.
- Jain, S. K., and I. S. Ahuja. 2012. "An evaluation of ISO 9000 initiatives in Indian industry for enhanced manufacturing performance." *International Journal of Productivity and Performance Management* 61 (7):778-804.
- Jarneving, B. (2007). Bibliographic coupling and its application to research-front and other core documents. *Journal of Informetrics*, 1(4), 287-307.
- Jukola, S. (2015). Meta-analysis, ideals of objectivity, and the reliability of medical knowledge. *Science & Technology Studies*. 28(3), 101-120.

- Jang, W. Y., and C. Lin. 2008. "An integrated framework for ISO 9000 motivation, depth of ISO implementation and firm performance: The case of Taiwan." *Journal of Manufacturing Technology Management* 19 (2):194-216.
- Jesson, J., Matheson, L., & Lacey, F. M. (2011). *Doing your literature review: Traditional and systematic techniques*: Sage.
- Jeng, Y. Ch. 1998. "Performance evaluation of ISO 9000 registered companies in Taiwan." *TQM Magazine* 10 (2):132-138.
- Kale, S., and D. Arditi. 2006. "Diffusion of ISO 9000 certification in the precast concrete industry." *Construction Management and Economics* 24 (5):485-495.
- Kanji, G. K. 1998. "An innovative approach to make ISO 9000 standards more effective." *Total Quality Management* 9 (1):67-78.
- Karapetrovic, S., M. C. Fa, and I. H. Saizarbitoria. 2010. "What happened to the ISO 9000 lustre? An eight-year study." *Total Quality Management and Business Excellence* 21 (3):245-267.
- Karlton, J., J. Axelsson, and J. Eklund. 1998. "Working conditions and effects of ISO 9000 in six furniture-making companies: Implementation and processes." *Applied Ergonomics* 29 (4):225-232.
- Koumaditis, K., and Hussain, T. 2017. "Human Computer Interaction Research Through the Lens of a Bibliometric Analysis". I. K. M. (red.), *Human-Computer Interaction. User Interface Design, Development and Multimodality* (Bind 10271, s. 23-37). Springer. Lecture Notes in Computer Science.
- Lafuente, E., A. Bayo-Moriones, and M. García-Cestona. 2010. "ISO-9000 certification and ownership structure: Effects upon firm performance." *British Journal of Management* 21 (3):649-665.
- Landin, A. 2000. "ISO 9001 within the Swedish construction sector." *Construction Management and Economics* 18 (5):509-518.
- Lee, K. S., and E. Palmer. 1999. "An empirical examination of ISO 9000-registered companies in New Zealand." *Total Quality Management* 10 (6):887-899.
- Lee, P. K. C., W. M. To, and B. T. W. Yu. 2009. "The implementation and performance outcomes of ISO 9000 in service organizations: An empirical taxonomy." *International Journal of Quality and Reliability Management* 26 (7):646-662.
- Lewis, W. G., K. F. Pun, and T. R. M. Lalla. 2005. "An AHP-based study of TQM benefits in ISO 9001 certified SMEs in Trinidad and Tobago." *TQM Magazine* 17 (6):558-572.
- Lin, C. I., and W. Y. Jang. 2008. "Successful ISO 9000 implementation in Taiwan: How can we achieve it, and what does it mean?" *International Journal of Productivity and Performance Management* 57 (8):600-622.
- Llach, J., F. Marimon, and M. Bernardo. 2011. "ISO 9001 diffusion analysis according to activity sectors." *Industrial Management and Data Systems* 111 (2):298-316.
- Lo, C. K. Y., F. Wiengarten, P. Humphreys, A. C. L. Yeung, and T. C. E. Cheng. 2013. "The impact of contextual factors on the efficacy of ISO 9000 adoption." *Journal of Operations Management* 31 (5):229-235.
- Lo, C. K. Y., A. C. L. Yeung, and T. C. E. Cheng. 2009. "ISO 9000 and supply chain efficiency: Empirical evidence on inventory and account receivable days." *International Journal of Production Economics* 118 (2):367-374.
- Magd, H. A. E. 2008. "ISO 9001:2000 in the Egyptian manufacturing sector: Perceptions and perspectives." *International Journal of Quality and Reliability Management* 25 (2):173-200.
- Magd, H., and A. Curry. 2003a. "An empirical analysis of management attitudes towards ISO 9001:2000 in Egypt." *TQM Magazine* 15 (6):381-390.
- Magd, H., and A. Curry. 2003b. "ISO 9000 and TQM: Are they complementary or contradictory to each other?" *TQM Magazine* 15 (4):244-256.
- Mallak, L. A., L. S. Bringelson, and D. M. Lyth. 1997. "A cultural study of ISO 9000 certification." *International Journal of Quality and Reliability Management* 14 (4):328-348.
- Mangiarotti, G., and C. A. F. Riillo. 2014. "Standards and innovation in manufacturing and services: The case of ISO 9000." *International Journal of Quality and Reliability Management* 31 (4):435-454.

- Marimon, F., M. Casadesús, and I. Heras. 2010. "Certification intensity level of the leading nations in ISO 9000 and ISO 14000 standards." *International Journal of Quality and Reliability Management* 27 (9):1002-1020.
- Marimon, F., I. Heras, and M. Casadesús. 2009. "ISO 9000 and ISO 14000 standards: A projection model for the decline phase." *Total Quality Management and Business Excellence* 20 (1):1-21.
- Martínez-Costa, M., T. Y. Choi, J. A. Martínez, and A. R. Martínez-Lorente. 2009. "ISO 9000/1994, ISO 9001/2000 and TQM: The performance debate revisited." *Journal of Operations Management* 27 (6):495-511.
- Martínez-Costa, M., and A. R. Martínez-Lorente. 2003. "Effects of ISO 9000 certification on firms' performance: A vision from the market." *Total Quality Management and Business Excellence* 14 (10):1179-1191.
- Martínez-Costa, M., and A. R. Martínez-Lorente. 2007. "A triple analysis of ISO 9000 effects on company performance." *International Journal of Productivity and Performance Management* 56 (5-6):484-499.
- Martínez-Costa, M., A. R. Martínez-Lorente, and T. Y. Choi. 2008. "Simultaneous consideration of TQM and ISO 9000 on performance and motivation: An empirical study of Spanish companies." *International Journal of Production Economics* 113 (1):23-39.
- Martínez-Lorente, A. R., and M. Martínez-Costa. 2004. "ISO 9000 and TQM: Substitutes or complementaries?: An empirical study in industrial companies." *International Journal of Quality and Reliability Management* 21 (3):260-276.
- Maureen, V. L., M., M. J., J., J. W., Carolina, N., & Fernando, J. J. (2017). Thirty years of the Journal of Business & Industrial Marketing: a bibliometric analysis. *Journal of Business & Industrial Marketing*, 32(1), 1-17.
- McGuire, S. J., and D. M. Dilts. 2008. "The financial impact of standard stringency: An event study of successive generations of the ISO 9000 standard." *International Journal of Production Economics* 113 (1):3-22.
- Merigó, J. M., & Yang, J.-B. (2017). Accounting Research: A Bibliometric Analysis. *Australian Accounting Review*, 27(1), 71-100.
- Motwani, J., A. Kumar, and C. H. Cheng. 1996. "A roadmap to implementing ISO 9000." *International Journal of Quality and Reliability Management* 13 (1):72-83.
- Nair, A., and D. Prajogo. 2009. "Internalisation of ISO 9000 standards: The antecedent role of functionalist and institutionalist drivers and performance implications." *International Journal of Production Research* 47 (16):4545-4568.
- Najmi, M., and D. F. Kehoe. 2000. "An integrated framework for post-ISO 9000 quality development." *International Journal of Quality and Reliability Management* 17 (3):226-258.
- Najmi, M., and D. F. Kehoe. 2001. "The role of performance measurement systems in promoting quality development beyond ISO 9000." *International Journal of Operations and Production Management* 21 (1-2):159-172.
- Naveh, E., and A. Marcus. 2005. "Achieving competitive advantage through implementing a replicable management standard: Installing and using ISO 9000." *Journal of Operations Management* 24 (1):1-26.
- Naveh, E., and A. Marcus. 2007. "Financial performance, ISO 9000 standard and safe driving practices effects on accident rate in the U.S. motor carrier industry." *Accident Analysis and Prevention* 39 (4):731-742.
- Naveh, E., A. Marcus, and H. K. Moon. 2004. "Implementing ISO 9000: Performance improvement by first or second movers." *International Journal of Production Research* 42 (9):1843-1863.
- Nerur, S. P., A. A. Rasheed, and V. Natarajan. 2008. "The intellectual structure of the strategic management field: An author co-citation analysis." *Strategic Management Journal* 29 (3):319-336.
- Park, D., H. Kim, B. Kang, and H. Jung. 2007. "Business values of ISO 9000: 2000 to Korean shipbuilding machinery manufacturing enterprises." *International Journal of Quality and Reliability Management* 24 (1):32-48.
- Pekovic, S. 2010. "The determinants of ISO 9000 certification: A comparison of the manufacturing and service sectors." *Journal of Economic Issues* 44 (4):895-914.

- Pilkington, A., and J. Meredith. 2009. "The evolution of the intellectual structure of operations management-1980-2006: A citation/co-citation analysis." *Journal of Operations Management* 27 (3):185-202.
- Pina, J. A. T., and M. E. S. Sellés. 2008. "Management and measurement of quality in ISO 9000 organisations: An empirical study in Spain." *Total Quality Management and Business Excellence* 19 (5):481-492.
- Piskar, F., and S. Dolinsek. 2006. "Implementation of the ISO 9001: From QMS to business model." *Industrial Management and Data Systems* 106 (9):1333-1343.
- Poksinska, B., J. J. Dahlgaard, and M. Antoni. 2002. "The state of ISO 9000 certification: A study of Swedish organizations." *TQM Magazine* 14 (5):297-306.
- Prajogo, D., B. Huo, and Z. Han. 2012. "The effects of different aspects of ISO 9000 implementation on key supply chain management practices and operational performance." *Supply Chain Management* 17 (3):306-322.
- Prajogo, D. I. 2008. "The sustainability of ISO 9001 in a legal service organisation." *Service Industries Journal* 28 (5):603-614.
- Prajogo, D. I. 2011. "The roles of firms' motives in affecting the outcomes of ISO 9000 adoption." *International Journal of Operations and Production Management* 31 (1):78-100.
- Psomas, E., and D. Kafetzopoulos. 2014. "Performance measures of ISO 9001 certified and non-certified manufacturing companies." *Benchmarking* 21 (5):756-774.
- Psomas, E. L. 2013. "The effectiveness of the ISO 9001 quality management system in service companies." *Total Quality Management and Business Excellence* 24 (7-8):769-781.
- Psomas, E. L., C. V. Fotopoulos, and D. P. Kafetzopoulos. 2010. "Critical factors for effective implementation of ISO 9001 in SME service companies." *Managing Service Quality* 20 (5):440-457.
- Psomas, E. L., C. V. Fotopoulos, and D. P. Kafetzopoulos. 2011. "Core process management practices, quality tools and quality improvement in ISO 9001 certified manufacturing companies." *Business Process Management Journal* 17 (3):437-460.
- Psomas, E. L., D. P. Kafetzopoulos, and C. V. Fotopoulos. 2013. "Developing and validating a measurement instrument of ISO 9001 effectiveness in food manufacturing SMEs." *Journal of Manufacturing Technology Management* 24 (1):52-77.
- Psomas, E. L., A. Pantouvakis, and D. P. Kafetzopoulos. 2013. "The impact of ISO 9001 effectiveness on the performance of service companies." *Managing Service Quality* 23 (2):149-164.
- Psomas, E., and A. Pantouvakis. 2015. "ISO 9001 overall performance dimensions: An exploratory study." *TQM Journal* 27 (5):519-531.
- Quazi, H. A., and R. L. Jacobs. 2004. "Impact of ISO 9000 certification on training and development activities: An exploratory study." *International Journal of Quality and Reliability Management* 21 (5):497-517.
- Rodríguez-Escobar, J. A., J. Gonzalez-Benito, and A. R. Martínez-Lorente. 2006. "An analysis of the degree of small companies' dissatisfaction with ISO 9000 certification." *Total Quality Management and Business Excellence* 17 (4):507-521.
- Rusjan, B., and M. Alič. 2010. "Capitalising on ISO 9001 benefits for strategic results." *International Journal of Quality and Reliability Management* 27 (7):756-778.
- Sampaio, P., P. Saraiva, and A. Monteiro. 2012. "ISO 9001 certification pay-off: Myth versus reality." *International Journal of Quality and Reliability Management* 29 (8):891-914.
- Sampaio, P., P. Saraiva, and A. G. Rodrigues. 2009a. "An analysis of ISO 9000 data in the world and the European union." *Total Quality Management and Business Excellence* 20 (12):1303-1320.
- Sampaio, P., P. Saraiva, and A. G. Rodrigues. 2009b. "ISO 9001 certification research: Questions, answers and approaches." *International Journal of Quality and Reliability Management* 26 (1):38-58.
- Sampaio, P., P. Saraiva, and A. G. Rodrigues. 2010. "A classification model for prediction of certification motivations from the contents of ISO 9001 audit reports." *Total Quality Management and Business Excellence* 21 (12):1279-1298.

- Santos, L., and C. Escanciano. 2002. "Benefits of the ISO 9000:1994 system: Some considerations to reinforce competitive advantage." *International Journal of Quality and Reliability Management* 19 (3):321-344.
- Shafique, Muhammad. 2013. "Thinking inside the box? Intellectual structure of the knowledge base of innovation research (1988–2008)." *Strategic Management Journal* 34 (1):62-93.
- Shalij, P. R., S. R. Devadasan, and G. V. Prabhushankar. 2009. "Design of ISO 9001:2000 based supply chain quality management systems." *International Journal of Process Management and Benchmarking* 3 (1):1-23.
- Sharma, D. S. 2005. "The association between ISO 9000 certification and financial performance." *International Journal of Accounting* 40 (2):151-172.
- Singels, J., G. Ruël, and H. van De Water. 2001. "ISO 9000 series certification and performance." *International Journal of Quality and Reliability Management* 18 (1):62-75.
- Singh, C., and K. Sareen. 2006. "Effectiveness of ISO 9000 standards in Indian educational institutions: A survey." *International Journal of Services, Technology and Management* 7 (4):403-415.
- Singh, P. J. 2008. "Empirical assessment of ISO 9000 related management practices and performance relationships." *International Journal of Production Economics* 113 (1):40-59.
- Singh, P. J., M. Feng, and A. Smith. 2006. "ISO 9000 series of standards: Comparison of manufacturing and service organisations." *International Journal of Quality and Reliability Management* 23 (2):122-142.
- Singh, P. J., and P. Mansour-Nahra. 2006. "ISO 9000 in the public sector: A successful case from Australia." *TQM Magazine* 18 (2):131-142.
- Singh, P. J., D. Power, and S. C. Chuong. 2011. "A resource dependence theory perspective of ISO 9000 in managing organizational environment." *Journal of Operations Management* 29 (1-2):49-64.
- Srivastav, A. K. 2010. "Impact of ISO 9000 implementation on the organisation." *International Journal of Quality and Reliability Management* 27 (4):438-450.
- Sroufe, R., and S. Curkovic. 2008. "An examination of ISO 9000:2000 and supply chain quality assurance." *Journal of Operations Management* 26 (4):503-520.
- Starke, F., R. V. Eunni, N. M. M. D. Fouto, and C. F. de Angelo. 2012. "Impact of ISO 9000 certification on firm performance: Evidence from Brazil." *Management Research Review* 35 (10):974-997.
- Sun, H., & Cheng, T.-K. (2002). Comparing reasons, practices and effects of ISO 9000 certification and TQM implementation in Norwegian SMEs and large firms. *International Small Business Journal*, 20(4), 421-442.
- Sun, H., S. Li, K. Ho, F. Gertsen, P. Hansen, and J. Frick. 2004. "The trajectory of implementing ISO 9000 standards versus total quality management in Western Europe." *International Journal of Quality and Reliability Management* 21 (2):131-153.
- Tang, Kai-Yu, Chia-Yu Wang, Hsin-Yi Chang, Sufen Chen, Hao-Chang Lo, and Chin-Chung Tsai. 2015. "The Intellectual Structure of Metacognitive Scaffolding in Science Education: A Co-citation Network Analysis." *International Journal of Science and Mathematics Education* 14 (2):249-262.
- Tarí, J. J., and J. F. Molina. 2002. "Quality management results in ISO 9000 certified Spanish firms." *TQM Magazine* 14 (4):232-239.
- Terlaak, A. (2007). Order without law? The role of certified management standards in shaping socially desired firm behaviors. *Academy of Management Review*, 32(3), 968-985.
- To, W. M., P. K. C. Lee, and B. T. W. Yu. 2011. "ISO 9001:2000 implementation in the public sector: A survey in Macao SAR, the People's Republic of China." *TQM Journal* 23 (1):59-72.
- Tsekouras, K., E. Dimara, and D. Skuras. 2002. "Adoption of a quality assurance scheme and its effect on firm performance: A study of Greek firms implementing ISO 9000." *Total Quality Management* 13 (6):827-841.
- Turk, A. M. 2006. "ISO 9000 in construction: An examination of its application in Turkey." *Building and Environment* 41 (4):501-511. doi: 10.1016/j.buildenv.2005.02.013.

- Van Den Heuvel, J., L. Koning, Ad J. J. C. Bogers, M. Berg, and M. E. M. Van Dijen. 2005. "An ISO 9001 quality management system in a hospital: Bureaucracy or just benefits?" *International Journal of Health Care Quality Assurance* 18 (5):361-369.
- van der Wiele, T., J. van Iwaarden, A. Brown, U. Steimle, and K. J. Zink. 2009. "An international comparison of the perceptions about the revised ISO 9000 quality system standards." *Total Quality Management and Business Excellence* 20 (4):393-408.
- Van Der Wiele, T., J. Van Iwaarden, R. Williams, and B. Dale. 2005. "Perceptions about the ISO 9000 (2000) quality system standard revision and its value: The Dutch experience." *International Journal of Quality and Reliability Management* 22 (2):101-119.
- Viadiu, F. M., M. C. Fa, and I. H. Saizarbitoria. 2006. "ISO 9000 and ISO 14000 standards: An international diffusion model." *International Journal of Operations and Production Management* 26 (2):141-165.
- Vogel, Rick, and Wolfgang H. Güttel. 2013. "The Dynamic Capability View in Strategic Management: A Bibliometric Review." *International Journal of Management Reviews* 15 (4):426-446.
- Vouzas, F. K., and K. D. Gotzamani. 2005. "Best practices of selected Greek organizations on their road to business excellence: The contribution of the new ISO 9000:2000 series of standards." *TQM Magazine* 17 (3):259-266.
- Wagstaff, A., & Culyer, A. J. (2012). Four decades of health economics through a bibliometric lens. *Journal of Health Economics*, 31(2), 406-439.
- Wahid, R. A., and J. Corner. 2009. "Critical success factors and problems in ISO 9000 maintenance." *International Journal of Quality and Reliability Management* 26 (9):881-893.
- Walker, E., Hernandez, A. V., & Kattan, M. W. (2008). Meta-analysis: Its strengths and limitations. *Cleveland Clinic Journal of Medicine*, 75(6), 431.
- Walter, C., and V. Ribire. 2013. "A citation and co-citation analysis of 10 years of KM theory and practices." *Knowledge Management Research and Practice* 11 (3):221-229.
- Wilkinson, G., and B. G. Dale. 2002. "An examination of the ISO 9001:2000 standard and its influence on the integration of management systems." *Production Planning and Control* 13 (3):284-297.
- Withers, B. E., and M. Ebrahimpour. 1996. "An examination of ISO 9000 registration practices of American, German and Japanese firms operating in the USA." *International Journal of Quality and Reliability Management* 13 (7):8-22.
- Withers, B. E., and M. Ebrahimpour. 2001. "Impacts of ISO 9000 registration on European firms: A case analysis." *Integrated Manufacturing Systems* 12 (2):139-151.
- Withers, B., and M. Ebrahimpour. 2000. "Does ISO 9000 certification affect the dimensions of quality used for competitive advantage?" *European Management Journal* 18 (4):431-443.
- Yahya, S., and W. K. Goh. 2001. "The implementation of an ISO 9000 quality system." *International Journal of Quality and Reliability Management* 18 (9):941-966.
- Yang, Y. H. 2001. "Software quality management and ISO 9000 implementation." *Industrial Management and Data Systems* 101 (7):329-338.
- Yaya, L. H. P., F. Marimon, and M. Casadesus. 2011. "Customer's loyalty and perception of ISO 9001 in online banking." *Industrial Management and Data Systems* 111 (8):1194-1213.
- Yeung, A. C. L., T. S. Lee, and L. Y. Chan. 2003. "Senior management perspectives and ISO 9000 effectiveness: An empirical research." *International Journal of Production Research* 41 (3):545-569.
- Yeung, A. C. L., C. K. Y. Lo, and T. C. E. Cheng. 2011. "Behind the iron cage: An institutional perspective on ISO 9000 adoption and CEO compensation." *Organization Science* 22 (6):1600-1612.
- Zaramdini, W. 2007. "An empirical study of the motives and benefits of ISO 9000 certification: The UAE experience." *International Journal of Quality and Reliability Management* 24 (5):472-491.
- Zeng, S. X., P. Tian, and C. M. Tam. 2007. "Overcoming barriers to sustainable implementation of the ISO 9001 system." *Managerial Auditing Journal* 22 (3):244-254.

Zupic, Ivan, and Tomaž Čater. 2015. "Bibliometric Methods in Management and Organization."
Organizational Research Methods 18 (3):429-472.