

Thunnissen, Marian; Gallardo-Gallardo, Eva

Article

Rigor and relevance in empirical TM research: Key issues and challenges

BRQ Business Research Quarterly

Provided in Cooperation with:

Asociación Científica de Economía y Dirección de Empresas (ACEDE), Madrid

Suggested Citation: Thunnissen, Marian; Gallardo-Gallardo, Eva (2019) : Rigor and relevance in empirical TM research: Key issues and challenges, BRQ Business Research Quarterly, ISSN 2340-9436, Elsevier España, Barcelona, Vol. 22, Iss. 3, pp. 171-180, <https://doi.org/10.1016/j.brq.2019.04.003>

This Version is available at:

<https://hdl.handle.net/10419/261859>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by-nc-nd/4.0/>


www.elsevier.es/brq


REGULAR ARTICLE

Rigor and relevance in empirical TM research: Key issues and challenges

Marian Thunnissen^{a,b,*}, Eva Gallardo-Gallardo^c

^a Fontys University of Applied Sciences, School of HRM and Applied Psychology, Postbus 347, 5600 AH Eindhoven, The Netherlands

^b Utrecht University School of Governance, Bijlhouwerstraat 6, 3511 ZC Utrecht, The Netherlands

^c Universitat Politècnica de Barcelona-BarcelonaTech, Av. Diagonal 647, 08028 Barcelona, Spain

Received 27 October 2017; accepted 18 April 2019

Available online 4 June 2019

KEYWORDS

Talent management;
Empirical research;
Content analysis;
Methodology;
Rigor and relevance

Abstract This paper aims to offer a critical reflection on the way Talent Management (TM) is investigated in practice, by addressing the key issues regarding the quality (in terms of rigor and relevance) of academic empirical TM research and therefore the critical scrutiny of TM scholars' work. We will argue that despite the growth in the quantity, the quality of many empirical TM papers is lagging behind and hindering the progress of the academic field of TM. Based on a content analysis of 174 peer-reviewed articles published between 2006 and 2017, the paper outlines nine critical issues regarding the quality of the existent empirical TM research. In order to improve the positioning of the field as well as the impact of TM research on practice it is absolutely necessary for TM scholars to secure the quality of academic empirical TM research. Also, the collaboration between practitioners and scholars should increase.

© 2019 ACEDE. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Talent Management (TM) can be defined as the activities and processes that involve the systematic attraction, identification, development, engagement, retention and deployment of those talents which are of particular value to an organization in order to create strategic sustainable organizational success (e.g., Scullion et al., 2010; Collings and Mellahi,

2009). In previous publications, TM has been characterized as a phenomenon (Dries, 2013; Gallardo-Gallardo et al., 2015) that attracted much more practitioner interest than academic curiosity (Lewis and Heckman, 2006; Cappelli and Keller, 2014; Thunnissen et al., 2013). Despite the practitioners' hunger for answers for their practical TM questions, the academic community was not able to make a significant contribution to the TM debate. In fact, nearly ten years after the groundbreaking study on the upcoming war for talent by the consulting agency McKinsey (Chambers et al., 1998), Lewis and Heckman (2006) denounced the academic passivity concerning the topic of TM. They criticized the quality of

* Corresponding author.

E-mail address: M.Thunnissen@fontys.nl (M. Thunnissen).

the conceptual papers on TM in terms of definitions, scope, coherence and rigor, and pointed at the absence of empirical research on the matter. After some years of academic interest in TM, several scholars (e.g., [Collings and Mellahi, 2009](#); [Collings et al., 2011](#); [Thunnissen et al., 2013](#); [Cappelli and Keller, 2014](#)) noticed progression, but the criticism regarding definitions, scope and coherence remained. Moreover, each of them echoed [Lewis and Heckman \(2006\)](#), and again called for more empirical research in order to gain a better understanding of how TM works in practice.

These calls for more academic interest in the practical phenomenon of TM did not fall on deaf ears. A bibliometric study by [Gallardo-Gallardo et al. \(2015\)](#) shows that the academic interest in TM expanded enormously since 2010, and it illustrates that every year more empirical TM papers than conceptual articles are published. However, the question is raised whether this increase in quantity also implies that the quality of TM research has improved? In other words, did scholars also take notice of the several calls for more rigor and coherence in their TM research? In this paper, we will argue that despite the growth in the quantity, the quality of many empirical TM papers is lagging behind and hindering the progress of the academic field of TM. As experts on the evolution of academic disciplines reason, the mere presence of empirical research is not enough. In fact, empirical research must serve the systematic development of theory and the building of an established body of literature (e.g., [Bird et al., 2002](#); [Von Krogh et al., 2012](#); [Jungmans and Olsson, 2014](#)). What's more, in applied fields (such as organization and management studies) theory development is not only relevant for obtaining academic knowledge, but also essential for having impact on practice. Theory developed through solid empirical research can not only help to explain the meaning, nature and challenges of a phenomenon – such as TM – but also to act in more informed and effective ways in practice ([Lynham, 2002](#)).

The process of theory building in applied disciplines relies on the quality of the empirical research ([Lynham, 2002](#)). More specifically, it requires rigor (validity) and relevance (utility in action and in solving problems in practice) ([Lynham, 2002](#)). Rigor is based on the systematic and consistent way theory is generated, verified, applied and refined through profound inquiries in practice ([Lynham, 2002](#); [Von Krogh et al., 2012](#); [Antonakis, 2017](#)). Rigor requires 'soundness regarding its theoretical and conceptual development, its methodological design and execution, its interpretation of findings, and its use of these findings in extending theory or developing new theory' ([Zmud, 1996](#), p. xxxvii). Relevance, on the other hand, refers to the utility of the knowledge obtained by academic research for practice. It can be achieved by taking the real-world context as a starting point (also see [Boxall et al., 2007](#)), and through the constant interaction with practice during the process of theory building (e.g., [Lynham, 2002](#); [Von Krogh et al., 2012](#); [Antonakis, 2017](#)). Without a doubt, the concepts of rigor and relevance are closely related. In fact, [Vermeulen \(2005\)](#) puts it even more critically and argues that rigor is the fundamental premise for relevance and its theoretical and practical impact.

This paper seeks to offer a critical reflection on the way TM is investigated in practice. We are particularly interested in highlighting and discussing the key issues regarding the

quality (in terms of rigor and relevance) of academic empirical TM research, and therefore the critical scrutiny of TM scholars' work. By doing so, we aim to help TM scholars to overcome the challenges that undermine the theoretical and practical impact of their empirical TM research. After all, only by the use of profound empirical research can the field be developed to the next level. With this critical approach the paper differs from previous studies, since, to the best of our knowledge, it is the first time that the focus is on highlighting and discussing rigor and relevance issues in empirical TM research. Previous literature reviews have centered on offering an overview of the field by presenting the main topics studied and the related challenges up until that moment (see [Lewis and Heckman, 2006](#); [Collings and Mellahi, 2009](#); [Nijs et al., 2014](#); [Dries, 2013](#); [Gallardo-Gallardo et al., 2015](#); [Collings et al., 2011](#); [Al Ariss et al., 2014](#); [Cappelli and Keller, 2014](#)). This paper can be seen as a step forward. A total of 174 peer-reviewed empirical studies published between 2006 and 2017 (both years included) were reviewed, and their content scored for their rigor (in terms of use of definitions, theoretical foundations and research designs) and relevance (e.g., authors and their affiliations and focus of interest of the study).

In the following section, we explain the methodology of the review study: the selection of articles, and the coding and analysis of the content. After that, we outline nine critical issues regarding the quality of the existent empirical TM research and illustrate and explain why we believe these issues exist based on the findings of our review. The paper concludes with a discussion of the implications of our findings and we offer some suggestions for addressing these critical issues in future academic TM research.

Method

For the purpose of this review study we followed three sequential steps to select and analyze the empirical TM publications: data collection, data coding, and data analysis.

Step 1: Data collection

In order to identify and retrieve relevant publications we utilized the two most reliable sources of data for a large number of bibliometric studies, namely ISI Web of Science (WoS; Thomson Reuters) and Scopus (Elsevier) (cf. [Ciomaga, 2013](#)). The objective was to identify all international peer-reviewed empirical articles addressing TM from 2006 to 2017 (both years included). Following [Gallardo-Gallardo et al. \(2015\)](#), the year 2006 was selected as the starting point on the basis that these authors did not find any previous peer-reviewed publication on TM of relevance before that date. We excluded non-empirical studies and other categories of journal publications not directly referring to author's research work (i.e., interviews, commentaries, book reviews) or without an available authorship. Also, research conducted in either a laboratory setting, by mathematical modeling, or using simulation models were not retained. Likewise, we excluded conference papers, books and book chapters, monographs, theses, and unpublished works due to a lack of consistent quality assurance mechanism in the publication of these documents ([Arduini and](#)

Zanfei, 2014; McDonnell et al., 2017) and its limited impact on new knowledge in the field compared with journals (McWilliams et al., 2005). Moreover, we focused on articles written in English since non-English literature, with predominantly national readerships, has little influence on the international academic debate about a topic (Boselie et al., 2005).

The term 'talent management' was used as the search criterion in either 'title, abstract and keywords' (Scopus) or in 'topic' (WoS). However, to do a search as complete as possible and following some calls for considering stars' literature (see Collings et al., 2015), we also performed some extra searches combining frequent keywords in this strand of literature (such as 'A-players' AND 'Strategic Human Resource Management', or 'Stars' AND 'Strategic Human Resource Management'). By doing so, a few new articles were found but also again excluded for being conceptual (e.g., Huselid et al., 2005) or not really focusing on TM (e.g., Oderanti and De Wilde, 2010).

The searches resulted in 389 hits in Scopus, and 288 hits in WoS. In line with previous literature reviews, we found a major overlap between results from the two databases and duplicates were removed. However, notice that not all publications appear in both databases, so the choice for one database or the other has an effect on the information provided. Subsequently we attained the full-text of the articles through the databases, or by means of any other channel (e.g., Research Gate, Google Scholar, writing the first author). Unfortunately, 33 full-texts were not possible to get, and therefore were excluded. This led to a preliminary database of 305 full-text articles. After reviewing the full-texts of all these articles and excluding those that did not fit with the selection criteria (i.e., proving information about the data gathering/research methods, and not being focused on TM), our final database comprised of 174 publications. The descriptive data of each article (i.e., author/s, year, title, journal, volume, issue, IF, keywords, and summary) from this final list was organized in an Excel spreadsheet. This descriptive data was then checked for accuracy, making sure that the information was uniform and that certain entries (e.g. author's names, publications names or years of publication) were not misspelled.

Step 2: Data coding

Following Potter and Levine-Donnerstein (1999), we developed ourselves a coding scheme according to our knowledge of the field and the objective of this study: the offering of a critical reflection on the quality of empirical TM research. Regarding rigor, we created several coding categories (with sub-categories) to gather information on the theoretical frameworks mentioned in the publications, the presence of definitions for the core concepts of talent and TM, and the characteristics of the research designs adopted in the empirical TM studies. Regarding the operationalization of relevance, we decided that at least the main focus of the study, as well as the research context (country of data gathering, sector of industry, type, size and ownership of organizations involved) would help us to determine whether TM research addresses the issues that are relevant for organizations in practice, or, in other words, that it has

the potential to improve the decision making of practitioners. For an adequate understanding of these findings the positioning of TM in the academic community (in terms of journals, authors and affiliations) is related to relevancy, and is therefore included as a coding variable in this review. We considered the use of citation records but, following McDonnell et al. (2017), rejected them due to the fact that most empirical studies were published within the last couple of years. We also defined coding rules that contained definitions of coding categories with guidelines for coders to extract uniform and standardized information objectively from the manuscripts.

Coding of the journal articles involved three steps. First, the two researchers independently coded 5 articles – randomly selected – as a pretest of the coding process. The coding data were compared, and the few variables that were interpreted differently were discussed. As a result, the code list, coding normative and coding process improved. Second, we divided the rest of the sample equally between both authors. Each researcher content-analyzed the allotted articles according to the adjusted coding template and normative. Third, any issues of confusion and uncertain classifications in our respective coding were shared and resolved between the authors. Also, every disagreement was resolved through discussion. This careful and rigorous crosschecking ensured consistency, and has reduced the likelihood of error.

Step 3: Data analysis

The charting of the content data was done in another Excel file prepared according to the coding template, so in the end we could merge all information (descriptive and content information from each article). Pivotal tables, frequency counts and text coding and interpretation were used to analyze the data. While analyzing the data we recognized several flaws and weaknesses in the way empirical TM research is conducted, or at least how it is presented in peer reviewed articles. We identified nine key issues which are addressed in the next section.

Key issues regarding the rigor and relevance in empirical TM research

Issue 1: An incoherent and scattered community populated with 'newcomers'

According to Collings et al. (2015) TM is one of the fastest growing areas in the academic field of management studies. The analysis of the bibliometric data indeed shows a quickly developing academic field, in which the total number of empirical TM papers increases each year, with a peak in 2015 of 29 articles. Of the 174 articles included in our database, 95.4% (i.e., 166 articles) were published in 2010 and later, especially from 2012 onwards. However, the growth in quantity of publications does not go hand in hand with the development of a coherent academic field. On the contrary, publications are scattered across journals and fields, which can be seen as a symptom of a non-mature field. To illustrate, a total of 103 journals were identified, of which most (87 out of 174 journals; 84.5%) published just

one article. Moreover, despite the fact that most articles are published in journals in the fields of HRM and international business and management (in particular, the *International Journal of Human Resource Management* (19 articles) and the *Journal of World Business* (12 articles) stand out for their number of empirical publications on TM), we see a diverse array of journals that publish about TM, such as journals for specific sectors of industry (e.g. *Higher Education Policy*, *International Journal of Project Management* or *International Journal of Health Planning and Management*) and journals focusing on a specific geographic region (e.g., *Asian Business and Management* and *Canadian Journal of Administrative Sciences*); most of them have published just one empirical research article on TM. The fact that the TM knowledge is so spread out prevents building on the ideas of others, not to mention cross-pollination of ideas across knowledge domains.

There is also a great diversity in authors: a total of 390 different authors have written the 174 articles of this review, coming from 225 different organizations and 48 different countries. A small group of them published two or more articles, with Scullion and Dries (seven articles each) as leading participants in the TM debate. A network analysis by Gallardo-Gallardo et al. (2017) already illustrated that the rapid evolution of the TM co-authorship network did not lead to a cohesive community, since most authors in the field of TM have few connections to others and the groups of reference are many but usually not connected to each other. Our review adds that, in particular, a large group of 'newcomers' seems to be involved in empirical TM research, since the majority of the authors (340 persons; 87.2%) only published one article and do not seem to continue working on the topic of TM afterwards.

Literature on the evolution of academic disciplines shows that – besides the presence of systematic theory and the use of sophisticated research designs and methods – an established body of literature as well as institutional manifestation in formal and informal networks are crucial for a sustainable development of the field (e.g., Bird et al., 2002; Arnott and Pervan, 2008; Krishnan, 2009). It helps to build new research on the discoveries and findings of previous research studies and prevents reinventing the wheel (e.g., Bird et al., 2002; Von Krogh et al., 2012; Jungmans and Olsson, 2014). The broad spectrum of journals and the large number of newcomers in the field does not have to be a problem per se, but this great diversity of journals and authors can hinder scholars to gain a comprehensive overview of what has been achieved to date in empirical TM research, especially when different databases and search engines result in different hits.

Issue 2: Cashing in on the TM label

Unfortunately, the attractiveness of the 'hot topic' of TM has side effects. First, in selecting and analyzing the articles in our review we noticed that many scholars may be trying to benefit from the increasing academic and practitioner interest in TM by using the terms 'talent' and/or 'talent management' to just make their paper sexier. This tendency became apparent in the final stage of the selection process. We reviewed the full-texts of the 305 articles

in our preliminary database, in order to assess whether the articles indeed fit the selection criteria. In line with previous TM literature reviews (see Gallardo-Gallardo et al., 2015; McDonnell et al., 2017), we found that TM terminology was sometimes used in key sections of the manuscript (e.g. title, abstract, recommendations for further research) to catch the attention of the reader, but without focusing on the topic of TM at all. These scholars seem to use TM as a synonym for HRM or leadership development. This incorrect labeling resulted in the exclusion of nearly a quarter of the articles (70 articles) in the preliminary database.

Second, the immense attractiveness of TM also applies to academic journals that want to offer the latest trends and debates. This would explain the aforementioned wide array of academic outlets for disseminating TM empirical research. However, this broad spectrum of journals is not only a symptom of a non-mature field but also could be a sign of the difficulties of having a paper published because of the increasing competition (Antonakis, 2017). Scholars pushed by the 'publish or perish' academic motto do not hesitate to go for all the possible outlets (no matter the field) in which they can present their research. Those journals for specific sectors of industry or journals focusing on a specific geographic region can be interesting channels to share academic knowledge with practitioners in a specific sector – which is related to the relevance of the research – yet they often lack an Impact Factor (IF). The IF is used to evaluate the journal's reach compared to other journals in its subject area, and according to several authors (e.g., Adams, 2009; Ponomarev et al., 2014) the journal's IF can be seen as a proxy indicator of research quality. Despite the fact that a total of 58.8% of the articles in our database were published in a journal with an IF, 41.2% were from journals without an IF. Furthermore, in particular since 2015, we see that, each year, more articles are published in non-IF journals than in IF journals. This could, again, be a sign of the difficulties having a paper published, but also as an indicator of low-quality research. Many of the problems discussed below, such as the absence of definitions and information about research methods, occurred in non-IF journals.

Issue 3: Incoherent theoretical development

The conceptual development of the TM field has been addressed before; several scholars have criticized the TM literature for a mishmash of definitions and theoretical assumptions that lead to inconsistent 'stories' (e.g., Gallardo-Gallardo et al., 2015). One may assume that this would not happen in empirical research, because an adequate use of theory to conceptualize and to frame the issue and the operationalization of theory into clear concepts and definitions are essential to build a solid research design (Lynham, 2002; Vermeulen, 2005). Nonetheless, during the review we were confronted with haphazard theory development. First, we found that half of the empirical articles (86 articles, 49.4%) did not mention any theoretical framework at all: the authors of these publications do not use any existing theory, nor adapt or modify any existing theory or develop new theory to frame and justify their study. In line with the aforementioned observations, the majority (59.3%) of the non-theoretically informed articles were published in

journals without an IF (yet, note that 40.7% of them were published in journals with an IF). Moreover, some studies testing hypotheses (29.7%; 19 out of 64; e.g. [Khoreva et al., 2017](#)) – by which one would assume a decent theoretical underpinning of the hypotheses – did not have any theoretical framework at all, which clearly raises doubts about their quality. It should be said that during the period between 2012 and 2014 inclusive, the number of papers presenting a theoretical framework was considerably higher than those lacking it. However, most of the literature from that period was published in high impact journals by renowned researchers in the field (e.g. [Farndale et al., 2014](#)). From 2015 onwards, more researchers entered into the field of TM to publish their work, yet with less attention to quality since more than 60% of the articles published since 2015 did not pay any attention to conceptual development.

Second, while analyzing the other half of the articles that do have a clearly specified conceptual framework (88; 50.6%), we discovered that many authors use theories superficially. For instance, theory is used only to emphasize a line of reasoning in the introduction section rather than consistently applying theoretical models and concepts throughout the whole research paper in order to explore new perspectives and to reinforce TM foundations. This random and inconsistent use of theory hinders fundamental theoretical scaffolding (e.g., [Lynham, 2002](#); [Von Krogh et al., 2012](#); [Antonakis, 2017](#)). Moreover, although we found an expected consistency between the conceptual framework used and the topic of interest of the study, in the studies focusing on TM issues at the organizational level (e.g., TM outcomes, relationship between TM practices and outcomes) there was no clear dominant framework. In other words, it is difficult to find a dominant framework for the academic quest for the meaning and value of TM at the organizational level of analysis. The lack of conceptual development in and ambiguous theoretically framing of empirical TM research and its findings weakens the fundamental pillars of the field.

Issue 4: Carelessness in defining core concepts

After the development of an explicit, informed conceptual framework it is essential to translate the conceptual model into clearly defined and observable concepts ([Lynham, 2002](#)). The core concepts of the studies in our review are *talent* and *TM*, so now the questions arise *if* and *how* these core concepts are operationalized in empirical scholarly research. As regards to the TM concept, we found that not all studies are accurate or clear in operationalizing and defining it. Nearly a quarter of all articles (40 articles; 22.9%) does not present any definition on TM at all; surprisingly, almost 73% of them were published in a journal with an IF. We also found that a total of 15.5% of the papers include a summary of multiple TM definitions without clearly advocating for one, or present a vague and indirect indication of TM (18.4%). Only 43.1% (75 articles) present an explicit definition of TM, often opting for quoting another authors' definition (70.4%) rather than giving their own (29.6%). The definitions of [Collings and Mellahi \(2009\)](#) and of the [CIPD \(2006, 2008\)](#) were the most cited ones.

Subsequently, we investigated whether talent was defined and in what way. In particular, the talent concept

seems to be difficult to define clearly; empirical TM scholars are rarely precise about what they mean by talent. Most of the writers usually take the talent concept for granted. In fact, 56 articles (32.2%) do not present any definition at all, and 58 articles (33.3%) define it vaguely, for example by referring to 'employees with strong aspirations for high performance and self-development', 'the brightest, the best and the most fitting', or 'the best people'. To be clear, only a very small portion of the articles in our review, 16.7%, contains a clear definition of the talent construct. This raises the question whether defining talent is not interesting and important anymore to TM scholars, whereas it was one of the core debates in the 2000's as the field emerged.

Recent reviews of the literature ([Gallardo-Gallardo et al., 2015](#); [Gallardo-Gallardo and Thunnissen, 2016](#)) show a growing consensus about the definitions of talent and TM. In particular scholars from the field of business and management – who, as we have seen, dominate the field of TM – seemed to have adopted an exclusive approach to TM ([Thunnissen and Gallardo-Gallardo, 2017](#)). The articles in our review confirm this trend with their focus on a specific group of scarce and valuable employees (such as managerial talent or people fulfilling executive positions, high performers lawyers, or talented academics; e.g., [Farndale et al., 2014](#); [Thunnissen, 2016](#)), yet this only applies to the small group of articles that offered a definition of TM and talent. Due to the lack of definitions in the majority of publications, it is not clear exactly what is studied, how the researchers involved in the study position themselves in the ongoing debate about talent and TM, and in what way the research can be useful for other studies.

Issue 5: Lack of transparency regarding research methodology

After the conceptualization phase it is time to develop an appropriate research design to assemble data in practice ([Lynham, 2002](#); [Zmud, 1996](#)). In our preliminary database, not all articles provided sufficient information about their research design, which made it difficult to determine the academic rigor of the study. Therefore, in the final stage of the article selection process we excluded 61 peer-reviewed articles from our preliminary database (20%) because of the absence of a method section, a clear description of the methodology used, or any information about data gathering. As a result, all 174 articles in the final database did explain their methods for data gathering and analysis. They often provide information about the country or region in which the data is collected, but the information about the organizational context is scarce. The articles contain limited information about the size, the ownership and the scope of the organization (e.g., national, multinational). For instance, 59.2% of the articles does not provide information about the size or the type of organizations involved in the study. This absence of information hints at selection often based on chance instead of academic interest in TM in a specific type of organization. Moreover, not providing such information precludes transparency, which could raise skepticism about the study.

Issue 6: Fuzzy research designs

In a developing field, it is quite common to start with descriptive and qualitative research with small samples such as case studies to get a deep understanding of the nature of a phenomenon (Von Krogh et al., 2012). In a maturing field, more sophisticated research designs and statistical techniques and larger datasets are more appropriate (Bird et al., 2002). In the early years, as could be expected in an emerging field, qualitative TM research was most prevalent, but since 2011 – quite soon after the first empirical TM studies appeared – the amount of quantitative research increased significantly. To date, empirical research on TM is more often quantitative (48.6%) than qualitative (37.2%). Despite the increase in quantitative research, the research designs are often quite simple: descriptive research (63.2%), using relatively small data sets (less than 50 respondents (65 articles; 37.4%) or between 50 and 150 respondents (26 articles; 14.9%)).

Most quantitative studies make use of conventional research designs, such as web-based surveys, questionnaires, or structured (telephonic) interviews (e.g., Tymon et al., 2010; Tatoglu et al., 2016; Festing et al., 2013), which are analyzed by logistic regression (e.g., De Vos and Dries, 2013), and structural equation modeling (e.g., Kontoghiorghes, 2016). Qualitative research frequently consists of in-depth and semi-structured interviews in single or multiple case studies, sometimes supported by participant observation and/or analysis of secondary data (e.g., Kim and Scullion, 2011; Festing et al., 2015). Mixed-method approaches occur infrequently (14.9%). All in all, despite the fact that the field is in a growing stage (Gallardo-Gallardo et al., 2015), the research designs and methods adopted in many empirical studies shows that the field remains far short of maturity.

Issue 7: Untraceable and misleading respondents

Regarding the respondents, we see that senior and/or middle managers (16.8%) and HR representatives (9.8%) are the usual people involved in the study, investigating their perceptions on the TM activities in the organizations. We found only six studies that have incorporated the perspectives of line managers (e.g., Stahl et al., 2012; McCracken et al., 2016). There is a growing interest in considering employees (i.e., those commonly labeled as talent or the comparison between talent and the 'non-talent') as research participants since 2013 (10% of all articles) in order to measure employees' perceptions and reactions to TM. Some studies focus solely on investigating employees' perceptions (e.g., Tymon et al., 2010), while others also include other stakeholders in their study (e.g. Thunnissen and Van Arensbergen, 2015). Notwithstanding, a reasonable portion of the 174 articles did not provide any information about the type of respondents (59.2%) nor about the size of the research population (33.9%; 59 articles). A worrisome discovery is that we found some concerning inconsistencies regarding the research population. For instance, there is one study that claimed to investigate employee's perceptions of and satisfaction with the TM program but used HR practitioners as respondents. In this particular study, the data represents the

viewpoints of HR practitioners on these practices and programs and not those of the employees themselves. Again, skepticism about such studies emerges and accentuates the lack of attention for rigor in publications.

Key issue 8: Relevant research, yet with a selective scope

Reports of several large consultancy agents (e.g., Deloitte, 2011; Towers Watson, 2014; Boston Consulting Group (BCG), 2014; Mercer, 2019) indicate that organizations are struggling with attracting key talents, top performers and managerial potential (Towers Watson, 2014; Mercer, 2019) to fill open positions, and with how organizations can make their talent programs more effective in order to retain talent (BCG, 2014). The review shows that academic TM research explores the field from many different directions; the main topics of interest show a broad variety. Yet, there is indeed a large interest in gaining insight into how TM works in practice. One third of the studies (35%) investigates how a specific TM practice is carried out, whether there is a relationship between the conceptualization of talent and TM practices or between TM practices and outcomes (e.g., Festing et al., 2015; McDonnell et al., 2016). The current academic interest in the identification and attraction of talent seems to be lower than in the past (Gallardo-Gallardo and Thunnissen, 2016) and it is replaced by an increasing interest in retaining and developing talent. Research is primarily focused on the implementation of practices regarding training and development (16.5%), performance management and compensation (15.5%), retention (14%), staffing, succession planning (12.5%), and management development (11%). Also the effects of TM in terms of outcomes is a key research topic. Nearly one fifth (18.5%) of the articles is focused on TM outcomes, either at the national or regional level (3 articles; e.g., Furusawa and Brewster, 2015), the organizational (13 articles; e.g., Farndale et al., 2014; McNulty and De Cieri, 2016) or the HRM system level (e.g. in terms of a flexible workforce) (9 articles; e.g., Swailes and Blackburn, 2016; Khoreva and Vaiman, 2015), or the employee level (20 articles; e.g., Dries et al., 2012; Claussen et al., 2014). In particular, the outcomes at the employee level have gained academic interest, mainly from psychologists, during recent years.

Thus, it seems that TM scholars focus on the current TM challenges by which organizations around the world are confronted (i.e., TM research is relevant). However, our study reaffirms the criticism about the prevailing orientation in TM literature toward MNC's and private organizations (Collings et al., 2011; Thunnissen et al., 2013). Most research is conducted in large organizations (27% of all 174 articles), and organizations operating on a global scale (21.8%). TM issues in small and medium-sized organizations (e.g., Valverde et al., 2013), and/or in organizations operating in one single country and on public sector organizations (e.g., Poocharoen and Lee, 2013) attract much less academic interest. So, there is a selective scope in academic empirical TM research, addressing the TM issues that are particularly relevant for a select group of organizations.

Issue 9: Loosely embedded in context

To achieve a rigorous understanding of what happens in practice and why, the impact of the broader organizational context has to be considered in both theoretical frameworks (in search for moderators) and research designs (contextually based research) (Boxall et al., 2007; Johns, 2006). We therefore were curious about the research context that caught academic interest. Earlier we mentioned that methodology sections often lack information about the organizational context. With respect to the region in which the data was collected (not necessarily the home base of the authors), we found that TM issues are studied in a broad variety of countries. When we group these countries into geographical regions we see that 31.6% of the data was collected in a European country (e.g., the Netherlands, United Kingdom, Spain), but we notice an increasing interest in TM in the Southern and Eastern Asia regions (e.g., India, China, Malaysia). What is more, we found a difference in aims, research questions and topics among regions (i.e., the location of business or organizations under investigation). This indicates that each region (or even country) seems to have different needs or problems to solve, so the TM practices under investigation were different. This implies that TM is context dependent.

However, as the review illustrates, scholars did not necessarily conduct a contextualized research design in which they deliberately make use of the context to explain what happens in practice. Johns (2006) claims that the impact of context on organizational behavior is insufficiently recognized or appreciated by researchers, and the same occurs in the TM literature. Although some scholars (namely those doing research on Global TM or in a European region) show an increasing awareness of the relevance of contextual research, most of the studies were not designed to explicitly identify contextual factors of influence. If contextual factors were identified, it was merely a fortunate side effect of these studies. In those cases that contextual factors were explicitly explored, they were mainly focused on identifying factors that affect the first step of the TM process, i.e. the intended TM strategy. For example, a subset of the articles investigates how TM is understood and shaped within organizations, in particular whether there are differences in the shaping of TM in some specific countries (i.e., non-Anglo-Saxon countries and in emerging markets) or in a specific sector or type of organization (e.g., Skuza et al., 2013; Ewerlin and Süß, 2016). Academic research on contextual factors affecting TM implementation or its effectiveness is practically absent, which hinders the possibility of gaining a complete understanding of how TM works in practice.

Finally, we want to point out the 'academic bubble' in which the data are produced. The majority of the 174 articles (84.5%) were co-authored, and this collaboration is mainly focused on the academic community. Academic institutions lead empirical TM research published in peer-reviewed articles, since most authors work in academia. Only a total of 26 (6.6%) authors have non-academic affiliations, mainly in consultancy firms (e.g. Accenture, Enaxis Consulting, Ernst & Young, Hay Group), manufacturing and IT companies (e.g. Belzona Polymerics, Ltd., PepsiCo, Inc., Moxie Software, Inc., DAL Group) and some

in public institutions (e.g. West Yorkshire Police, Quality Assurance Netherlands Universities). These 26 authors have contributed to the production of 29 articles. The majority of these papers were written in collaboration with an author from an academic institution. So, although the research is done in practice, the collaboration with practice in sharing the knowledge from research is limited.

Discussion

The academic field of TM is highly active, and finally seems to have caught up – at least in the quantity of publications – with the practitioner interest in the topic. However, for the development of the field and its impact on both academia and practice, solid empirical TM research is needed. In short, its quality is more important than its quantity. In order to progress as a field and to contribute to a thorough understanding of the TM issues in practice, both rigor and relevance in empirical research are key (Lynham, 2002; Antonakis, 2017; Von Krogh et al., 2012; Vermeulen, 2005). The aim of this paper has been to offer a critical reflection on the way in which TM is investigated in practice. Despite the enormous growth in academic interest in TM, we must conclude that the quality of TM research – at least how it is presented in publications – is in many cases worrisome.

How relevant is empirical TM?

Does empirical research really address the issues that are relevant for organizations in practice? In general, academic TM research meets expectations. Even though the articles in our database could be seen as biased since they are mostly written by scholars and for a scholarly audience (Cascio and Aguinis, 2008), we can conclude that the majority of the studies are indeed focused on issues that large consultancies mention as crucial contemporary concerns, i.e., the attraction and retention of key talent, top performers and managerial potential (BCG, 2014; Deloitte, 2011; Towers Watson, 2014; Mercer, 2019). We do, however, see some limitations regarding the relevance of academic TM research.

First, the focus in academic research projects is on a select group of organizations, that is large, private organizations operating at a global or international level (i.e., MNC's and international firms) and a select group of employees (i.e., managerial talent or people fulfilling executive positions). This implies that the findings are only relevant for this specific group of organizations and employees. Moreover, with an accent on the exclusive TM approach, the findings are only applicable for organizations adopting an exclusive approach, while in practice both the inclusive and the exclusive approach occur (e.g., Farndale et al., 2014; Stahl et al., 2012). This may, again, illustrate the lack of relevance of empirical TM research for practice, echoing the ongoing concern regarding the science-practice gap (see Aguinis et al., 2010).

Second, we can conclude that in most cases the research done is not contextually based: information about the organizational context is often absent, and if present, it is often

aimed at introducing the study and framing the research question and aim, instead of justifying the research design and clarifying and explaining the findings of the study afterwards.

Third, collaboration between practitioners and scholars – at least in publishing – is limited. [Lynham \(2002\)](#) states that theory development relies on the continuous interaction between research and practice. Although it is difficult to assess the interaction in a publication, only a handful of publications are co-authored by authors working in non-academic organizations. Thus, [Hambrick's \(1994\)](#) concern about the minimal visibility and minimal impact of scholars in organizational sciences seems as timely and current today in our field.

Fourth, the question arises whether current TM research is sufficiently 'future proof'. Several reports point at the way technological and social forces are transforming what work will look like in the future ([WEF, 2016](#); [Lanvin and Evans, 2017](#); [Mercer, 2019](#)), and this will have an impact on the attraction, selection, development and retention of talent. Nonetheless, these future TM issues are not yet explored in empirical TM research.

Is empirical TM research rigorous enough?

According to Vermeulen, rigor is the principal requirement for each research project: "research that is not rigorous (...) cannot be considered relevant" ([Vermeulen, 2005](#), p. 979). We conclude that the rigor in current empirical TM is worrisome. First of all, too many publications do not get the basics right. The large proportion of articles that we had to exclude (a total of 43% of the papers in the preliminary database) is striking. Exclusion was based on a tangential approach to the topic and/or the absence of any information about the research methodology. What is also worrisome, is the large proportion of articles in our final database that (1) does not pay attention to conceptualization (49.4% articles has no theoretical framework); (2) is negligent in offering definition of the core concepts (i.e., talent, 32.2%; TM, 23.0%); and/or (3) does not provide any information about the organizational context of the research (59.2%), nor the type of organization (59.2%), nor the type or number of respondents (33.8%) involved in the study. In addition, we found many other cases in which details are lacking: we highlighted the superficial use of theoretical frameworks, the vagueness in the operationalization of talent and TM, and the mismatch between the research aim and the research population. These details do not imply that the research is necessarily unreliable, yet the fact that this information is not provided in the article could make this research appear less reliable and, above all, this does not help other scholars to understand fully the utility of the findings for their own research; not to mention, their low utility for practitioners. In fact, the non-existence of research design information makes it more difficult to determine whether new research can build on previous findings, which in turn hinders the systematic development of theory. This lack of transparency also brings into question the possible advances achieved to date within the field.

Is TM research critical enough?

The aforementioned problems mainly occur in manuscripts published in journals without an IF, which are criticized for lower guarantee of quality and impact ([Hoeffel, 1998](#)). According to [Gardfield \(2006\)](#), the journals with higher IF include the most prestigious and more critical publications. However, since 2014, the number of empirical TM research papers published in journals without IF exceeds the number of publications in journals with IF. Most of the most recent TM research can therefore be seen as lacking impact or prestige; in other words, it can be perceived as low quality. This also affects the perception of the relevance of TM research in and for the academic community. That said, we also feel the need to qualify our conclusions here. After all, not all articles published in non-IF journals are of bad quality, and, likewise, not all articles published in journals with an IF are rigorous. In order to improve the positioning of the field as well as the impact of TM research on practice, it is absolutely necessary to secure the quality of academic empirical TM research. It is about getting the basics right!

Likewise, it is fundamental that in our studies we draw from previous research findings to develop a body of knowledge and theories of how and how well TM works in practice. The challenges regarding the rigor and relevance in empirical TM research raises the question whether TM scholars take a critical stance toward their own work and toward the work of others. While reviewing articles, we often had the impression that the data were gathered for other purposes than exploring and explaining the phenomenon of TM in practice. According to [Antonakis \(2017\)](#), scholars reframe their data in order to have their research published, which affects the impact and quality of academic research. A lot of scholars, many of them newcomers to the field, are eager to publish about TM and use a broad variety of journals. [Antonakis \(2017\)](#) argues that being over-productive as field (quantity) can lead to fragmentation, which is a threat for the truthful understanding of a phenomenon, i.e. theory development. Also, the field of TM shows signs of, what [Antonakis \(2017\)](#) calls, *disjunctivus*. We see some dominant topics in empirical TM research (e.g., the implementation of TM practices or the conceptualization of TM in practice), yet even within those domains research and findings are not connected as parts of the recurring cycle of theorizing and research in practice. This results in a fragmented body of knowledge.

Recommendations

In order to secure the quality of empirical TM research our main recommendation is that TM scholars, in general, need to be more precise and rigorous in how they approach their research and publications in academic journals. We repeat again: it is important to get the basics right. Moreover, to advance the field, scholars could take a more critical stance toward their own work and toward the work of others. To achieve this, senior scholars in the academic TM community should take a leading role. They can use their experience to stimulate newcomers – often with less experience in academic research – to strengthen the quality of their research. This can be done by collaboration in research projects, but also in the process of reviewing peer-reviewed

articles by offering helpful reviews to authors, and by suggesting accurate advice to journals about manuscript publication. We also encourage the established TM scholars to build a bridge with other disciplines, by collaborating with scholars from other academic traditions in research projects, who take in their acknowledged theoretical frameworks to innovate empirical TM research and to contribute to understanding the phenomenon of TM in practice. Furthermore, although the total numbers are still limited, content analysis on some of the more dominant topics may now be possible, in order to identify patterns or hypotheses relevant for theory development. For example, recently De Boeck et al. (2018) published a valuable publication with a content analysis on empirical research on employee reactions to TM and developed a model regarding the impact of TM at the employee level which can be tested and refined again in future research. All in all, it is important that TM scholars are systematic and profound in the way they design and conduct their research design, as well as being aware of the role of their work in the theory development regarding the understanding of 'phenomenon' of TM.

References

- Adams, J., 2009. The use of bibliometrics to measure research quality in UK higher education institutions. *Arch. Immunol. Ther. Exp.* 57 (1), 19–32.
- Aguinis, H., Werner, S., Abbott, J.A.L., Angert, C., Partk, J.H., Kohlhausen, D., 2010. Customer-centric science: reporting significant research results with rigor, relevance and practical impact in mind. *Organ. Res. Methods* 13 (3), 515–539.
- Al Ariss, A., Cascio, W.F., Paauwe, P., 2014. Talent management: current theories and future research directions. *J. World Bus.* 49 (2) (Special issue).
- Antonakis, J., 2017. On doing better science: from thrill of discovery to policy implications. *Leadersh. Q.* 28 (1), 5–21.
- Arduini, D., Zanfei, A., 2014. An overview of scholarly research on public e-services? A meta-analysis of the literature. *Telecommun. Policy* 38 (5–6), 476–495.
- Arnott, D., Pervan, G., 2008. Eight key issues for the decision support systems discipline. *Decis. Support Syst.* 44 (3), 657–672.
- Bird, B., Welsch, H., Astrachan, J.H., Pistrui, D., 2002. Family business research: the evolution of an academic field. *Fam. Bus. Rev.* 15 (4), 337–350.
- Boxall, P., Purcell, J., Wright, P., 2007. Human resource management: scope, analysis, and significance. In: *The Oxford Handbook of Human Resource Management.*, pp. 1.
- Boselie, P., Dietz, G., Boon, C., 2005. Commonalities and contradictions in HRM and performance research. *Hum. Resour. Manag. J.* 15 (3), 67–94.
- Boston Consulting Group (BCG), 2014. *Riding a Wave of Growth: Global Wealth 2014.*
- Chambers, E.G., Foulon, M., Handfield-Jones, H., Hankin, S.M., Michaels III, E.G., 1998. The war for talent. *McKinsey Q.* 1 (3), 44–58.
- Cappelli, P., Keller, J.R., 2014. Talent management: conceptual approaches and practical challenges. *Annu. Rev. Organ. Psychol. Organ. Behav.* 1 (1), 305–331.
- Cascio, W.F., Aguinis, H., 2008. Research in industrial and organizational psychology from 1963 to 2007: changes, choices, and trends. *J. Appl. Psychol.* 93, 1062–1081.
- CIPD, 2006. *Talent Management: Understanding the Dimensions.* CIPD, London.
- CIPD, 2008. *Talent Management: An Overview.* CIPD, London.
- Ciomaga, B., 2013. Sport management: a bibliometric study on central themes and trends. *Eur. Sport Manag. Q.* 13 (5), 557–578.
- Claussen, J., Grohsjean, T., Luger, J., Probst, G., 2014. Talent management and career development: what it takes to get promoted. *J. World Bus.* 49 (2), 236–244.
- Collings, D.G., Mellahi, K., 2009. Strategic talent management: a review and research agenda. *Hum. Resour. Manag. Rev.* 19 (4), 304–313.
- Collings, D.G., Scullion, H., Vaiman, V., 2011. European perspectives on talent management. *Eur. J. Int. Manag.* 5 (5) (Special issue).
- Collings, D.G., Scullion, H., Vaiman, H., 2015. Talent management: progress and prospects. *Hum. Resour. Manag. Rev.*, <http://dx.doi.org/10.1016/j.hrmr.2015.04.005>.
- De Boeck, G., Meyers, M.C., Dries, N., 2018. Employee reactions to talent management: assumptions versus evidence. *J. Organ. Behav.* 39 (2), 199–213.
- Deloitte, 2011. Talent Edge 2020: Redrafting Strategies for the Uneven Recovery, <https://www2.deloitte.com/content/dam/insights/us/articles/talent-edge-2020-redrafting-strategies-for-the-uneven-recovery/DUP98.TalentEdge2020.RedraftingTalent.pdf>.
- De Vos, A., Dries, N., 2013. Applying a talent management lens to career management: the role of human capital composition and continuity. *Int. J. Hum. Resour. Manag.* 24 (9), 1816–1831.
- Dries, N., Van Acker, F., Verbruggen, M., 2012. How "boundaryless" are the careers of high potentials, key experts and average performers? *J. Vocat. Behav.* 81 (2), 271–279.
- Dries, N., 2013. Talent management, from phenomenon to theory. *Hum. Resour. Manag. Rev.* 23 (4), 267–271.
- Ewerlin, D., Süß, S., 2016. Dissemination of talent management in Germany: myth, facade or economic necessity? *Pers. Rev.* 45 (1), 142–160.
- Farndale, E., Pai, A., Sparrow, P., Scullion, H., 2014. Balancing individual and organizational goals in global talent management: a mutual-benefits perspective. *J. World Bus.* 49 (2), 204–214.
- Festing, M., Kornau, A., Schäfer, L., 2015. Think talent – think male? A comparative case study analysis of gender inclusion in talent management practices in the German media industry. *Int. J. Hum. Resour. Manag.* 26 (6), 707–732.
- Festing, M., Schäfer, L., Scullion, H., 2013. Talent management in medium-sized German companies: an explorative study and agenda for future research. *Int. J. Hum. Resour. Manag.* 24 (9), 1872–1893.
- Furusawa, M., Brewster, C., 2015. The bi-cultural option for global talent management: The Japanese/Brazilian Nikkeijin example. *J. World Bus.* 50 (1), 133–143.
- Gallardo-Gallardo, E., Thunnissen, M., 2016. Standing on the shoulders of giants? A critical review of empirical talent management research. *Empl. Relat.* 38 (1), 31–56.
- Gallardo-Gallardo, E., Arroyo Moliner, L., Gallo, P., 2017. Mapping collaboration networks in talent management research. *J. Organ. Eff.: People Perform.* 4 (4), 332–358, <http://dx.doi.org/10.1108/JOEPP-03-2017-0026>.
- Gallardo-Gallardo, E., Nijs, S., Dries, N., Gallo, P., 2015. Towards an understanding of talent management as a phenomenon-driven field using bibliometric and content analysis. *Hum. Resour. Manag. Rev.* 25 (3), 264–279.
- Gardfield, E., 2006. The history and meaning of the Journal Impact Factor. *J. Am. Med. Assoc.* 295 (January (1)), 90–93.
- Hambrick, D.C., 1994. What if the academy actually mattered? *Acad. Manag. Rev.* 19 (1), 11–16.
- Hoefel, C., 1998. Journal impact factors. *Allergy* 53 (12), 1225.
- Huselid, M.A., Beatty, R.W., Becker, B.E., 2005. A players or A positions? The strategic logic of workforce management. *Harv. Bus. Rev.* 83 (12), 110–117.

- Johns, G., 2006. The essential impact of context on organizational behavior. *Acad. Manag. Rev.* 31 (2), 386–408.
- Junghans, A., Olsson, O.E.N., 2014. Discussion of facilities management as an academic discipline. *Facilities* 32 (1/2), 67–79.
- Khoreva, V., Vaiman, V., 2015. Intent vs. action: Talented employees and leadership development. *Pers. Rev.* 44 (2), 200–216.
- Khoreva, V., Vaiman, V., Van Zalk, M., 2017. Talent management practice effectiveness: investigating employee perspective. *Empl. Relat.* 39 (1), 19–33.
- Kim, C.H., Scullion, H., 2011. Exploring the links between corporate social responsibility and global talent management: a comparative study of the UK and Korea. *Eur. J. Int. Manag.* 5 (5), 501–523.
- Kontogiorgos, C., 2016. Linking high performance organizational culture and talent management: satisfaction/motivation and organizational commitment as mediators. *Int. J. Hum. Resour. Manag.* 27 (16), 1833–1853.
- Krishnan, A., 2009. What Are Academic Disciplines? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate.
- Lanvin, B., Evans, P., 2017. The Global Talent Competitiveness Index, 2017: Talent and Technology. INSEAD, Fontainebleau.
- Lewis, R.E., Heckman, R.J., 2006. Talent management: a critical review. *Hum. Resour. Manag. Rev.* 16 (2), 139–154.
- Lynham, S.A., 2002. The general method of theory-building research in applied disciplines. *Adv. Dev. Hum. Resour.* 4 (3), 221–241.
- McCracken, M., Currie, D., Harrison, J., 2016. Understanding graduate recruitment, development and retention for the enhancement of talent management: sharpening “the edge” of graduate talent. *Int. J. Hum. Resour. Manag.* 27 (22), 2727–2752.
- McDonnell, A., Gunnigle, P., Lavelle, J., Lamare, R., 2016. Beyond managerial talent: “key group” identification and differential compensation practices in multinational companies. *Int. J. Hum. Resour. Manag.* 27 (12), 1299–1318.
- McDonnell, A., Collings, D.G., Mellahi, K., Schuler, R., 2017. Talent management: a systematic review and future prospects. *Eur. J. Int. Manag.* 11 (1), 86–128.
- McNulty, Y., De Cieri, H., 2016. Linking global mobility and global talent management: the role of ROI. *Empl. Relat.* 38 (1), 8–30.
- McWilliams, A., Siegel, D., Van Fleet, D.D., 2005. Scholarly journals as producers of knowledge: theory and empirical evidence based on data envelopment analysis. *Organ. Res. Methods* 8, 185–201.
- Mercer, 2019. Global Talent Trends 2019.
- Nijs, S., Gallardo-Gallardo, E., Dries, N., Sels, L., 2014. A multi-disciplinary review into the definition, operationalization, and measurement of talent. *J. World Bus.* 49 (2), 180–191.
- Oderanti, F.O., De Wilde, P., 2010. Dynamics of business games with management of fuzzy rules for decision making. *Int. J. Prod. Econ.* 128 (1), 96–109.
- Ponomarev, I.V., Lawton, B.K., Williams, D.E., Schnell, J.D., 2014. Breakthrough paper indicator 2.0: can geographical diversity and interdisciplinarity improve the accuracy of outstanding papers prediction? *Scientometrics* 100 (3), 1–11.
- Poocharoen, O., Lee, C., 2013. Talent management in the public sector: a comparative study of Singapore, Malaysia, and Thailand. *Public Manag. Rev.* 15 (8), 1185–1207, <http://dx.doi.org/10.1080/14719037.2013.816525>.
- Potter, W.J., Levine-Donnerstein, D., 1999. Rethinking validity and reliability in content analysis. *J. Appl. Commun. Res.* 27 (3), 258–284.
- Scullion, H., Collings, D.G., Caligiuri, P., 2010. Global talent management. *J. World Bus.* 45 (2) (Special issue).
- Skuza, A., Scullion, H., McDonnell, A., 2013. An analysis of the talent management challenges in a post-communist country: the case of Poland. *Int. J. Hum. Resour. Manag.* 24 (3), 453–470.
- Stahl, G.K., Bjorkman, I., Farndale, E., Morris, S.S., Paauwe, J., Stiles, P., Wright, P., 2012. Six principles of effective global talent management. *MIT Sloan Manag. Rev.* 53 (2), 25–32.
- Swales, S., Blackburn, M., 2016. Employee reactions to talent pool membership. *Empl. Relat.* 38 (1), 112–128.
- Tatoglu, E., Glaister, A.J., Demirbag, M., 2016. Talent management motives and practices in an emerging market: a comparison between MNEs and local firms. *J. World Bus.* 51 (2), 278–293.
- Thunnissen, M., 2016. Talent management. *Empl. Relat.* 38 (1), 57–72.
- Thunnissen, M., Boselie, P., Fruytier, B., 2013. A review of talent management: “infancy or adolescence?” *Int. J. Hum. Resour. Manag.* 24 (9), 1744–1761.
- Thunnissen, M., Gallardo-Gallardo, E., 2017. Talent Management in Practice: An Integrated and Dynamic Approach. Emerald Publishing, Bingley.
- Thunnissen, M., Van Arensbergen, P., 2015. A multi-dimensional approach to talent. *Pers. Rev.* 44 (2), 182–199.
- Towers Watson, 2014. Global Talent Management and Rewards Study.
- Tymon, W.G., Stumpf, S.A., Doh, J.P., 2010. Exploring talent management in India: the neglected role of intrinsic rewards. *J. World Bus.* 45 (2), 109–121.
- Valverde, M., Scullion, H., Ryan, G., 2013. Talent management in Spanish medium-sized organisations. *Int. J. Hum. Resour. Manag.* 24 (9), 1832–1852.
- Vermeulen, F., 2005. On rigor and relevance: fostering dialectic progress in management research. *Acad. Manag. J.* 48 (6), 978–982.
- Von Krogh, G., Rossi-Lamastra, C., Haefliger, S., 2012. Phenomenon-based research in management and organisation science: when is it rigorous and does it matter? *Long Range Plan.* 45 (4), 277–298.
- World Economic Forum (WEF), January 2016. The Future of Jobs: Employment, Skills and Workforce Strategy for the Fourth Industrial Revolution. World Economic Forum.
- Zmud, R., 1996. Editor’s comments: on rigor and relevancy. *MIS Q.* 20, xxxvii–xxxvxl.