Talent Analytics: A Strategic Tool for Talent Management Outcomes

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The present paper highlights the importance of talent analytics as a strategic tool for talent management (TM) outcomes impacting business performance. The paper summarizes the arguments in the form of a conceptual framework with related propositions based on extensive literature review. It argues that the analytical capability of the human resource (HR) function along with a data-oriented culture of an organization may be positively related to the use of talent analytics for making strategic TM decisions. This would lead to strategic TM outcomes such as talent pipeline development; talent retention; and talent engagement; subsequently impacting business performance. The paper also provides implications for HR professionals and discusses directions for future research.

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Introduction

The past few years have seen a major shift in the way technology impacted business and management processes (Stone &Dulebohn, 2013). During the World Economic Forum (WEF) at Davos in 2016, much was discussed and debated about the fourth industrial revolution. It was said that developments in artificial intelligence, robotics, nanotechnology, 3D printing, genetics and biotechnology are converging towards a new world (CIPD, 2016). Some call it the "Analytics Revolution" which can transform organizations and societies; however, research on analytics is still in its' nascent stage with many organizations finding it difficult to understand how, where and when to use analytics for their advantage (Kiron, Ferguson & Prentice, 2013). As compared to other departments such as finance, marketing and/or supply chain management (Waller & Fawcett, 2013) HR department has not been able to leverage analytics to its full potential even though it collects large amount of employee data (Harris, Craig & Light, 2011). Even today the major focus of analytics is seen in the information technology (IT) domains, with few organizations realiz-

ing the importance of analytics for HR intelligence (Xavier, Srinivasan &Thamizhvanan, 2011). Organizations still lack consensus on how to use analytics to take talent related decisions (Douthitt & Mondore, 2014). There is a need to address this lack of talent intelligence in organizations where HR has hard data facts to develop talent strategies (Snell, 2011). One question that intrigues researchers in the field of HR is: how to leverage the power of analytics on the huge employee data for strategic decision making, more specifically for talent management (Douthitt & Mondore, 2014).

Talent management has become one of the most common terms in managerial and HRM practitioner lexicon.

Collings and Mellahi (2009: 305) defined talent management (TM) as "activities and processes that involve the systematic identification of key positions, development of a talent pool of high potential, development of a differentiated human resource architecture to facilitate filling these positions with competent incumbents and to ensure their continued commitment to the organization." Since proclamations of a "War for Talent" in the late 1990s, talent management has become one of the most common terms in managerial and HRM practitioner lexicon (Minbaeva& Collings, 2013). In times of global competition and rapid changes in the business environment, TM has become the biggest HR risk faced by organizations with analytics required to be the key component for an effective TM strategy (Leisy&Pyron, 2009). In a recent survey on human capital trends in 2014, Deloitte revealed that globalization has impacted both talent management (TM) and analytics, making them some of the urgent global trends requiring attention, taking talent analytics among the top capability gap index. On the other hand, the annual survey report by the Chartered Institute of Personnel and Development (CIPD, 2011), pointed to TM to be a critical human resource (HR) activity that needs attention as most of the organizations find their TM strategies as ineffective. The present paper, answers the call enumerated by Tsui (2013a), where she stated, "management research, however, focuses on refining theories or methods and pays much less attention to solving important empirical puzzles in management practice" (Tsui, 2013a:137; Hambrick, 2007). Strategic talent management and analytics pose a theoretical puzzle in management practice. In this paper we tried to solve this theoretical puzzle by examining the literature on analytics and talent management and unraveling how the former relates to the latter. Hence, this paper explores how organizations can leverage analytics for strategic TM by exploring the antecedents and outcomes of talent analytics, with its impact on business performance.

HR &Analytics: 'Data' as a Strategic Asset

Technology has played a significant role in changing the way organizations work (Deloitte, 2014). With the introduction of technology in the HR function,

there is a significant improvement in the quality of HR services being offered to the employee(s) and employer(s) which enhanced HR efficiency (Stone &Dulebohn, 2013). Giving an analogy between the customer relationship management (CRM) and HR, Haworth & Whitman (2004) stated that technology may help improve employee experiences such as identifying, developing and retaining talent just as technology affects buyers' experiences. It has been identified that employee engagement levels can be improved by using technology (Haworth & Whitman, 2004). Study on Indian organizations revealed that only a few organizations are using their HRIS (Human Resource Information System) for decision analytics purposes while others used it in a more transactional manner (Bhatnagar, 2007a). Not only has the use of technology improved HR service or reduced its administrative load but it has also helped HR play the strategic partner role by providing employee information for strategic decision making (Stone &Dulebohn, 2013). Just as technology made a significant impact on HR service delivery, analytics is also seen as the next enabler for HR and business outcomes (Fitz enz, 2009).

Employee engagement levels can be improved by using technology

The analytics vary from low value steps such as recording data and relating it to organizational outcomes to high value steps such as benchmarking, descriptive and predictive analysis (Fitz enz, 2009). Analytics may be descriptive, predictive or prescriptive in nature which depends on how the data is used for related insights using the applied analytics disciplines such as statistical analysis to arrive at decision making (Kiron, Ferguson & Kirk Prentice, 2013). Most of the HR metrics are lag metrics that measure either efficiency or effectiveness, and few lead indicators to predict future business strategy (Coco, 2011). Predictive analytics can help HR predict events based on patterns of the past behavior (Fitz enz, 2009). Hence, along with people, data has also emerged to be a strategic asset for organizations (Miller, 2014). Organizations are using massive data that they can capture and may be used for competitive insights (Harris, Craig & Light, 2011). The high volume socioeconomic data gathered from a large number of sources, public or private, is termed as big data (George, Haas &Pentland, 2014). "What make most big data big are repeated observations over time and/ or space" (Jacobs, 2009: 40). According to Gartner, any data is big data when it is characterized by the three Vs: high Volume, high Velocity and high Variety which requires new forms of analytical tools for insightful decision making (Laney, 2012). Being more dynamic and real-time, big data has complemented other archival sources of data which are more static in nature (George, Haas &Pentland, 2014).

Analytical Capability & Talent Management

The analytical ability of the organizations is a differentiating factor and a source of competitive advantage (Daven-

port, 2006; Wixom & Watson, 2010; LaValle, Lesser, Shockley, Hopkins & Kruschwitz, 2011). Organizations have started making employees the focus of their analytical activity (Davenport, Harris & Shapiro, 2010) as they realize that along with customer informetion, employee data is also a relevant data for strategic decision making insights (Xavier, Srinivasan &Thamizhvanan, 2011). Analytical capability of the HR function can help apply sophisticated analytics on employee data to find hidden meanings and patterns in data, predicting future events and so on (Fitz enz, 2009). Such analytical capability be utilized for challenging business problems rather than simple quantitative analyses (Harris & Craig, 2011). With the help of analytics, HR can take better quality talent decisions which should be the focus area for HR today (Boudreau and Ramstad, 2005a). Talent intelligence is a part of business intelligence that uses information systems to collect, interpret and forecast events for fact-based decision making (Burstein et al., 2008; Snell, 2011). The use is more strategic in nature than operational/administrative. Stating an ideal information scenario, Haworth & Whitman (2004) revealed that the big data gathered at various levels may help map the characteristics of every employee to better engage and/or develop them. For gaining any useful insight from talent data, it has to be gathered from multiple sources, processes and bucketed in talent profiles (Snell, 2011). Predictive analytics can help make future talent strategies such as by identifying patterns of characteristics of high performing employees using analytics on employee data; future candidates can be selected based on such characteristics (Harris, Craig & Light, 2011). Behavioral analysis also forms part of HR analytics where social media analysis becoming a source of live data for real-time behavioral aspects of employees (Chaudhary, Subramanian, Sinha & Bhattacharya, 2012). In order to gain competitive advantage through people, leading organizations are increasingly using analytics for workforce decisions (Davenport, Harris & Shapiro, 2010). Further, traditional service-oriented HR needs to be extended to "decision science called talentship" for doing talent segmentation (Boudreau & Ramstad, 2005b).Stone &Dulebohn (2013)also suggested HR function to move beyond efficiency to HR effectiveness and impact. Analyzing data in such buckets may lead to formation of talent pools and later implications in HRM for talent pipeline development and thus impact Strategic TM decisions. Hence, the following proposition is developed which is amenable to empirical research.

Analyzing data in such buckets may lead to formation of talent pools and later implications in HRM for talent pipeline development

Proposition 1 (P_1): Analytical capability of HR function will be positively related to the use of analytics for strategic talent management.

Data-oriented Organizational Culture

Data-oriented organizational culture can be developed in the organizations by

promoting fact-driven leadership which sees analytics as a strategic asset (LaValle, Lesser, Shockley, Hopkins &Kruschwitz, 2011). Data-oriented culture has been defined as "a pattern of behaviors and practices by a group of people who share a belief that having, understanding and using certain kinds of data and information plays a critical role in the success of their organization" (Kiron, Ferguson & Kirk Prentice, 2013:18). Other than information systems professionals, organizations also need leadership who are able to leverage insights from such data (Miller, 2014). Analytical leaders focus on the use of analytics for decision making and communicate the importance of analytics to organizational members thereby developing a data-driven culture (Harris & Craig, 2011). It is found that organizations which are front runners in leveraging analytics for talent decisions have a data-centric mindset (Kiron, Ferguson & Kirk Prentice, 2013).Using only intuition or prior experience for HR decision making can be dangerous (see Davenport, Harris &Shapiro, 2010; c.f. Falletta, 2014). Most of the organizations use analytics to provide integrated, consistent and trustworthy data (LaValle, Lesser, Shockley, Hopkins & Kruschwitz, 2011). Decisions are now based on large amount of information acquired through various sources rather than relying on intuition (Harris & Craig, 2011). Organizations can make better decisions with the help of automated data collection tools but this huge data collected through various information systems is of little use, if it cannot be meaningfully analyzed and insightful implications are not drawn from it (Pemmaraju, 2007). Organizations can categorize themselves into five stages depending on the level of analytical capability developed starting from analytically impaired to analytical competitors (Davenport & Harris, 2007).Lack of managerial support is one of the primary barriers to analytics adoption in organizations (LaValle, Lesser, Shockley, Hopkins &Kruschwitz, 2011). Organizations that want to leverage analytics as their competitive advantage can use the DELTA framework which stands for "Data, Enterprise, Leadership, Target and Analysts" which provides a basic framework for successfully adopting analytics (Davenport, Harris & Shapiro, 2010).Willing firms which are analytical innovators build a data – oriented culture by recruiting and promoting analytical talent (Ransbotham, Kiron & Prentice, 2015).Hence, the following proposition is developed which is amenable to empirical research:

Proposition 2(P_2): Data-oriented organizational culture will be positively related to the use of analytics for strategic talent management.

Strategic Talent ManagementOutcomes

With the increasing competition, HRM faces huge pressure to justify return on investment (Snell, 2011). To be a strategic contributor to organizational success, HRM needs to progress from reporting to analytics (Harris, Craig & Light, 2011). In order to gain competitive advantage, organizations can make talent decisions; such as decisions about their critical talent pools, their top per-

To be a strategic contributor to organizational success, HRM needs to progress from reporting to analytics.

formers; based on data-driven analytics rather than relying on guesswork, intuition or gut-feel (Davenport, Harris & Shapiro, 2010). With increasing number of organizations operating internationally, there is a need to manage talent globally which is only be possible with the help of unified, integrated talent intelligence, where hard data is used to develop talent strategies (Snell, 2011).Analyzing big data has implications for human resource management as they reveal patterns and predict future individual and/or group behavior, workplace practices and performance outcomes (George, Haas &Pentland, 2014). Analytics provide consistent, accurate, integrated, accessible and relevant employee data which helps the organizations to track the competencies, skills, attitudes, behavior, demographics and performance of employees to take critical TM decisions (Harris, Craig & Light, 2011). The data collected can help develop a talent pipeline by maintaining detailed information about the capabilities and competencies of each employee (Haworth & Whitman, 2004). Talent analytics can help taking decisions about the critical talent decisions such as talent supply chain, talent value model, workforce forecast and human capital investment analysis to name a few (Davenport, Harris & Shapiro, 2010). Talent analytics would help formulate 'talent philosophy' for organizations (Shen, 2011). Integrating data related to business outcomes and TM can help analytics find a causal relationship between the two (Douthitt & Mondore, 2014). With the help of talent analytics, HR can identify the critical success factors for each job and assign/recruit the right people for such jobs hence increasing person-job fit, productivity and overall organizational effectiveness (Shen, 2011). Analytics can help take talent decisions such as developing leadership pipeline, employee retention, talent gaps to name a few (Bersin, 2013). Talent profiling for high-potential employees is one of the most common use of analytics by HR (Falletta, 2014). Analytics helps organizations to identify their talent gaps by carefully gaining insights from workforce data in terms of demography, cost, competency and performance (Leisy&Pyron, 2009). Critical TM would require HR to collect, analyze and predict workforce needs, challenges and opportunities (Shen, 2011). TM may be explained with the inclusiveness approach, or exclusive approach, explained by Thunnissen et al. (2013) within a talent pool. Talent segmentation helps to categorize and target the most valuable employees for differentiated action (Harris, Craig & Light, 2011). It can be used to take talent decisions such as talent supply chain, critical talent pool (e.g. high performers, high potentials), to find and retain the best talent (Harris, Craig & Light, 2011).Analytics improves talent retention through a differentiated HR strategy. This technology-based customization can be achieved through applying analytics on employee data, both structured and unstructured. This differentiated HR strategy through analytics

is a reinforced retention strategy which helps us to identify individual employee needs that can act as a trigger to stay with the organization. Hence, identifying need-fit can help retain star performers.

Nearly 70 percent of the company's value is dependent upon the skills and experience of its employees.

Increasing accessibility of employee data would help HR link its practices such as talent strategy to employee performance (Gardner, McGranahan& Wolf, 2011). Nearly 70 percent of the company's value is dependent upon the skills and experience of its employees (Taleo Research, 2010; Snell, 2011).Younger, Smallwood & Ulrich (2007) referred a term 'branded talent developers' for organizations that are able to turn employees' development initiatives into a source of competitive advantage. In a report by McKinsey & Co., big data and analytics were seen as the drivers of innovation and productivity (Manyika, Chui, Brown, Bughin, Dobbs, Roxburgh, Hung Byers, 2011).The theoretical framework which may be the basis of such a model may draw upon a resource based view (Barney (1991) which will give the organization following this strategy benefit from the judicious application of IT (Bhatnagar, 2007a). Without an effective talent analytics, any TM strategy, would add little value (Douthitt & Mondore, 2014).Workforce analytics is also a type of business intelligence that if focused on employee data to provide insights to manage and motivate the workforce, determines cause-effect relationships and so on (Hoffmann et al., 2012). Hence, the following proposition is developed which is amenable to empirical research:

Proposition 3(P_3): The use of analytics for strategic talent management will be positively related to strategic talent management outcomes –talent pipeline development, talent retentionand talent engagement.

Business Performance

Talent analytics is a valuable tool, however organizations can gain only when they address the impact of TM practices on business performance rather than analyzing only HR efficiency (Davenport, Harris & Shapiro, 2010). HR needs to move beyond mere data mining to more strategic analysis to examine how employees contribute to business performance (Harris, Craig & Light, 2011).The HR function is going through a tremendous change in the way it can predict future performance as integrated talent scorecard is focused on business outcomes and return-on-investment (Douthitt & Mondore, 2014). Studies have shown that strategic HR dimensions to predict firm performance (Coulson-Thomas, 2012; Bhatnagar, 2013), asTM is a high performance work practice (Chugh & Bhatnagar, 2006) impacting employee engagement(Bhatnagar, 2007b) and business performance (Ingham,

Talent analytics can drive talent engagement, productivity and retention.

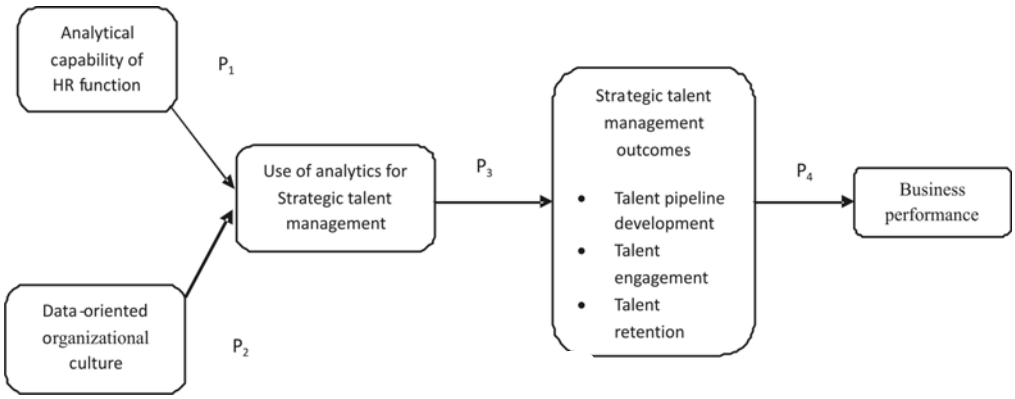
2006). Hence talent analytics can drive talent engagement, productivity and retention (Harris & Craig, 2011) which can further lead to improved business outcomes (Coco, 2011). Strategic TM contributes to sustainable competitive advantage of organizations (Iles, Priest &Chuai, 2010; Chatman, O'Reilly &Chang, 2005; Scholz, 2012).In turbulent market conditions, strategic talent management approach helps organizations to reduce turnover rates (Ballinger, Craig, Cross and Gray, 2011) and improve firm performance (Joyce & Slocum, 2012; c.f. Scholz, 2012).With the help of analytics organizations can predict the needs for the future by monitoring TM performance and linking it to business performance (Harris, Craig & Light, 2011).Hence, we state that:

Proposition 4 (P_4):Strategic talent management outcomes will be positively related to business performance.

The conceptual model

Conceptual model of the studyis given in Fig. 1. This propositional model represents analytical capability of HR function and data-driven organizational culture as the two important drivers promoting the use of analytics for strategic talent management outcomes which further impact business performance.

Fig. 1 The Conceptual Model



Description of the illustration: The conceptual model represents the four propositions discussed above. They are abbreviated as P_1, P_2, P_3 and P_4in the figure.

Implications

This paper provides implications in several ways. First, the paper attempts to integrate and extend the literature on analytics which appeared predominantly in the IT domain (Pemmaraju, 2007), with the domain of TM. With the help of a conceptual model, the paper provides two drivers through which HR profession could leverage analytics for TM decisions, first is the analytical capability of HR function and second is the data-oriented organizational culture thereby

leading to strategic TM outcomes of talent pipeline development, talent retention and workengagement.Hence, our paper provides implications that HR can make an impact and move beyond efficiency and effectiveness (Boudreau & Ramstad, 2005a) by using talent analytics for strategic TM outcomes. This may lead to higher business performance.

However, it is seen that most of the organizations utilize analytics for their finance, marketing and operations departments but lack such analytical capability in their HR function (Deloitte Report, 2014); due to which it is not able to leverage analytics to the full although it collects large amount of employee data (Harris, Craig & Light, 2011). There is a lack of advanced level HR practices in a majority of organizations for gathering and utilizing the vast employee data in order to retain and develop the high performers (Haworth & Whitman, 2004). This lack of analytical competencies in the HR function poses a challenge to carry out high level sophisticated analytics (Levenson, 2011). Developing this analytical capability is also important as all analytics do not offer equal strategic contribution, there is a need to be cautious about measuring what is important rather than measuring what is easy to measure (Ingham, 2011). Also, as the paper highlights that analytical capability of HR function is a key element for strategic TM outcomes, it becomes important to build such a capability. This can be done by effective recruitment and retention of analytical talent in the HR function. HR professions can themselves undergo several training programs or advanced level courses on talent analytics for developing their own analytical skills. HR can take steps to develop and retain analytical talent in organizations (Harris & Craig, 2011). It is in no way required for HR professionals to have statistical or financial degrees, however these skills are important and can be learnt through training (Fitz enz, 2009). Training managers through courses on analytics would help them appreciate the need and importance of analytics (Xavier, Srinivasan &Thamizhvanan, 2011). In order to get the best out of big data collection, organizations should know why they are collecting it and how they would use it (Kiron, Ferguson & Kirk Prentice, 2013). Organizations need to develop big data knowledge and skill sets either through training or by collaborating with academia (Miller, 2014).Analytical leaders can be engaged by empowering them with business information, technical tools and management support (Harris & Craig, 2011).

Future Research

Preliminary work in HRM domain for TM has begun (for example, Collings, 2014;Nilsson &Ellstrom, 2012; Iles, Preece & Chuai, 2010), but limited empirical attention has been paid to TM outcomes (Sheehan & Anderson, 2015). Future research may look at the talent outcomes mentioned here, using the theoretical framework of exclusive or inclusive TM approach(Iles, Chuai, &Preece (2010) and O' Connor & Crowley-Henry (2015:4). Future researchers can focus on issues of data security, data governance and data ethics along with data

quality in order to reap the benefits of analytics and to avoid any unethical decision making (Miller, 2014). Issues such as data sharing, data security, privacy and ethics also need careful attention (George, Haas & Pentland, 2014). Questions over the ethical appropriateness of using private information gathered through social media and email analysis can be looked at (Nunan & Di Domenico, 2013; Falletta, 2014). Use of technology in HR systems and processes has also raised questions of privacy invasion issues on certain protected groups (Stone &Dulebohn, 2013). There are certain technical challenges in analytics implementation such as issues of data integration and so on (Jagadish et al., 2014; Xavier, Srinivasan &Thamizhvanan, 2011) which can also be potential moderators.

There are a number of data-related issues as well such as lack of historical data, the logistical difficulties of collecting and updating accurate information, incompatibility between systems and the difficulties of avoiding duplications, to name just a few (Snell, 2011). Poor quality data, operational focus and the fragmented use of analytics may limit the organizations from exploring analytics capabilities (Kiron, Ferguson & Kirk Prentice, 2013). HR needs to keep in mind that technology can help gather employee data but in-person human interaction should never be neglected (Haworth & Whitman, 2004). Further there is reverse causality between strategic talent management outcomes and analytical capability of HR function. Future studies may test this relationship empirically.

Conclusion

Synthesizing insights from established theories mentioned above and future research directions from past literature, we have developed a conceptual framework that lays down a theoretical grounding that may be pursued by future scholars using a positivist lens of data analysis. Multi-level modeling may give an interesting meso level, cross level analysis (Schnake & Dumler, 2003; Klein et al., 1994: 198).Although strategic talent management has been investigated by scholars from a variety of theoretical perspectives (for example, Scholz, 2012), both practitioners and researchers require empirical evidence of relevant strategic TM strategies from emerging markets. Further a range of diverse research paradigms may be appropriate to test the conceptual framework in the HRM domain. Scholars may use an interpretive/constructivist paradigm and hence qualitative methodology of research may be used, employing comparative and case study research strategy to investigate the conceptual framework.

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