Big Data Analytics in Human Resource Management and Its Impact: Theoretical Development and Empirical Results

TREO Talk Paper

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Abstract

Big data analytics is the process of examining large data sets with a variety of data formats to uncover useful information for business decision making. Human resources management (HRM) is concerned with every single major decision that affects employees. Successful HRM practice is critical for firms to gain competitive advantage, and in reality treating employees as a number one priority has been the common thread among many successful companies, such as Google, SAS, and Southwest.

Today, in addition to traditional HRM practices, for example, recruiting, training, and compensation, HR professionals are also taking an active role in business strategic planning. Incorporating big data analytics into HRM practice has gained popularity in shaping current business decision making. According to the resource-based theory, big data analytics has the potential to expedite organizational performance and competitiveness. Indeed, a stream of burgeoning studies have shown that HR big data analytics can reap incredible benefits manifested in more effective usage of hiring, incentives, and performance appraisals.

That said, it has been a very slow process in applying big data analytics in HRM practice. There are very few clear-cut ways to measure the value of HR data analytics. Even now an increasing number of companies begin to explore big data analytics, there is a huge gap among firms’ usage sophistication. Based on a very recent study, the vast majority of the companies are merely conducting the basic level of reactive operational reporting and only as little as 14% of the firms have done any predictive analysis. Furthermore, the empirical research on this topic has been extremely meager.

This proposed study intends to develop theory and conduct empirical research to investigate how companies should use HR big data analytics to improve the firms’ bottom line performance and make better decisions. The specific research questions we plan to address in the study and would like to discuss at the conference are the following:

- How should we define the role of HR big data analytics in firms?
- What should a mature HR big data analytics function look like?
- What are the appropriate operational and financial metrics to measure the results of HR big data analytics?
- How to analyze HR big data? What are the possible methods?
- Is there a positive link between HR big data analytics and organizational performance?
- What are the steps or key factors that can help firms move from reactive operational reporting to predictive analytics when using big data analytics?
- What are the viable ways to collect data on HR big data analytics practices and the performance metrics?
- Are there any appropriate data sources for the above metrics? In particular, are there any public datasets available to derive these metrics?