

Performance Management, Organizational Effectiveness, and Disruptive Technology

Melvin Tejada

Harvard University

HES IORP E-1501; Industrial-Organizational Psychology

December 3, 2023

Introduction

In the ever-changing landscape of organizational dynamics, at the intersection of performance management, organizational effectiveness, and disruptive technologies, interesting relationships and dependencies emerge. In a review of literature on the subjects, this paper unravels the nuanced ways in which this intersection shapes contemporary paradigms of performance and effectiveness.

Starting with a historical trajectory, this literature review navigates through key milestones of performance management e.g., rater training programs, justice perceptions, and multi-source performance management, followed by the importance and impacts of measuring organizational effectiveness. The paper then shifts to technology, particularly disruptive technology – a force encompassing machine learning, social media, cloud computing, artificial intelligence, and big data – and its influential role in shaping both performance management and organizational effectiveness (Priyashantha, 2022). Moreover, the paper explores insights and critiques of present-day performance management methods and tools. Subsequent sections of the paper cover the relationships between performance management and organizational effectiveness, the personal predictors connecting performance management or organizational effectiveness, and the transformative impact of disruptive technologies on organizational effectiveness. The paper then evaluates weaknesses or limitations in the research, and closes with recommendations for further research.

At the heart of this literature review, lies an examination of the convergence of performance management, organizational effectiveness, and disruptive technologies. By scrutinizing historical perspectives, current methodologies, and the transformative role of

technology, the paper aims to illuminate the path towards innovative approaches that address the evolving needs of the modern workplace.

Literature Review

Performance Management Evolution

Performance management involves the systematic oversight of an organization's performance, ensuring alignment with both corporate and functional strategies and objectives (Bititci et. al., 1997, p. 524). DeNisi and Murphy (2017) add that performance management also helps employees improve their performance via feedback, setting goals, training, and recognition programs, underscoring the dual-path of performance of the organization as well as the employee. Review of performance management practices in this paper begin briefly in the 1950s, mental models for modern-day performance management were being established. Paul Levy (2020) defines mental models as structured frameworks of knowledge, designed to assist an individual in comprehending and interpreting the surrounding world

The evolution of performance management in industrial and organizational psychology can be traced through key developments in training, reactions to appraisals, and the sources and purposes of ratings. Early efforts in the 1950s centered on rater training programs, emphasizing error avoidance through methods like lecturing (DeNisi and Murphy, 2017). Frame of Reference (FOR) training, introduced by Borman marked a significant shift, utilizing videotapes and discussions to instill a uniform theory of work performance in raters. However, by the 1980s, researchers realized that merely cautioning raters against errors did not necessarily lead to more accurate ratings (Borman, 1979).

Then, the exploration of reactions to performance appraisals in performance management, emerged in the 1970s, focusing on ratee/employee satisfaction and fairness

perceptions (DeNisi and Murphy, 2017). Later studies, such as those by Folger, Konovsky, and Cropanzano (1992) and M.S. Taylor et. al. (1995), emphasized the role of justice perceptions in shaping reactions to performance management systems, influencing subsequent models of performance management. The purpose for which appraisals are conducted, as explained by Meyer, Kay, and French (1965), became a critical consideration, with studies in the 1980s and 2000s revealing the impact of varying purposes on decision-making and information sought.

Examining rating sources expanded from supervisor-centric approaches (in the 1940s) to the exploration of multi-source or 360-degree appraisals in the 1990s; although effective, reliability questions persisted. Also new in the 1980s and 1990s, was that cognitive processes involved in performance ratings also provided insights into the acquisition, organization, and recall of performance information, showing again the relationship between performance of the organization and the employee (DeNisi and Murphy, 2017).

Present day performance management methods, per R. Straub (2023), are anchored in outdated tools, e.g., hierarchical arrangements, command-and-control approaches, fixed strategies, detailed planning, and intrusive performance management. Despite the impossibility of accurately predicting future performance with the aforementioned tools, we continue to use artificial intelligence and automated decision-making to alleviate uncertainty rather than just embrace that it exists (Straub, 2023). Doing so would to manage through it, with innovate approaches to improving performance management

The Importance of Organizational Effectiveness

Organizational effectiveness, defined as “the degree to which an organization realizes its goals” (Daft, 1995, p. 98), is a multi-faceted construct made up of intricate relationships between various organizational processes and systems. In assessing the broad impact of organizational

effectiveness, Stanton and Nankervis (2011) include the impacts of a variety of areas, e.g., job design, staffing, learning and development, remuneration, and career management systems; these components, when meticulously orchestrated, may contribute not only to micro-level employee satisfaction and engagement, but also extend their influence to the macro-level, where they may shape and mold the organization's ability to achieve any desired level of effectiveness (Stanton, P., & Nankervis, A. (2011). Stanton and Nankervis (2011) also emphasize that such metrics encompass critical dimensions like compliance, efficiency, productivity, return on investment, and ultimately, profitability. This intricate web of connections underscores the importance of a nuanced understanding of how organizational effectiveness operates on multiple levels.

Neely (1998) underscores a pivotal juncture in the evolution of performance management practices that is marked by the influence of quality, dependability, and excellence awards. Early entities, such as the Malcolm Balridge National Quality Award in 1987 and the European Foundation for Quality Management (EFQM) in 1998, have catalyzed a revolution in performance management, spurring organizations to innovate, invest in employee development, and adopt best practices.

For historical, yet modern reference to organizational effectiveness, Straub (2023) contends that Peter Ferdinand Drucker, born in 1909, is widely acknowledged as the father of modern management. Drucker's formative years were spent in Vienna during the tumultuous 1930s, instilling in him a profound belief in the interconnectedness of humanity and organizational effectiveness. Drucker asserted that humanity without performance was vulnerable, and that performance without humanity was technological solutionism. Drucker also thought that highly effective organizations were indispensable components of a functional democracy (Straub, 2023). This underscores a common thread among research reviewed in this

paper, that is the general importance of organizational effectiveness and performance insights, and their importance over time, and also previews technology's role in organizational performance.

Disruptive Technology

Cheng, Ramlogan, and Li define disruptive technology as a technology that possesses the capacity to instigate significant disruptions to established norms by reshaping resource utilization patterns, altering interpersonal dynamics within professional contexts, and consequently reconfiguring value structures (2017). Cheng et. al. further explain the concept into two categories: the first entails the displacement of incumbent technologies, encompassing shifts across attribute dimensions, and engenders transitions that alter the competitive landscape within established industries; the second is characterized by the creation of entirely novel markets or capabilities where none had existed before (2017).

Performance Management and Organizational Effectiveness

An example of an organizational relationship between performance management and organizational effectiveness is the 'Balanced Score Card,' developed in the early 1990s by Robert Kaplan (a Harvard Business School professor) and David Norton (a consultant). This development was the first time that a balanced set of financial and non-financial performance measures were used to measure, and improve, efficiency and profitability, for both the organization and the employee (Yadav and Sagar, 2013).

Another example looks at the personal relationship between performance management and organizational effectiveness. Colbert, Barrick, and Bradley (2014) connect organizational effectiveness directly to individual predictors, such as employee conscientiousness, emotional

stability, openness to experience, extraversion, and agreeableness, insisting they are clear predictors for success, particularly at the senior executive level.

Performance Management and Disruptive Technologies

Disruptive technologies can range from the creation of the bow and arrow, to the emergence of the world wide web, search engines, and mobile phones in the 1990s and 2000s, to big data, 3D printing, and crypto currencies in the 2010s, and recently, machine learning and generative artificial intelligence in 2023. K.G. Priyashantha (2022) establishes a list of disruptive technologies, and their impact on human resources, performance management, and organizational effectiveness, as: social media (e.g., used in recruitment, selection, and learning and development), cloud computing (e.g., used in automations for human resource processes), big data (e.g., used to analyze employee performance and satisfaction, engagement data, organizations, and customers), data analytics (e.g., used to analyze information about employee performance, job seekers and overall organizational success), the Internet of Things (IoT) (e.g., used to aid in employee tracking, and performance management), and mobile technology (helping to facilitate the aforementioned human resources activities).

Priyashantha (2022) groups this relationship between performance management and technology, into three clusters. The first is defined by the employees intention or desire to use electronic human resource tools, and includes effectiveness, effort expectancy, performance expectancy, and social influence. The second is defined as ‘communication technology support,’ and includes communication, electronic human resource processing, and usefulness. The third and last cluster is defined as ‘outcomes,’ and is composed of organizational effectiveness, competitive advantage, and employee productivity.

Organizational Effectiveness and Disruptive Technologies

Based on Kaiser's (2020) research, organizational effectiveness underscores two prominent themes: the escalating complexity of operational landscapes and the rapid change of pace. Advancements in digital technology, coupled with the economic globalization and cultural diversity, have intricately interconnected organizational environments, rendering them more turbulent. Kaiser (2020) also summarizes a new vocabulary emerging from this aforementioned turbulence, specifically on organizational effectiveness and disruptive technology. Terms include: VUCA (volatility, uncertainty, complexity, and ambiguity), black swans (the highly improbable and its impacts), paradox, and disruption.

As per earlier mention, Stanton and Nankervis (2011) state that efforts to reach any desired levels of organizational effectiveness, ultimately impact your profitability. In an era where digital technologies have considerable influence over competition across various industries, foresight into the trajectory of potentially disruptive technologies becomes an imperative responsibility of organizational leaders to ensure survival of their organizations (Krotov, 2019).

Discussion

Weaknesses in the Literature

This literature review on performance management and organizational effectiveness reveals several noteworthy weaknesses. Firstly, Stanton and Nankervis (2011) discuss the tendency to concentrate on traditional metrics such as profitability and productivity, but neglect addressing nuanced dimensions that are crucial for a comprehensive understanding of organizational health. While DeNisi and Murphy (2017) discuss the importance of cognitive processes in performance ratings, there is a lack of exploration into how these aspects influence

the accuracy and reliability of assessments. DeNisi and Murphy also discuss perspectives of raters and organizational leaders, but not the experiences and perceptions of the employees undergoing performance management.

DeNisi and Murphy (2017) cover multi-source performance management, but do not go in depth on its reliability, however granting employees more of this control over the performance management process aligns with the points by Folger, et. al., (1992) and M.S. Taylor et. al. (1995) regarding employee reactions (specifically to fairness and justice) to performance management. Straub (2023) explains some complexities of rapidly changing environments, but does not go into detail about specific strategies and best practices for navigating such complexities. Finally, despite acknowledging the potential disruption from technology in Priyashantha's (2023) research, there is a gap in understanding the human elements involved, such as employee acceptance, resistance, and the impact on workplace dynamics.

Conclusion

The literature in this review weaves together a long history of performance management and organizational effectiveness, with its more recent partner, disruptive technology. Many research opportunities have emerged from this review. Firstly, there is an opportunity to integrate advanced analytics for performance management. In research, this might include the identification and analysis of new performance management indicators, e.g., employee technical fungibility, the sentiment of employee feedback, or patterns in employee collaboration, all using big data analysis. Next, artificial intelligence could be leveraged to enhance the accuracy and reliability of performance assessments by analyzing variables, such as emotional tone of feedback to decipher possible patterns in rating decisions. Then, research can be conducted on how blockchain technology, (technology based on securing transactional information), could be

used in multi-source (360-degree) appraisals, making the information/data tamper-proof; improving reliability and confidentiality. Lastly, research should explore how the use of predictive analytics might inform rapidly changing technologies or environments, for optimal organizational effectiveness. This could also help plan for change management initiatives required from the emerging integration of said disruptive technologies.

References

- Bititci, U.S., Carrie, A.S. and McDevitt, L. (1997), "Integrated performance management systems: a development guide", *International Journal of Operations & Production Management*, Vol. 17 No. 5, pp. 522-534. <https://doi.org/10.1108/01443579710167230>
- Borman, W. C. (1979). Format and Training Effects on Rating Accuracy and Rater Errors. *Journal of Applied Psychology*, 64, 410 – 421. <https://doi.org/10.1037/0021-9010.64.4.410>
- Cheng, Y., Huang, L., Ramlogan, R., & Li, X. (2017). Forecasting of potential impacts of disruptive technology in promising technological areas: Elaborating the SIRS epidemic model in RFID technology. *Technological Forecasting & Social Change*, 117, 170–183. <https://doi.org/10.1016/j.techfore.2016.12.003>
- Colbert, A. E., Barrick, M. R., & Bradley, B. H. (2014). Personality And Leadership Composition in Top Management Teams: Implications for Organizational Effectiveness. *Personnel Psychology*, 67(2), 351–387. <https://doi.org/10.1111/peps.12036>
- Daft RL. (1995) *Organizational Theory and Design*. St. Paul: West Publishing.
- DeNisi, A. S., & Murphy, K. R. (2017). Performance Appraisal and Performance Management: 100 Years of Progress? *Journal of Applied Psychology*, 102(3), 421–433. <https://doi.org/10.1037/apl0000085>
- Folger, R., Konovsky, M. A., & Cropanzano, R. (1992). A due process metaphor for performance appraisal. *Research in Organizational Behavior*, 14, 127–148
- Kaiser, R. B. (2020). Leading in an Unprecedented Global Crisis: The Heightened Importance of Versatility. *Consulting Psychology Journal*, 72(3), 135–154. <https://doi.org/10.1037/cpb0000186>

- Krotov, V. (2019). Predicting the future of disruptive technologies: The method of alternative histories. *Business Horizons*, 62(6), 695–705.
<https://doi.org/10.1016/j.bushor.2019.07.003>
- Levy, P. E. (2020). *Industrial/Organizational Psychology: Understanding the Workplace* (6th edition). New York, NY: Worth Publishers.
- Neely, A., Gregory, M., & Platts, K. (1995). Performance measurement system design - A literature review and research agenda. *International Journal of Operations & Production Management*, 15(4), 80–116. <https://doi.org/10.1108/01443579510083622>
- Priyashantha, K. G. (2023). Disruptive technologies for human resource management: a conceptual framework development and research agenda. *Journal of Work-Applied Management*, 15(1), 21–36. <https://doi.org/10.1108/JWAM-10-2022-0069>
- Stanton, P., & Nankervis, A. (2011). Linking strategic HRM, performance management and organizational effectiveness: perceptions of managers in Singapore. *Asia Pacific Business Review*, 17(1), 67–84. <https://doi.org/10.1080/13602381003790382>
- Straub, R. (2023). A Thriving Human Economy Requires Higher Performing Institutions. *Innovations (Cambridge, Mass.)*, 13(3-4), 30–35. https://doi.org/10.1162/inov_a_00289
- Taylor, M. S., Tracy, K. B., Renard, M. B., Harrison, J. K., & Carroll, S. J. (1995). Due process in performance appraisal: A quasi-experiment in procedural justice. *Administrative Science Quarterly*, 40, 495–523. <http://dx.doi.org/10.2307/2393795>
- Yadav, N., & Sagar, M. (2013). Performance measurement and management frameworks. *Business Process Management Journal*, 19(6), 947–971. <https://doi.org/10.1108/BPMJ-01-2013-0003>