Industrial and Organizational Psychology (2026), **19**, 345–349
doi:10.1017/iop.2026.10100

CAMBRIDGE UNIVERSITY PRESS

COMMENTARY

Work analysis and competency modeling in effective circular economy implementation

Katherine C. Wheeler and S. Burak Ozkum

Department of Psychology, Illinois State University, USA
Corresponding author: Katherine C. Wheeler; Email: kcwhee1@ilstu.edu

In their focal article, Schilling et al. (2026) specifically illustrate how interorganizational and intraorganizational cooperation are the most critical areas through which I-O psychology can contribute to a sustainable circular economy (CE) transition. This commentary elaborates on the application of I-O psychology by highlighting how work analysis and competency modeling enable effective CE implementation through organizational cooperation. Transitioning from a linear to a CE represents a major organizational change. During this change, organizations must ensure that their systems remain aligned. Work analysis and competency modeling are crucial to this alignment.

As defined by Brannick et al. (2017), work analysis is the systematic process of gathering and analyzing information about work content, worker attributes related to work performance, and work context. Job/work analysis provides the foundation for most HR systems (Sanchez & Levine, 2012). Furthermore, competency models are frameworks that describe worker competencies required for effective performance across jobs at an organization, with competencies meaning knowledge, skills, abilities, traits, attitudes, values, and motives that contribute to the goals and culture of an organization (Brannick et al., 2017; Campion et al., 2011). Competency modeling creates a shared understanding and a common language within an organization, which is a powerful tool for aligning all employees towards a common goal (Campion et al., 2011).

Both work analysis and competency modeling make unique contributions to CE implementation. Work analysis contributes in a role-specific way by detailing specific tasks and technical knowledge, skills, abilities, and other characteristics (KSAOs) for immediate CE work design and subsequent HR functions. Competency modeling contributes in a broader way, serving as a framework that connects employee behaviors and attitudes to larger organizational goals in relation to CE processes and outcomes. We argue that these unique yet connected contributions establish work analysis and competency modeling as essential first steps toward successfully initiating a change to a CE. As highlighted in the focal article, within-unit cooperation is important to effective CE implementation. Working alongside other processes such as team building, selection, and training, work analysis and competency modeling are foundational frameworks that support and structure this important element of cooperation by informing work design and competency alignment. Thus, when applying I-O psychology domains to CE implementation, work analysis and competency modeling should not be overlooked.

© The Author(s), 2026. Published by Cambridge University Press on behalf of Society for Industrial and Organizational Psychology. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

Downloaded from https://www.cambridge.org/core. UNIVERSIDAD AUTONOMA METROPOLITANA, on 16 Nov 2026 at 09:39:08, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/iop.2026.10100

The importance of work analysis in CE implementation

Identifying necessary tasks and KSAOs

Adopting a CE requires organizations to transform many core processes, such as product design, production, supply chain, and consumer behavior (Schilling et al.). This means potentially redesigning current jobs to include circularity and designing new jobs to meet the needs of a CE. Yet the design and redesign of jobs rely on the information gathered from strategic work analysis. Work analysis defines job tasks and responsibilities. As jobs are added or altered, the required skills and knowledge of employees must match those job tasks and responsibilities. Thus, the systematic process of work analysis is an essential step in linking CE job tasks to employee characteristics or KSAOs. The correct identification of tasks and KSAOs is imperative to inform other systems that rely on employee attributes.

Work analysis is a bottom-up approach that is specific to certain roles. For instance, CE product design requires skills in designing products so that their parts and materials can be easily separated and requires knowledge of materials that are durable, recyclable, and compatible with reuse systems (Martin, 2025). Additionally, there are likely specific KSAOs that will be useful to those in product design that are different from those useful in production, quality assurance, or consumer behavior. Therefore, work analysis is useful for determining specific KSAOs needed to transition to a CE in specific roles. More broadly, a thematic analysis of expert interviews by Wu (2025) and an analysis of employee skills data by Straub et al. (2023) highlight the need for strategic, technical, interpersonal, and digital skills in a CE workforce. This research has identified collaboration and interpersonal skills as necessary skills for the CE workforce, which is in line with the viewpoint of Schilling et al. Broad interpersonal skills can be broken down into more specific skills including cross-functional collaboration, stakeholder engagement, multilevel communication, knowledge facilitation, and negotiation (Wu, 2025). By performing work analysis, organizations can determine the nature of collaboration that is required for each job or department, and thus the specific skills that are needed. Altogether, work analysis aids in job design/redesign and ultimately contributes to the power of the CE system.

Influence of work analysis on HR functions in CE

The information gained through work analysis is extremely important to organizational functions that are related to CE implementation, such as selection, performance management, and training. Selection systems should assess the technical and collaboration skills required for CE work to ensure that individuals who are hired possess the right capabilities to perform the job. The selection tools and measures that are used in selecting for a particular role should be directly linked to the required worker characteristics. Additionally, green human resources management research shows that including environmental tasks in work analyses produces clearer expectations in job descriptions about eco-related tasks (Okon et al., 2025). Accordingly, it is important to ensure through the selection process that the employees who are hired hold environmental values that will facilitate motivation and engagement in performing eco-related tasks. In terms of performance management, the tasks of CE jobs should also guide how employees are evaluated. Environmental tasks specifically communicated in job descriptions lead employees to be more responsible and accountable for sustainability-related outcomes. This guides performance management and makes sustainability a measurable aspect of an employee's role (Okon et al., 2025). Furthermore, because CE implementation may require different skills that current employees do not possess, organizations can also use work analysis to identify key trainable KSAOs to design CE-focused training programs. As Straub et al. (2023) mention, identifying gaps in employee skills for CE implementation is useful for reskilling and upskilling efforts that close skill gaps and drive performance. In essence, work analysis informs selection, performance evaluation, and training for CE roles. The use of work analysis to inform these organizational

Downloaded from https://www.cambridge.org/core. UNIVERSIDAD AUTONOMA METROPOLITANA, on 16 Nov 2026 at 09:39:08, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/iop.2026.10100

processes is important to the success of CE implementation because it ensures that the people doing the work to make a CE happen have an understanding of their job duties, are proficient in their job duties, and are performing at a favorable level.

The importance of competency modeling in CE implementation

Identifying key competencies

Although work analysis is a beneficial bottom-up approach to understanding jobs, competency modeling is a beneficial top-down and future-oriented approach that supports organizational alignment. Developing a competency model starts with defining organizational goals and objectives and moves to determining what worker attributes are critical for those goals and objectives to be achieved (Brannick et al., 2017; Campion et al., 2011). In a transition to a CE, the major goals revolve around waste reduction and reduced environmental impact, with specific goals being specific to a particular organization. Therefore, competency modeling can be useful to pinpoint what employee attributes are going to help the organization successfully and effectively achieve these goals. For example, a survey of CE designers by Sumter et al. (2021) identified key competencies such as circular systems thinking, circular impact assessment, CE communication, and CE collaboration. Additionally, as Dräger and Letmathe (2023) illustrated in their study on the role of construction employees in CE efficiency, an innovative mindset is a required worker attribute because efficiency gains can only be detected by employees thinking innovatively and "outside the box." These studies show that competencies for CE include broader attributes that relate to innovative and circular ways of thinking as well as soft skills like communication and collaboration. Communicating CE competencies through a competency model creates a shared understanding of how employees contribute to organizational goals.

Influence of competency modeling on HR functions in CE

The common language created by competency modeling helps to form unity in an organization and allows for individuals and teams to communicate effectively toward a common goal. In implementing CE, the cooperation element that Schilling et al. discuss within the focal article, and that Sumter et al. (2021) also discuss, is set up and upheld by top-down alignment of common goals.

The common language created by the competency model can then be used to effectively implement selection systems, performance management systems, and training designs that support a CE. Although it is important that an organization hires and maintains employees who are skilled and know how to do the work, it is also important to hire employees who reflect the organization's culture and values. As Bertassini et al. (2021) point out, an organization needs to have a CE-oriented culture in order to establish CE as normal practice, which involves shared values, cognitive frames, and emotional attachments to organizational identity. Taking this into account, using competency models to inform selection systems for CE organizations in particular ensures person–organization fit (Subramanian & Suresh, 2022). This is supported by research that indicates that selecting employees with environmental values aligned with the sustainability goals of the organization significantly contributes to organizational performance (Okon et al., 2025).

Additionally, competencies often include behavioral indicators and proficiency levels, making the integration of competencies into performance management seamless (Campion et al., 2011). Implementing competencies such as circular systems thinking, innovation, and collaboration into performance evaluations would directly relate to how effectively CE systems operate because it would help to differentiate top performers from lower performers and help to ensure that employees are effectively contributing to the CE-oriented objectives of the organization.

Downloaded from https://www.cambridge.org/core. UNIVERSIDAD AUTONOMA METROPOLITANA, on 16 Nov 2026 at 09:39:08, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/iop.2026.10100

Similarly, the use of competency models in designing training programs would be beneficial to CE implementation. As Wu (2025) emphasizes, the current workforce is often ill-equipped to meet the demands of novel competencies and particular mindsets that CE strategies call for. Training programs aimed at developing certain competencies can be instrumental in closing the gap. Particularly, training focused on cooperation competencies will support the cooperation efforts within organizations that the focal article stresses are important to CE implementation. In fact, traditional training models may not be sufficient for employees in a CE; instead, interdisciplinary training that incorporates broader environmental and systems thinking should be implemented.

Bringing work analysis and competency modeling together for CE

Considering the benefits of work analysis and competency modeling, both should be used together as complementary approaches to reorganizing and developing the human capital needed for CE implementation. Both approaches shape HR systems (such as selection, performance management, and training), but they do so in different ways. Work analysis specifies the task-level KSAOs required for CE practices, whereas competency modeling translates CE strategy into organization-level expectations. In the context of CE implementation and within-organization cooperation, the outcomes of both work analysis and competency modeling provide employees with an understanding of their role within a CE and what is expected of them in terms of how they perform their jobs and how they interact with others within the organization. This understanding doesn't just promote collaboration; it fosters collaboration that is effective and that functions as a core activity driving CE systems. The outcomes of work analysis and competency modeling also provide the organization with an understanding of what kind of employees are needed, how to evaluate employee performance, and how to develop talent to significantly contribute to CE implementation. This understanding ensures that when transitioning from a linear to a CE, organizations are able to leverage human capital for effective CE enactment.

Conclusion

Sustainable CE implementation is at its core a change in organizational goals and strategies. Therefore, work analysis and competency modeling are extremely important in this organizational change because they are the starting points and providers of key information for various related systems. The authors of the focal article mainly focus on how individuals and teams collaborate within an organization and how organizations collaborate with other organizations. However, in order to have an effective level of collaboration, people must have the necessary skills, and they have to be aligned in their understanding of how they contribute to organizational goals. In essence, work design, KSAOs, and competency alignment are necessary antecedents of effective cooperation between individuals and teams within a CE. Thus, the domain of work analysis and competency modeling must be a fundamental I-O psychology domain for implementing CE.

As the focal article by Schilling et al. proposes, there is a large and mainly untouched opportunity to apply I-O psychology theories and practices to effective CE implementation. We agree that more research is needed on how I-O psychology domains relate to transitions to CE systems. Although there is substantial literature on job/work analysis and competency modeling within I-O psychology, we found very little research on the relationship between these processes and how they are used in CE implementation and sustainability efforts. Although there is some research on how specific KSAOs relate to CE implementation, this information has not been shown to be integrated within work analysis and competency modeling practices. To improve this integration, we recommend that work analysis be crafted and developed to better involve and cater to the unique context of implementing CE from a linear economy. This would entail clearly

Downloaded from https://www.cambridge.org/core. UNIVERSIDAD AUTONOMA METROPOLITANA, on 16 Nov 2026 at 09:39:08, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/iop.2026.10100

incorporating sustainability responsibilities in the analysis of job tasks and involving sustainability experts in the process to ensure that CE-related tasks are well represented in a work analysis. Additionally, applying work analysis methods that are more future oriented, such as strategic work analysis, will allow for organizations to better support themselves and the CE amid evolving roles and systems. In terms of competency modeling, we recommend that partnered organizations or organizations within the same industry gather information from other sources outside of their own organization. Because CEs involve collaboration between organizations, the formulation and evaluation of competency models across connected organizations creates the opportunity for a coherent multiorganizational system for CE. Additionally, more interdisciplinary research between I-O psychology, environmental studies, economics, and other related fields is needed. As the focal article suggests, people are extremely important in CEs because it is people who bring about outcomes through their ideas, behaviors, and collaboration with others. Combining these I-O psychology concepts with concepts from environmental and economic studies equips practitioners with the tools to support individuals, teams, and organizations in the unique context of CE implementation and sustainability.

Competing interests. The authors have no known conflict of interest to disclose.

References

Bertassini, A. C., Ometto, A. R., Severengiz, S., & Gerolamo, M. C. (2021). Circular economy and sustainability: The role of organizational behaviour in the transition journey. *Business Strategy and the Environment*, **30**(7), 3160–3193. https://doi.org/10.1002/bse.2796

Brannick, M. T., Pearlman, K., & Sanchez, J. I. (2017). Work analysis. In J. L. Farr, & N. T. Tippins (Eds.), *Handbook of employee selection* (pp. 134–161). Routledge.

Campion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, **64**, 225–262.

Dräger, P., & Letmathe, P. (2023). Who drives circularity? – The role of construction company employees in achieving high circular economy efficiency. *Sustainability*, **15**(9), 7110. https://doi.org/10.3390/su15097110

Martin, H. (2025). Skills for a circular economy transformation—A regional case study from Sweden. *International Journal of Training and Development*, **29**(3), 299–308. https://doi.org/10.1111/ijtd.12360

Okon, E. E., Emu, W. H., Morgan, M. O., & Edodi, H. U. (2025). Green human resource management practices and sustainability of manufacturing firms. *Journal of Economics and Allied Research*, **10**(2), 149–162.

Sanchez, J. I., & Levine, E. L. (2012). The rise and fall of job analysis and the future of work analysis. *Annual Review of Psychology*, **63**, 397–425.

Schilling, H., Ritter, M., Kuhner, C., Hirschberger, S., Zacher, H., & Kauffeld, S. (2026). Leveraging the science and practice of industrial and organizational psychology for effective circular economy implementation. *Industrial & Organizational Psychology*, **19**(3), 308–325.

Straub, L., Hartley, K., Dyakonov, I., Gupta, H., van Vuuren, D., & Kirchherr, J. (2023). Employee skills for circular business model implementation: A taxonomy. *Journal of Cleaner Production*, **410**, 137027. https://doi.org/10.1016/j.jclepro.2023.137027

Subramanian, N., & Suresh, M. (2022). The contribution of organizational learning and green human resource management practices to the circular economy: A relational analysis-part I. *Learning Organization*, **29**(5), 428–442. https://doi.org/10.1108/tlo-12-2021-0143

Sumter, D., de Koning, J., Bakker, C., & Balkenende, R. (2021). Key competencies for design in a circular economy: Exploring gaps in design knowledge and skills for a circular economy. *Sustainability*, **13**(2), 776. https://doi.org/10.3390/su13020776

Wu, Y. (2025). Identifying and prioritizing essential skills for the circular economy workforce. *Journal of Environmental Management*, **393**, 127237. https://doi.org/10.1016/j.jenvman.2025.127237

Cite this article: Wheeler, K. C. & Ozkum, S. B. (2026). Work analysis and competency modeling in effective circular economy implementation. *Industrial and Organizational Psychology* **19**, 345–349. https://doi.org/10.1017/iop.2026.10100

Downloaded from https://www.cambridge.org/core. UNIVERSIDAD AUTONOMA METROPOLITANA, on 16 Nov 2026 at 09:39:08, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/iop.2026.10100