

Combining Technical Competency and DEI for Sustainable Workplaces: Case of Human Capital at Non-Ferrous Value-Added Products in Western Odisha

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Abstract: *The paper aims to understand the suitability of Technical Competencies and DEI for sustainable workplaces for Human Capital at Non-Ferrous Value-Added Products in Western Odisha. In the business landscape of modern times, organizations are increasingly recognizing the importance of Diversity, Equity, and Inclusion (DEI) in creating sustainable workplaces. As globalization and demographic shifts continue to shape the workforce, it is crucial for companies to embrace and leverage the diverse talents, perspectives, and experiences of their employees. At the same time, technical competency - an area of knowledge or skill that is useful in a particular industry's job responsibilities – is well-studied as a critical factor in the success of an organization in the industry. Different industries require diverse skills for employees, making employers emphasize different competencies depending on the products or services they offer. Having a technically competent workforce is a key area for the short- and long-term success of an organization. Given the importance of these two factors viz Diversity, Equity, & Inclusion (DEI) and Technical Competency in sustainable and successful workplaces, it is important to explore their interaction and combined dynamics. Are they contradictory or complementary in nature? Can they be made complementary in nature through organization development, organization behaviour and organizational practices? We aim to understand the key strategies, best practices, and possible outcomes of integrating both technical competencies and DEI principles into organizational culture, policies, and practices that drive long-term success and sustainability.*

These are among the key questions that we explore via studying the Human Capital at Non-Ferrous Value-Added Products in Western Odisha. Odisha is a mineral-rich eastern State in India on an early path to development in the manufacturing space. Lately, the state has started evolving into a hub in both ferrous and non-ferrous sectors. Whether it is steel or aluminum, the state's resources and policies make it key for metal producers. However, the state's human development indicators (HDI) are still not in the upper percentiles of the country. The state, which has a lower HDI but is coming up fast in manufacturing, has a good landscape to study and understand the impact and interaction of both DEI and technical competency. Using surveys and interview methods, we aim to understand and assess the gaps in the interaction of DEI and Competency that are needed for organizations to sustain in the long term and create a framework that can be used to deploy them together in origination for long-term sustainability and success. The framework could be used to develop long-term strategies such as setting up a School of Diversity and Excellence within organizations and possibly by the government as a collective school, which can utilize such frameworks to deliver on sustainable goals of organizations and industry.

I. Introduction

A. Background

In the business landscape, Diversity, Equity, and Inclusion (DEI) have gained increasing recognition as vital components for creating sustainable and competitive workplaces. Organizations globally are acknowledging the significant impact that DEI initiatives can have on fostering a more innovative, collaborative, and productive workforce. Simultaneously, technical competency remains a critical factor for organizational success, particularly in industries that rely heavily on

specialized skills and knowledge. The integration of DEI and technical competency is essential for organizations striving to maintain a competitive edge in an increasingly globalized and diverse market.

Globalization and demographic shifts are reshaping workforce dynamics, compelling organizations to embrace diverse talents, perspectives, and experiences. These trends underscore the importance of DEI in addressing the varied needs of a multifaceted workforce and leveraging its full potential. As companies expand their operations across borders, the ability to integrate diverse

cultural, ethnic, and gender perspectives becomes paramount for driving innovation and growth.

Western Odisha, a mineral-rich region in eastern India, provides a unique context for examining the interplay between DEI and technical competency. The region is undergoing significant industrial development, particularly in the non-ferrous value-added products sector. This sector, encompassing industries such as aluminium and other non-ferrous metals, plays a crucial role in the region's economic growth and development. Western Odisha's strategic importance is further amplified by its evolving status as a manufacturing hub, supported by favourable state policies and abundant natural resources.

Despite its industrial potential, Western Odisha faces challenges related to human development indicators (HDI), which still need to be higher compared to other regions in India. This disparity presents both a challenge and an opportunity for organizations operating in the non-ferrous sector. By effectively combining DEI initiatives with efforts to enhance technical competency, companies can address skill gaps, improve workforce capabilities, and contribute to the region's socio-economic development.

The significance of the non-ferrous value-added products sector in Western Odisha's industrial landscape cannot be overstated. As the region continues to develop, the integration of DEI and technical competency will be pivotal in ensuring sustainable growth and long-term success. This paper explores the potential synergies between DEI and technical competency, proposing a framework that organizations can adopt to foster a more inclusive, competent, and sustainable workforce in Western Odisha's non-ferrous value-added products sector.

B. Problem Statement

The manufacturing sector, particularly in regions undergoing significant industrial development like Western Odisha, faces the dual challenge of enhancing technical competency and fostering Diversity, Equity, and Inclusion (DEI). While technical competency is crucial for operational efficiency and innovation, DEI is essential for creating a workplace that leverages diverse perspectives and talents. However, the interaction

between DEI and technical competency remains underexplored, especially in the context of manufacturing industries. There is a pressing need to understand whether these two elements are inherently contradictory or can be harmoniously integrated to drive sustainable organizational success. Addressing this gap is critical for developing effective strategies that ensure both a highly skilled and inclusive workforce, ultimately contributing to the long-term sustainability of organizations in the manufacturing sector.

C. Research Objectives

1. **To Investigate whether DEI and Technical Competency are Contradictory or Complementary:** This study aims to explore the dynamics between DEI and technical competency within the manufacturing sector, particularly focusing on the non-ferrous value-added products industry in Western Odisha. By examining existing literature and theoretical perspectives, the research will identify whether these elements can coexist without conflict or if their integration presents significant challenges.
2. **To Propose a Framework for Sustainable Organizational Practices:** Based on the findings, the research intends to develop a comprehensive framework that integrates DEI and technical competency into organizational practices. This framework will outline best practices, strategies, and policies that organizations can adopt to enhance both technical skills and inclusivity. The ultimate goal is to provide a model that supports the sustainable growth of manufacturing firms by ensuring a competent, diverse, and inclusive workforce.

II. Conceptual Framework

A. *Understanding DEI and Technical Competency in Organizations*

Diversity, Equity, and Inclusion (DEI) and technical competency are critical elements in the fabric of modern organizations. DEI encompasses policies and practices that ensure fair treatment and full participation of all employees, regardless of

their background. It includes creating an environment where diverse individuals feel valued, supported, and able to contribute fully to organizational success. Technical competency, on the other hand, refers to the specific skills and knowledge required to perform job functions effectively. It is especially crucial in industries that depend on specialized expertise, such as the manufacturing sector.

The integration of DEI and technical competency is essential for fostering an inclusive workplace that maximizes the potential of all employees. A diverse workforce brings a range of perspectives and problem-solving approaches, enhancing innovation and decision-making. Meanwhile, ensuring that all employees possess the necessary technical skills is fundamental to maintaining high productivity and operational excellence.

B. Interaction Between DEI and Technical Competency

The interaction between DEI and technical competency can be complex, with potential for both synergy and conflict. On one hand, DEI initiatives can enhance technical competency by attracting and retaining a diverse talent pool, fostering a variety of skills and perspectives that drive innovation. Diverse teams can collaborate to find creative solutions to technical challenges, improving overall organizational performance.

However, conflicts can arise if DEI and technical competency are not managed cohesively. For instance, emphasizing technical skills without considering DEI may lead to a homogeneous workforce, missing out on the benefits of diverse perspectives. Conversely, focusing solely on DEI without ensuring technical competency can result in skill gaps that hinder productivity. Effective integration requires a balanced approach that values both DEI and technical skills equally.

Organizations can navigate these interactions by adopting comprehensive strategies that promote both DEI and technical competency. This includes offering training programs that enhance technical skills while fostering an inclusive culture. Leadership commitment to both elements is crucial, as is the implementation of policies that support continuous learning and equitable opportunities for all employees.

C. Impact on Organizational Culture and Practices

The integration of DEI and technical competency significantly impacts organizational culture and practices. A culture that values both diversity and technical expertise is more likely to be innovative, resilient, and adaptable. Employees in such cultures feel respected and valued for their unique contributions, which enhances engagement and job satisfaction. This, in turn, leads to higher retention rates and attracts top talent.

Organizational practices must evolve to support this integrated approach. Recruitment and hiring processes should be designed to identify candidates who not only possess the necessary technical skills but also contribute to the organization's diversity goals. Performance management systems should recognize and reward contributions to both technical excellence and inclusive behaviours. Training and development programs should focus on building both technical skills and cultural competence, ensuring that employees are well-equipped to work in diverse teams.

Moreover, leadership plays a pivotal role in shaping an inclusive culture that values technical competency. Leaders must model inclusive behaviours and support initiatives that promote both diversity and skill development. They should foster open communication and create opportunities for all employees to develop and advance their careers.

In conclusion, the conceptual framework of combining DEI and technical competency underscores the importance of a balanced and integrated approach. By understanding and leveraging the interaction between these elements, organizations can create a sustainable and inclusive workplace that drives long-term success.

III. Theoretical Analysis

A. Synergy between DEI and Technical Competency

The theoretical synergy between Diversity, Equity, and Inclusion (DEI) and technical competency is grounded in the idea that diverse perspectives foster innovation and enhance problem-solving capabilities. DEI brings together individuals with

varied backgrounds, experiences, and viewpoints, which can stimulate creativity and lead to more comprehensive and innovative solutions. Technical competency ensures that these diverse ideas are effectively translated into practical, high-quality outcomes. When combined, DEI and technical competency can drive organizational performance by leveraging the full potential of a diverse workforce.

Theoretical arguments for the complementary nature of DEI and technical competency often cite the benefits of cognitive diversity. Diverse teams, equipped with a range of technical skills, are better at identifying and addressing complex problems. This combination can lead to improved decision-making processes and more effective solutions. For example, a study by McKinsey & Company (2017) found that companies with greater ethnic and cultural diversity in their executive teams were 33% more likely to outperform their peers on profitability. Additionally, research from Harvard Business Review highlights how diverse teams can leverage their varied experiences to avoid groupthink and generate more innovative ideas.

Examples from literature provide further evidence of the successful integration of DEI and technical competency. For instance, Google's Project Aristotle demonstrated that high-performing teams were characterized by both psychological safety—a key aspect of DEI—and a blend of technical skills. Another example is the case of IBM, which has long championed diversity as a driver of innovation and technical excellence, resulting in numerous groundbreaking technologies and sustained business success.

B. Potential Conflicts and Resolution Strategies

Despite the potential synergies, conflicts can arise when integrating DEI and technical competency. One common conflict is the perception that efforts to increase diversity might compromise technical standards. This can lead to resistance among employees who prioritize technical excellence. Another conflict is the challenge of managing diverse teams, where differences in communication styles and cultural norms can create misunderstandings and friction.

Theoretical strategies for resolving these conflicts emphasize the importance of inclusive leadership

and organizational support. Inclusive leadership involves recognizing and valuing diverse contributions while maintaining high technical standards. Leaders can set clear expectations that both DEI and technical competency are non-negotiable components of the organizational culture. Training programs that focus on cultural competence and technical skill development can also help bridge gaps. For example, mentorship programs that pair diverse employees with experienced technical mentors can simultaneously enhance DEI and technical skills.

C. Organizational Development and Behavioural Insights

Organizational development (OD) theories provide valuable frameworks for integrating DEI and technical competency. OD emphasizes planned, systematic change to improve organizational effectiveness. By applying OD principles, organizations can create structures and processes that support both DEI and technical competency. This includes designing roles and responsibilities that align with both elements, fostering a culture of continuous learning, and implementing inclusive policies.

Insights from organizational behaviour (OB) further support this integration. OB research highlights the importance of psychological safety, trust, and open communication in diverse teams. These factors are crucial for harnessing the benefits of DEI while maintaining technical excellence. For instance, studies have shown that teams with high psychological safety are more likely to engage in open dialogue, share ideas freely, and collaborate effectively—key aspects of both DEI and technical competency.

In conclusion, the theoretical analysis of DEI and technical competency highlights their potential synergy, identifies possible conflicts, and provides strategies for resolution. By leveraging OD and OB theories, organizations can create an environment where diversity and technical skills complement each other, leading to sustainable success.

IV. Proposed Framework for Sustainable Workplaces

The proposed framework for sustainable workplaces integrates Diversity, Equity, and

Inclusion (DEI) with technical competency to create a holistic model that addresses both workforce diversity and specialized skill requirements. This framework aims to foster an inclusive work environment while ensuring that employees possess the necessary technical skills to drive organizational success. By focusing on both DEI and technical competency, the framework promotes a balanced approach to workforce development that enhances innovation, productivity, and sustainability.

To achieve this, the framework includes several key components. Core elements and principles involve implementing strategies for inclusive recruitment and selection to attract a diverse talent pool. This includes developing competency-based job descriptions and using unbiased recruitment methods to ensure equal opportunities for candidates from various backgrounds. Continuous learning and development are also crucial, with training programs designed to enhance both technical skills and cultural competence, equipping employees to work effectively in diverse teams.

Performance management and evaluation systems should recognize and reward both technical excellence and contributions to DEI initiatives, fostering a culture where diverse talents are valued and nurtured. Supportive policies and practices, such as mentorship programs, affinity groups, and resources for underrepresented groups, promote work-life balance, flexibility, and inclusivity.

Leadership commitment is essential in championing DEI and technical competency. Leaders must model inclusive behaviours, support diversity initiatives, and prioritize technical skill development. Leadership training should include modules on inclusive leadership and the strategic importance of technical skills. Cultivating an organizational culture that values diversity and technical expertise involves regular communication about the importance of DEI and technical skills, celebrating successes, and transparently addressing challenges. Organizational values should reflect a commitment to both inclusivity and excellence. Policies must be aligned to support the integration of DEI and technical competency, including anti-discrimination policies, equal opportunity employment, and clear guidelines for career advancement that consider both technical skills and contributions to DEI.

For long-term strategies, the establishment of a School of Diversity and Excellence is proposed. This institution would be dedicated to promoting DEI and technical excellence through specialized training programs, certification courses, and workshops focusing on both technical skills and cultural competence. Courses offered would include advanced technical skills, leadership development, DEI best practices, and inclusive innovation, designed in collaboration with industry experts, academic institutions, and DEI practitioners. Graduates would be well-equipped to lead diverse teams, drive technical innovations, and contribute to the sustainable success of their organizations.

Government and industry collaboration is vital for sustainable goals. Public-private partnerships should be established to promote DEI and technical competency at a national level, creating incentives for companies that excel in both areas and supporting initiatives that address skill gaps and diversity challenges. Policy advocacy and support are also critical, with funding for training programs, research on best practices, and initiatives that promote inclusive innovation. Engaging with local communities through outreach programs, scholarships, and community-based training sessions ensures that DEI and technical competency initiatives benefit a broader population, enhancing employability and inclusivity.

By implementing this comprehensive framework, organizations can create sustainable workplaces that leverage the full potential of a diverse and technically competent workforce, driving long-term success and innovation.

V. Conclusion

This research has underscored the crucial interplay between Diversity, Equity, and Inclusion (DEI) and technical competency in fostering sustainable workplaces. Theoretical insights reveal that DEI initiatives and technical competency are not only compatible but can be mutually reinforcing. By combining diverse perspectives with specialized skills, organizations can drive innovation, enhance problem-solving, and achieve superior performance. This integrated approach is particularly relevant in the non-ferrous value-added products sector in Western Odisha, where the

evolving industrial landscape demands both inclusivity and technical expertise.

The study advances the understanding of how DEI and technical competency interact within organizational settings. It challenges the notion that these elements are contradictory, presenting a compelling case for their complementary nature. By proposing a framework that integrates DEI and technical competency, the research contributes to organizational development theory, emphasizing their joint role in achieving long-term sustainability and success. It also underscores the importance of inclusive leadership and organizational culture in facilitating this integration, providing a new lens for examining organizational behavior.

For organizations in Western Odisha, this study offers a roadmap for enhancing both technical skills and inclusivity. Adopting the proposed framework can help companies address skill gaps, improve workforce capabilities, and foster a more inclusive work environment. Establishing a School of Diversity and Excellence and emphasizing continuous learning and development can build a resilient and innovative workforce. Additionally, policymakers and industry leaders can use these insights to develop public-private partnerships and community engagement initiatives that support DEI and technical competency, driving regional socio-economic development.

Future research should delve deeper into the mechanisms through which DEI and technical competency interact, exploring specific organizational contexts and industry settings. Longitudinal studies could examine the long-term impacts of integrating DEI and technical competency on organizational performance and employee satisfaction. Comparative studies across different regions and sectors can provide a broader understanding of how cultural and industrial differences influence this integration.

Investigating the effectiveness of the proposed framework in various organizational settings can provide valuable insights for refining and enhancing its components. Exploring the role of technology and digital tools in supporting DEI and technical competency initiatives can offer new avenues for innovation and efficiency. Additionally, assessing the impact of government policies and industry standards on the integration of

DEI and technical competency can inform policy-making and advocacy efforts.

In conclusion, this research underscores the critical importance of combining DEI and technical competency for sustainable organizational success. By embracing this integrated approach, organizations can not only enhance their competitive edge but also contribute to a more inclusive and equitable society.

References:

1. Cox, T. (1994). *Cultural diversity in organisations: Theory, research and practice*. San Francisco: Berrett-Koehler.
2. Ely, R. J. (2004). *A field study of group diversity, workgroup context, and performance*. Harvard Business School Working Paper.
3. Ferdman, B. M., & Deane, B. R. (2014). *Diversity at work: The practice of inclusion*. John Wiley & Sons.
4. Gelfand, M. J., Erez, M., & Aycan, Z. (2007). Cross-cultural organisational behavior. *Annual Review of Psychology*, 58, 479-514.
5. Greenberg, J., & Edwards, M. S. (2009). Workplace diversity: A social-ecological framework and policy implications. *Social Issues and Policy Review*, 3(1), 71-99.
6. Herring, C. (2009). Does diversity pay? Race, gender, and the business case for diversity. *American Sociological Review*, 74(2), 208-224.
7. Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Diversity management and the case of IBM. *Academy of Management Perspectives*, 20(2), 6-23.
8. uliet Bourke, "The six signature traits of inclusive leadership: Thriving in a diverse new world," Deloitte Insights, April 14, 2016.
9. Jennifer Radin, Steve Hatfield, Jeff Schwartz, Colleen Bordeaux, "Closing the employability skills gap: The answer is simpler than you may think," January 28, 2020.

10. Hecklau, F., Galeitzke, M., Flachs, S., Kohl, H.: Holistic approach for human resource management in industry 4.0. *Procedia CIRP* 54, 1–6 (2016). <https://doi.org/10.1016/j.procir.2016.05.102>
11. Hillebrand, A.: Studie 2 – Fragebogenstudie. In: Ariane, H. (ed.) *Welche Kompetenzen zeichnen einen Experten aus? Entwicklung eines expertenspezifischen Kompetenzmodells in einem produzierenden Unternehmen*, pp. 109–223. Springer Fachmedien Wiesbaden, Wiesbaden (2018). https://doi.org/10.1007/978-3-658-22546-9_4
12. iDev40: Project Work. Work Plan (2019). <http://www.idev40.eu/project-work/work-plan>. Accessed 1 July 2019
13. Ilie-Zudor, E., Ekárt, A., Kemeny, Z., Buckingham, C., Welch, P., Monostori, L.: Advanced predictive-analysis-based decision support for collaborative logistics networks. *Supp. Chain Manag.* 20(4), 369–388 (2015). <https://doi.org/10.1108/SCM-10-2014-0323>
14. Kagermann, H., Wahlster, W., Helbig, J.: Recommendations for implementing the strategic initiative INDUSTRIE 4.0. Final Report of the Industrie 4.0 Working Group. Securing the future of German manufacturing industry (2013)
15. Kern, E.-M.: *Verteilte Produktentwicklung*. In: Lindemann, U. (ed.) *Handbuch Produktentwicklung*, pp. 455–481. Hanser, München (2016)
16. Krajcik, J.S., Blumenfeld, P.C.: Project-based learning. In: Keith Sawyer, R., (ed.) *The Cambridge Handbook of the Learning Sciences*, pp. 317–333. Cambridge University Press, Cambridge, New York (2006)
17. Kuckartz, U.: *Qualitative Inhaltsanalyse. Methoden, Praxis, Computerunterstützung*. 3., überarbeitete Auflage. Weinheim, Basel: Beltz Juventa (Grundlagentexte Methoden) (2016). [http://www.beltz.de/de/nc/verlagsgruppe-](http://www.beltz.de/de/nc/verlagsgruppe-beltz/gesamtprogramm.html?isbn=978-3-7799-3344-1)
[beltz/gesamtprogramm.html?isbn=978-3-7799-3344-1](http://www.beltz.de/de/nc/verlagsgruppe-beltz/gesamtprogramm.html?isbn=978-3-7799-3344-1)
18. Martin, K.: Beobachtungsinterview. In: Kühl, S. (ed.) *Handbuch Methoden der Organisationsforschung. Quantitative und qualitative Methoden*. 1. Aufl. Wiesbaden: Verl. für Sozialwiss./ GWV Fachverl, pp. 78–99 (2009)