ISSN: 2394-3122 (Online) ISSN: 2394-6253 (Print) Impact Factor: 6.03

Volume 12 Issue 2, February 2025

SK International Journal of Multidisciplinary Research Hub

Journal for all Subjects e-ISJN: A4372-3088 p-ISJN: A4372-3089

Research Article / Survey Paper / Case Study
Published By: SK Publisher (www.skpublisher.com)

A Monthly Double-Blind Peer Reviewed Refereed Open Access Multidisciplinary & Multilingual International Journal - Included in the International Serial Directories

Impact of workforce diversity on employee performance: An Empirical Investigation

Kanupriya Thakur¹

Research Scholar, HPKV Business School,
Department of Commerce and Management Studies,
Central University of Himachal Pradesh,
Dharmashala (H.P) India

Dr. Aditi Sharma¹

Assistant Professor, HPKV Business School, Department of Commerce and Management Studies, Central University of Himachal Pradesh, Dharmashala (H.P) India

DOI: https://doi.org/10.61165/sk.publisher.v12i2.1

Abstract: This study explores the impact of workforce diversity on employee performance in Higher Education Institutes (HEIs) in Northern India. Employing a descriptive-causal research design and multistage sampling method, data were collected from 400 faculty members through structured questionnaires. Four key dimensions of workforce diversity—Receptivity to Diversity, Equal Representation, Hiring and Retaining Diverse Employees, and Promotion of Gender Diversity—were examined using multiple regression analysis. The results reveal that all four diversity practices significantly and positively influence employee performance. The model accounts for 23.6% of the variance in employee performance, with Equal Representation showing the strongest effect. These findings underscore the importance of inclusive diversity strategies in enhancing organizational outcomes in academic settings.

Keywords: Workforce Diversity, Employee Performance, Receptivity to Diversity, Equal Representation, Gender Diversity etc.

I. INTRODUCTION

Workforce diversity refers to "the differentiating factors between the members of an organization" (Jackson et al., 1995, p. 3). In the context of higher education institutions (HEIs), diversity encompasses both visible orsurface-level attributes such as gender, ethnicity, nationality, religion, race, age, and economic status, and hidden or deep-level factors like culture, education, and personality (Harrison et al., 1998; Patrick & Kumar, 2012). As institutions of learning and societal transformation, HEIs are increasingly experiencing diverse faculty and staff profiles due to the expansion of the education sector and global academic mobility (Halasz, 2003). Managing this diversity effectively is essential, as inclusive policies can mitigate attitudinal biases—such as cultural stereotyping, inequitable institutional systems, and biased appraisal practices—thereby creating a more supportive and equitable academic environment (Boehm et al., 2014). Such practices are directly linked to improved performance outcomes both at individual (micro) and institutional (macro) levels (Wesarat& Mathew, 2017). However, professional women in academia, despite their qualifications and competencies, often encounter glass ceiling barriers due to gender-based stereotypes and limited access to leadership roles (Gandhi &Sen, 2021; Mayya et al., 2021; Banker, 2023). Educational institutions, therefore, have a responsibility not only to promote diversity but also to dismantle systemic barriers that hinder equal opportunity (Kulkarni, Khatwani& Mishra, 2023). Research supports the view that fostering diversity positively impacts organizational outcomes, including employee engagement and institutional performance (Nishii, 2013; Khan

A Monthly Double-Blind Peer Reviewed Refereed Open Access Multidisciplinary & Multilingual International Journal

et al., 2019). However, unmanaged diversity—particularly in terms of race, gender, and age—can pose challenges, such as diminished team cohesion and reduced productivity (Harrison & Klein, 2007). Diversity management in HEIs thus demands deliberate strategies that enhance inclusivity, improve intergroup relations, and foster a culture of mutual respect. When diversity is embraced and effectively managed, it contributes to higher employee morale, job satisfaction, and reduced turnover (Selvaraj, 2015; Worman, 2005). Given the pivotal role of higher education institutions in shaping societal values and future leaders, understanding the impact of workforce diversity on employee performance is both timely and essential. This calls for evidence-based interventions that align diversity management with academic excellence and institutional growth.

II. LITERATURE REVIEW

a) Workforce Diversity

A growing body of literature explores the intricate relationship between culture, diversity management, and organizational performance, particularly with regard to employee cohesion and productivity. A common thread across several studies is the recognition that culture and diversity, when effectively managed, can enhance organizational outcomes. For instance, Hofstede (1991) defines organizational culture as the "collective programming of the mind," encompassing values, beliefs, language, and demographic factors that shape workplace dynamics. Supporting this, Spector et al. (2001) argue that culture directly influences individual value systems, thereby shaping employee attitudes and behaviors within organizations. These foundational insights suggest that effective diversity management hinges on a nuanced understanding of cultural dynamics. Studies such as Adler (1986) and Thomas (1991) further align in asserting that when diversity is strategically and systematically managed, it fosters innovation and competitiveness. Adler emphasized that a structured approach to cultural diversity leverages employee creativity and skills, while Thomas highlighted the importance of developing clear strategies to handle complex differences. Khan (2019) echoed these sentiments by noting that harnessing diverse talents leads to improved employee performance. Empirical evidence also supports the positive impact of specific diversity dimensions on performance. Setati et al. (2019), examining South African higher education, found that gender and ethnic diversity positively influenced employee performance. Gellner and Stephen (2009) demonstrated that age diversity contributes to increased productivity through intergenerational knowledge sharing. Similarly, studies by Johnson and Johnson (2010) and Zemke, Raines, and Filipczak (2013) emphasized generational diversity, noting that shared socio-political experiences shape attitudes toward work, and that managing these intergenerational differences is essential for organizational harmony. Further supporting this view, Kundu, Bansal, and Purthi (2019) argued that employee perception of diversity policies is crucial—organizational performance improves when these policies are not only designed but also effectively implemented.In contrast, several studies present divergent findings, cautioning against overgeneralizing the positive effects of diversity. Barry and Bateman (1996) introduced the concept of social traps, where individual and collective interests may clash, highlighting the importance of strategic frameworks like training and support networks to guide diversity outcomes. Ross (2011) also pointed out that conflict can emerge even in homogeneous groups, indicating that diversity alone does not ensure cohesion or unity, and that cultural alignment must go beyond surface-level inclusion. Other studies challenge the assumed link between diversity and performance altogether. Joseph and Selvaraj (2015), in their study of Singaporean organizations, found no significant relationship between employee performance and diversity variables like age, gender, and ethnicity. Mathan (2018) extended this argument in the banking sector, noting that the impact of diversity varies across organizational levels, suggesting that hierarchy plays a moderating role. Yao et al. (2019), analyzing Chinese hotels, attributed high turnover more to operational inefficiencies than to workforce diversity, thereby reframing the issue as one of management practices rather than demographics. In summary, the literature reveals two contrasting schools of thought. One camp underscores the positive potential of diversity to drive creativity, cohesion, and performance—provided it is managed effectively (Adler, 1986; Khan, 2019; Setati et al., 2019). The other camp urges caution, noting that without deliberate and contextualized strategies, diversity can result in misalignment, conflict, or neutral outcomes (Barry & Bateman, 1996;

Joseph & Selvaraj, 2015). These differences underscore the importance of sector-specific, culturally informed, and empirically grounded approaches to diversity management—especially in complex and evolving contexts such as higher education.

b) Employee Performance

Hardre et al. (2007) highlighted the critical role faculty play, their performance has not received adequate scholarly attention. Echoing this concern, Gappa, Austin, and Trice (2007) argue that understanding faculty perceptions and performance is essential for ensuring the long-term sustainability of institutions and the education of future citizens. A set of studies converges on the broad scope of faculty performance, which includes teaching, research, publication, and knowledge creation. Paudel (2021) frames faculty performance in terms of academic contributions such as effective teaching, research outputs, solving academic problems, and generating new knowledge and resources. This holistic perspective aligns with institutional goals of academic excellence and societal contribution. Several scholars agree on the need for systematic evaluation mechanisms to enhance faculty performance. Gomez and Valdes (2019) point out that student opinion surveys are widely used globally as a primary method to assess faculty effectiveness, particularly in teaching. Similarly, Singh, Vaish, and Sengupta (2018) emphasize the significance of Performance Appraisal (PA) systems in evaluating employees across various parameters to align individual efforts with organizational objectives. Camilleri (2021) supports this view, noting that leaders of HEIs are increasingly focusing on evaluating staff competencies and capabilities to enhance institutional performance. Despite agreement on the need for evaluation, differences arise in how performance measurement is conceptualized and the challenges involved. Lupo (2013) critiques the difficulty of assessing educational performance due to the intangible, heterogeneous, and inseparable nature of services in academia. This contrasts with more quantifiable performance metrics used in corporate settings, highlighting the unique complexities in education. Additionally, Sahney and Thakkar (2016) emphasize the decline in both faculty performance and administrative effectiveness, attributing it to systemic shortcomings in teaching practices, research initiatives, consultancy, and infrastructure. This presents a different angle from the appraisal-focused literature, suggesting that broader institutional and operational challenges may also be responsible for performance issues in HEIs. In summary, in acknowledging the importance of evaluating faculty performance and its role in institutional effectiveness (Gappa et al., 2007; Paudel, 2021; Singh et al., 2018). There is also consensus on the need for structured assessment tools such as student feedback and formal appraisal systems (Gomez & Valdes, 2019; Camilleri, 2021). However, divergences exist in the identified causes and challenges: while some focus on appraisal mechanisms, others highlight deeper systemic issues and the inherent difficulty in quantifying academic performance (Lupo, 2013; Sahney&Thakkar, 2016). This indicates the need for context-sensitive, multi-dimensional frameworks that account for both individual and institutional factors in faculty performance evaluation.

III. RESEARCH METHODOLOGY

To examine the impact of workforce diversity on employee performance in Higher Education Institutes (HEIs) in Northern India, this study employs a descriptive and causal research design. A systematic multistage sampling method was adopted to ensure balanced representation across diverse institutions. In the first stage, Random sampling was used to select universities based on their geographic distribution and designation as tertiary education providers. Following this, departments within the selected universities were chosen randomly. At the final stage, stratified sampling was applied to faculty members, ensuring representation across various academic ranks and disciplines. Data collection was carried out through structured questionnaires administered to faculty members. Out of 500 distributed questionnaires, 400 valid responses were obtained for analysis.

IV. RESULTS AND FINDINGS

Data on workforce diversity were collected using a structured rating scale comprising 24 statements. Employee performance was measured using a Likert scale based on 9 variables. To examine the impact of workforce diversity on employee performance, a multiple regression analysis was conducted. The following null hypothesis was tested as:

H0: Workforce diversity has no significant impact on employee performance.

H1: Workforce diversity has a significant impact on employee performance.

Table 1: Model Summary

Model Summary ^b											
				Std. Error	Change Statistics						
Mode		R	Adjusted	of the	R Square	F			Sig.	F	Durbin-
1	R	Square	R Square	Estimate	Change	Change	df1	df2	Change		Watson
1	.485 ^a	.236	.228	.68457	.236	31.047	4	403	.000		1.120

a. Predictors: (Constant), Receptivity to diversity, Equal representation, Hire and retain diverse employees and Promotion of gender diversity

The regression analysis demonstrates that diversity-related practices significantly influence employee performance. The model includes four predictors: Receptivity to Diversity, Equal Representation, Hiring and Retaining Diverse Employees, and Promotion of Gender Diversity. The overall model is statistically significant, as evidenced by an F-value of 31.047 with a p-value less than 0.001, indicating that the combination of these variables has a meaningful impact on employee performance. The R Square value of 0.236 suggests that approximately 23.6% of the variance in employee performance is explained by the predictors in the model, reflecting a moderate effect size. The Adjusted R Square of 0.228 confirms that the model remains reliable even after adjusting for the number of predictors. Additionally, the standard error of the estimate is 0.68457, indicating the average distance that the observed values fall from the regression line. The Durbin-Watson statistic of 1.120 suggests the possible presence of positive autocorrelation in the residuals, which may need further examination. Overall, the analysis supports the conclusion that promoting diversity and inclusion within an organization contributes positively to enhancing employee performance.

Table 2: ANOVA statistics

ANOVA ^b									
	Sum of Squares	df	Mean Square	F	Sig.				
Regression	58.199	4	14.550	31.047	.000a				
Residual	188.859	403	.469						
Total	247.057	407							
	Regression Residual	Sum of Squares Regression 58.199 Residual 188.859	Sum of Squares df Regression 58.199 4 Residual 188.859 403	Sum of Squares df Mean Square Regression 58.199 4 14.550 Residual 188.859 403 .469	Sum of Squares df Mean Square F Regression 58.199 4 14.550 31.047 Residual 188.859 403 .469				

a. Predictors: (Constant), Receptivity to diversity, Equal representation, Hire and retain diverse employees and Promotion of gender diversity

The ANOVA table assesses the overall significance of the regression model and helps determine whether the group of predictors reliably explains variation in the dependent variable—Employee Performance. The regression sum of squares (SS) is 58.199, which represents the amount of variance in employee performance that is explained by the four predictors: Receptivity to Diversity, Equal Representation, Hiring and Retaining Diverse Employees, and Promotion of Gender Diversity. The residual sum of squares is 188.859, indicating the amount of variance not explained by the model (i.e., the error term). The total sum of squares is 247.057, which is the total variation in employee performance. The mean square for regression is 14.550, calculated by dividing the regression sum of squares by its degrees of freedom (df = 403).

Table 3: Coefficients of multiple regression

1 able 5. Coefficients of multiple regression									
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.			
		В	Std. Error	Beta					
1	(Constant)	.670	.233		2.875	.004			
	Receptivity to diversity	.170	.038	.202	4.532	.000			
	Equal representation,	.285	.055	.268	5.196	.000			

b. Dependent Variable: Employee performance

b. Dependent Variable: Employee performance

A Monthly Double-Blind Peer Reviewed Refereed Open Access Multidisciplinary & Multilingual International Journal

Hire and retain diverse	.106	.046	.120	2.314	.021		
employees							
Promotion of gender diversity	.113	.033	.153	3.429	.001		
Dependent Variable: Employee performance							

a) H0a: Receptivity to diversity has no significant impact on employee performance.

H1a: Receptivity to diversity has a significant impact on employee performance.

The regression coefficients indicate that all four diversity-related variables have a **statistically significant and positive impact** on employee performance. The **unstandardized coefficients** (B) show the expected change in employee performance for a one-unit increase in each predictor, holding the others constant. Specifically, **Receptivity to Diversity** has a coefficient of $\mathbf{B} = \mathbf{0.170}$ (p = .000), meaning that a one-unit increase in receptivity is associated with a 0.170 unit increase in employee performance. Its **t-value of 4.532** is statistically significant at the 0.01 level, so we reject **H0a** and accept **H1a**: Receptivity to diversity significantly impacts employee performance.

b) H0b: Equal representation has no significant impact on employee performance.

H1b: Equal representation has a significant impact on employee performance.

Equal Representation has the strongest standardized effect (Beta = .268) and an unstandardized coefficient of B = 0.285 (p = .000), with a t-value of 5.196, indicating a significant and substantial positive impact. Therefore, we reject H0b and accept H1b: Equal representation significantly impacts employee performance.

c) H0c: Hire and retain diverse employees has no significant impact on employee performance.

H1c: Hire and retain diverse employees has a significant impact on employee performance.

Similarly, Hiring and Retaining Diverse Employees has a smaller but still significant effect, with B = 0.106, t = 2.314, and p = .021. Despite being the weakest of the four, its effect is still statistically significant at the 0.05 level, so H0c is rejected, and H1c is accepted.

d) H0d: Promotion of gender diversity has no significant impact on employee performance.

H1d: Promotion of gender diversity has a significant impact on employee performance.

Finally, Promotion of Gender Diversity shows a moderate positive influence with B = 0.113, Beta = .153, t = 3.429, and p = .001, also indicating statistical significance. Thus, H0d is rejected, and H1d is accepted.

V. CONCLUSION

The findings of this study highlight the significant and positive impact of workforce diversity on employee performance in Higher Education Institutes (HEIs) in Northern India. The regression analysis confirms that key diversity dimensions—Receptivity to Diversity, Equal Representation, Hiring and Retaining Diverse Employees, and Promotion of Gender Diversity—collectively and individually enhance employee performance. Among these, Equal Representation emerged as the most influential factor, emphasizing the importance of fair and inclusive practices in academic workplaces. The results suggest that diversity is not only a moral and legal imperative but also a strategic tool for improving institutional effectiveness and employee outcomes. Therefore, HEIs should actively promote diversity and inclusion policies as part of their organizational development strategies to foster a more productive and innovative work environment.

References

- 1. Adler, N. J. (1986). Cultural synergy: Managing the impact of cultural diversity. Annual: Development Human Resource, 229–238.
- Banker, D. V. (2023). Status of women leadership in the Indian higher education sector. International Journal of Educational Management, 37(3), 662–680.
- 3. Barry, B. (1996). A social trap analysis of the management of diversity. The Academy of Management Review, 21(3), 757–790.
- 4. Bhushan, Y. K. (1993). Fundamentals of business organisation and management. Sultan Chand & Sons.
- 5. Boehm, S. A., Kunze, F., & Bruch, H. (2014). Spotlight on age-diversity climate: The impact of age-inclusive HR practices on firm-level outcomes. Personnel Psychology, 67(3), 667–704.
- 6. Gandhi, M., &Sen, K. (2021). Missing women in Indian university leadership: Barriers and facilitators. Educational Management Administration & Leadership, 49(2), 352–369.
- 7. Gellner, S. V. (2009). The impact of aging and age diversity on company performance.
- 8. Gomez, L. F., & Valdés, M. G. (2019). The evaluation of teacher performance in higher education. Journal of Educational Psychology-Propositos y Representaciones, 7(2), 499–515.
- 9. Halasz, G. (2003, November). Governing schools and education systems in the era of diversity. Paper presented at the 21st Session of the Standing Conference of European Ministers of Education, Athens, Greece.
- 10. Harrison, D. A., & Klein, K. J. (2007). What's the difference? Diversity constructs as separation, variety, or disparity in organizations. Academy of Management Review, 32(4), 1199–1228. https://doi.org/10.5465/amr.2007.26586096
- 11. Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. Academy of Management Journal, 41(1), 96–107. https://doi.org/10.5465/256901
- 12. Hayles, V. R. (1996). Diversity training and development. In ASTD training and development handbook. McGraw Hill.
- 13. Haynes, B. P. (2008). An evaluation of the impact of the office environment on productivity. Journal of Facilities, 26(5/6), 178–191.
- 14. Hofstede, G. (1991). Cultures and organisations: Intercultural cooperation and its importance for survival. Software of the mind. Harper Collins.
- Jackson, S. E., Joshi, A., &Erhardt, N. L. (2003). Recent research on team and organizational diversity: SWOT analysis and implications. Journal of Management, 29(6), 801–830.
- 16. Jackson, S. E., May, K. E., & Whitney, K. (1995). Understanding the dynamics of diversity in decision-making teams. In R. A. Guzzo, E. Salas, & Associates (Eds.), Team effectiveness and decision making in organizations (pp. 204–261). Jossey-Bass.
- 17. Jain, H. C., &Verma, A. (1996).Workforce diversity, employment equity/affirmative action programs & public policy in selected countries.International Journal of Manpower, 17(4), 14–29.
- 18. Johnson, C., & Johnson, R. (2010). Generations, Inc.: From Boomers to Linksters—Managing the friction between generations at work. AMACOM.
- 19. Khan, N., Sohail, A., Sufyan, M., &Uddin, M. (n.d.).
- 20. Kube, S. (2011). Do wage cuts damage work morale? Evidence from a natural field experiment. Retrieved from http://www.iew.uzh.ch/wp/iewwp471.pdf
- 21. Kulkarni, A. B., Khatwani, R., & Mishra, M. (2023). A study on barriers to women's leadership in India through ISM. Gender in Management: An International Journal, 38(5), 669–686.
- 22. Kundu, S. C. (2004). Workforce diversity status: A study of employees' reactions. Industrial Management & Data Systems, 104(3), 332-345.
- 23. Mahmood, S., & Ali, B. (2011). Moral imagination and management decision making: An empirical study. African Journal of Business Management, 5(4), 1466–1480.
- 24. Marimuthu, M. (2008).Ethnic diversity on boards of directors and its implications on firm financial performance. Journal of International Social Research, 1(4), 431–445.
- 25. Mayya, S. S., Martis, M., Ashok, L., &Monteiro, A. D. (2021). Women in higher education: Are they ready to take up administrative positions? A mixed-methods approach to identify the barriers, perceptions, and expectations. Sage Open, 11(1), 2158244020983272.
- 26. Meena, K. (2015). Diversity dimensions of India and their organizational challenges: An analysis. IOSR Journal of Business and Management, 17(7), 77–90.
- 27. Milliken, F. J., & Martins, L. L. (1996). Searching for common threads: Understanding the multiple effects of diversity in organizational groups. Academy of Management Review, 21(2), 402–433. https://doi.org/10.5465/amr.1996.9605060217
- 28. Morrinson, A. M., & Von Glinow, M. A. (1990). Women and minorities in management. American Psychologist, 45(2), 200-208.
- 29. Nishii, L. H. (2013). The benefits of climate for inclusion for diverse groups. Academy of Management Journal, 56(6), 1754–1774. https://doi.org/10.5465/amj.2009.0823
- 30. Patrick, H. A., & Kumar, V. R. (2012). Managing workplace diversity: Issues and challenges. Sage Open, 2(2), 1–15. https://doi.org/10.1177/2158244012444615
- 31. Pathak, A. A., &Purkayastha, A. (2016). More women on Indian boards: Moving beyond mere regulations and tokenism. Strategic Direction, 32(3), 13–15.

A Monthly Double-Blind Peer Reviewed Refereed Open Access Multidisciplinary & Multilingual International Journal

- 32. Rahman, H. (2013). Effects of workforce diversity on human resource management: A theoretical perspective. Asian Academic Research Journal of Social Sciences and Humanities, 1(12), 61–70.
- 33. Ross, H. (2011). Reinventing diversity: Transforming organizational community to strengthen people, purpose and performance. Rowman& Littlefield Publishers.
- 34. Schwind, H., Das, H., &Wagar, T. (2007). Diversity management. In Canadian human resource management: A strategic approach (8th ed., pp. 486–524). McGraw-Hill Ryerson.
- 35. Setati, S. T., Zhuwao, S., Ngirande, H., &Ndlovu, W. (2019). Gender diversity, ethnic diversity and employee performance in a South African higher education institution. SA Journal of Human Resource Management, 17(1), 1–8.
- 36. Singh, V., &Vinnicombe, S. (2004). Why so few women directors in top UK boardrooms? Evidence and theoretical explanations. Corporate Governance: An International Review, 12(4), 479–488.
- 37. Spector, P. E., Cooper, C. L., Sparks, K., et al. (2001). An international study of the psychometric properties of the Hofstede Values Survey Module 1994: A comparison of individual and country/province level results. Applied Psychology: An International Review, 50, 269–281.
- 38. Talmud, I., &Izraeli, D. N. (1999). The relationship between gender and performance among directors in public corporations. International Journal of Organizational Analysis, 7(3), 185–199.
- 39. Thomas, R. R. (1991). Beyond race and gender: Unleashing the power of your total workforce by managing diversity. AMACOM.
- 40. Thomas, R. R. Jr. (1992). Managing diversity: A conceptual framework. In Jackson & Associates (Eds.), Diversity in the workplace (p. 131). Guilford Press.
- 41. Thomas, W. H. N. G., & Feldman, D. C. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. Personnel Psychology, 65, 821–858.
- 42. Tiwari, U. (2014). A study on employee welfare facilities and its impact on employee efficiency at VindhaTelelinks Ltd. Rewa (M.P.) India. Abhinav International Monthly Refereed Journal of Research in Management and Technology, 3(11).
- 43. Vedpuriswar, A. V. (2008). The power of differences. Indian Management, 47(1), 76–83.
- 44. Wesarat, P. O., & Mathew, J. (2017). Theoretical framework of glass ceiling: A case of India's women academic leaders. Paradigm, 21(1), 21-30.
- 45. Worman, D. (2005). Is there a business case for diversity? Personnel Today.
- 46. Zemke, R., Raines, C., &Filipczak, B. (2013).Generations at work: Managing the clash of Boomers, Gen Xers, and Gen Yers in the workplace (2nd ed.). AMACOM.

:::. Cite this article .:::

Thakur, K., Sharma, Dr. A. (2025). Impact of workforce diversity on employee performance:

An Empirical Investigation. SK INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY

RESEARCH HUB, 12(2), 1–7. https://doi.org/10.61165/sk.publisher.v12i2.1