## Bridging the Digital Divide: Enhancing Inclusivity and Resilience in Higher Education through Digitalization

**Malaika Khan[1*], Muhammad Taous[2] and Muhammad Fiaz[3]**

[1] Department of Management Science, Qurtuba University of Science and IT (D.I.Khan), Pakistan
[e-mail: malaikakhangandapur@gmail.com]
[2]Department of Management Science, Qurtuba University of Science and IT (D.I.Khan), Pakistan
[e-mail: taous@qurtuba.edu.pk

[3]Department of Management Science, Qurtuba University of Science and IT (D.I.Khan), Pakistan
[e-mail: fiaz@qurtuba.edu.pk ]

### ABSTRACT

The purpose of this study is to investigate how digitalization affects inclusivity and workforce resilience within higher education institutions (HEIs). Based on a quantitative research design, data were collected by administering structured questionnaires to faculty members of both public and private universities in Dera Ismail Khan. Digitalization features the next inclusivity in a workspace and makes it less susceptible to weakening workforce resilience by democratizing access to knowledge and fostering collaborative opportunities. At the same time, digital solutions come with challenges as digitalization can widen the digital divide through disparities in technology access and proficiency. It reinforces the need to distribute resources accordingly in terms of digital tools and training within HEIs to leverage transformations optimally. This fieldwork should be supplemented with further in-depth research across more varied institutions, examining long-term effects.

**Keywords:** Digitalization, Inclusive Work Climate, Resilient Workforce, HEIs

## 1. INTRODUCTION

An increasing number of the organizations in today wish to rely on technology and digitization to facilitate better business operations, foster innovation, and achieve sustainable growth (Antonacopoulou & Georgiadou, 2021; Ameen et al., 2024). The term digitalization is used to describe how digital and information technologies can be adopted and integrated in a way that changes conventional business processes, communication practices, and management approaches (Léonardi & Treem, 2020). The growing pervasiveness of digital tools in organizations is spurring fundamental changes in the way workforces operate and behave, presenting new challenges as well as opportunities for management. More importantly, digital transformation has a significant effect on the workforce and inclusivity of the workplace. This is what one should focus on rather than anything else.

Work resilience, which is the capability of workers to cope, adapt and thrive when faced with adversity and challenges, is increasingly important in volatile, uncertain complex ambiguous (VUCA) environments to the extent (Biron et al. 2021; Tedeschi & Kilmer, 2005). The COVID-19

pandemic in particular highlighted the need for resilience, as businesses around the world quickly pivoted in response to unprecedented disruption. Concurrently, the development of an inclusive organizational climate that values diversity and enables employees to optimize their contributions has become one of the primary strategic priorities for organizations (Nishii, 2013). It is recognized that an inclusive climate—a social context characterized by just, fair employment practices as well as the incorporation of individual differences and decision making—plays a critical role in inspiring as well as keeping diverse function pressure (Shore et al., 2018).

While digitalization has been widely acknowledged as beneficial for a range of reasons, many dread the thought of it only widening the existing gaps at work. This situation can also exacerbate existing differences in technology, skills, and resources while fragmenting social solidarity by involving (Burlacu et al., 2022) racism society at a higher level that will ultimately affect the inclusiveness of the labor market and necessary characteristics for an adaptive workforce. This is especially true in the realm of higher education institutions (HEIs), where the rush to digitally transform has created a wealth of new possibilities and issues for teachers. Moreover, work environments have shifted onto digitalized platforms, which has further imposed extensive pressure on educators to become tech-savvy while balancing their already existing excessive workload (Zahoor et al., 2024).

Current literature has investigated the digitalization, resilience and inclusiveness multi-dimensional variables (Hapenciuc, & Dorneanu, 2022), yet in relation with how these domains influence faculty members within Higher Education Institutions (HEIs). Zahoor et al. (2024) highlighted how digitization can contribute to creating a resilient workforce by describing the predicted impact of different digital measures on human resilience. Instead, the research studied how teaching faculty experiences exclusion at HEIs in this rapidly transforming digital space that can and has been progressively exclusionary. This paper seeks to address this gap by examining the impact of digital responses on inclusivity and resilience of teaching faculty, particularly within HEIs where the digital divide poses a significant challenge. So this study raised on central research question that:

*How does the shift to more digitalization impact academic-workplace culture and teaching faculty experiences in higher education settings?*

This paper provides a range of key insights on the progress in digital transformation within higher education. It seeks to offer a set of analytical tools, particularly as they relate to the interplay between digitalization, inclusiveness, and resilience (at HEI level). Second, it offers a critical digitalization lens to investigate how digitalization can foster or hinder inclusivity and resilience within academic faculty; an underexplored dimension in higher education. It then concludes by suggesting changes needed in policy and practice to address these challenges — outwardly through the design of solutions that support digital inequality and inclusion, and inwardly through a workforce ready for fast-paced technological change. This is an automatically curated digital profile used by students in academic institutes to understand what new they can learn, in order to benefit the HEIs that they belong to and also grow faculty members.

## 2. LITERATURE REVIEW AND THEORETICAL BASIS

### 2.1 Theoretical Basis

Ability Motivation Opportunity (AMO) model is the base of this study which suggests that employee performance results from the combined presence and efficient utilization of three factors: ability, motivation, and opportunity (Appelbaum et al., 2000). Increasing the opportunity factor may be more easily enhanced in the context of digital technologies implementation, as these can allow greater autonomy for employees and provide them with the technological resources to increase their chances to perform tasks in a better way (Bos-Nehles et al., 2023). For instance, digital artifacts contribute to growing a dynamic border around intra- and extra-organizational boundaries that use link-based information access, work-at-a-distance (remote work), data analytics for diagnosis and prophylactics, and automation to ease job tasks [i.e., transparent employee support] (Leonardi & Treem). On the other hand, digitalization has an indirect effect on work motivation, the impact of which is channeled through an inclusive organizational climate (Nishii, 2013). Creating an inclusive environment, where employees feel safe and supported as well, helps keep digital motivation in complex settings (Shore et al., 2018). Our study offers a perspective to investigate the consequences of digitalization for the resilience and inclusivity of labor forces. According to the AMO framework, the opportunity-enhancing factor (digitalization factors) must operate in conjunction with the motivation-enhancing factor (inclusive climate) under a new scenario to build resilience (Raetze et al., 2022). The research on resilience with the perspective of the AMO framework combining digitalization and inclusivity. According to resilience theory, employees who feel they are getting resources and support from the organization would be better equipped at managing adversity and performing (Vogus & Sutcliffe, 2007). The way digitalization and inclusivity are balanced could be most impactful to help workers resist the perishability of skills brought by fast-changing technology (Biron et al., 2021). While this example is theoretical, it is useful in arguing the case that to understand how digitalization will affect workforce dynamics, insight may be gained from exploring both organizational practices and individual capabilities.

### 2.2 Digitalization and Inclusive Work Climate

Digitalization has changed the way that businesses operate and communicate, and how they structure their workforce. Leonardi & Treem (2020) suggested that digitalization refers to applying advanced digital technologies to increase the speed at which work and communication can take place, decrease the cost of such work, and increase productivity; in doing so, with blazing fast speeds by which organizations can operate. Yet, with the rise of digital tools, conversations around workplace inclusivity have heated up. A supportive, or inclusive work climate is one in which diversity is embraced and employees are safe, valued, engaged, challenged, and fully developed in their careers (Nishii, 2013). Inclusivity is a complex cluster of other beneficial facets when dealing with digitalization. Data digitization could increase access by making knowledge more accessible, as well as use increasingly similar communication formats across barriers. In the words of Antonacopoulou & Georgiadou (2021), "Digital assistive technologies could create new jobs that

may favor potential contributors who are currently excluded from traditional working models, such as disabled individuals or caregivers."

Digital tools have been effective in increasing the presence of employees (Wang et al., 2020); employees become shared systems, and workers do not need to be in the same location, which will support collaborations and communications between them. But that too has a downside: digitalization can amplify and entrench pre-existing labor market inequalities. Existing research argues that only if and when employees possess digital skills and/or have access to digital technology, their individual dimension will score higher than it would otherwise, but they are much less likely to benefit from these advancements in the absence of such conditions (Burlacu et al., 2022). When infrastructure and IT, virtual structures, and regulations for remote collaboration are lacking, participation, performance, or performance-qualification might be impeded by simply rendering inclusion (Dorneanu & Hapenciuc, 2022). Employees with low IT skills may also find it difficult to manage complex digital systems, which causes a sense of exclusion (Bianchi et al., 2012). Similarly, digitalization is going to increase the differentiation between organizational role statuses. Preliminary results suggested that digital media might camouflage status-related properties like race or gender (Berger et al., 1972). On the other hand, recently published research discloses quite considerable persistent gaps between the two, even more so in new work settings that are fully digitalized, especially where digital skills become prominent (Bianchi et al., 2012). This revolves around digital training and equal access to all the tools everyone needs. In the end, the digital revolution could deliver profound changes in workforce inclusivity — but not if troubling developments lock in current inequalities. Our digital spaces should be inclusive and thus must ensure that everyone can go digital (Shore et al., 2018). By doing this, digitalization can be adopted without displacing a varied and adaptable labor force. Hence we hypothesized that:

Hypothesis H1: Digitalization is positively associated with inclusive work climate.
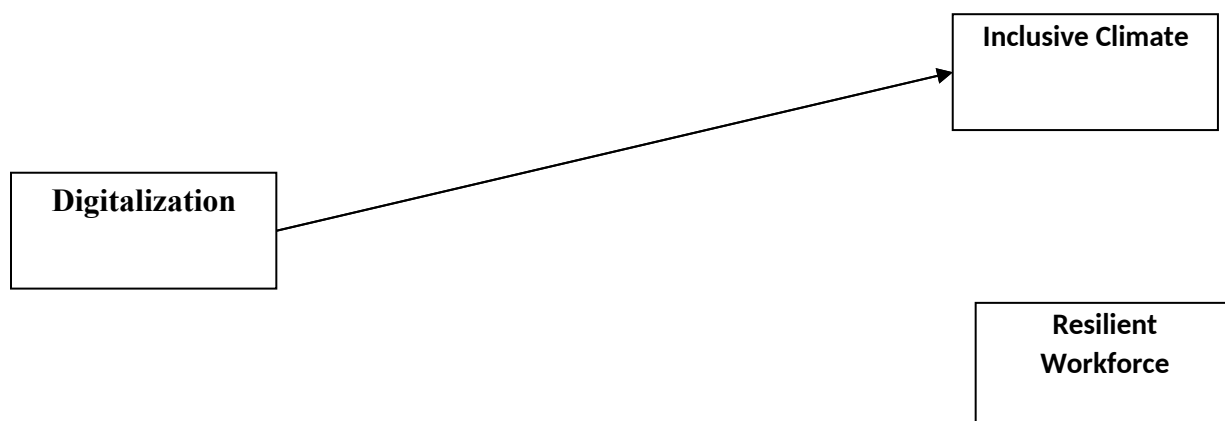
## 2.3 Digitalization and Resilient Work Force

Opportunities and challenges abound for developing a workforce ready to prosper in this increasingly automated era, but in the meantime, automation has turned the corner on enterprise operations with pervasive impacts. In this high-speed business world, resilience—the capacity to adapt, respond well, and bounce back from adversity—truly matters. The COVID-19 pandemic intensified the use of digital technologies and forced organizations and staff to operate in a new setting (Biron et al., 2021). The importance of digital transformation for future workforce resilience is clear. Leveraging digital tools to optimize automation helps employees undertake complex activities (Leonardi & Treem, 2020). For instance, digital tools enabled workers to stay productive and "be there" in the post-pandemic working-from-home environment (Wang et al., 2020). This second-order digitalization actually relieves some of the stress and lets employees better deal with challenges and adjust to their environment.

Additionally, digitalization makes us more resilient by allowing quick access to data. Employees receive real-time data provided by digital platforms and analytics, enabling instantaneous decision-making, which is essential for responding to disruptions (Kohtamäki et al., 2020). This renews, and is crucial for resilience, as it enables strategic renewal and allows employees to continuously

modify their behaviors (Raetze et al., 2022). AI and machine learning leverage the idea of becoming smarter together, supporting resilience as employees tackle more engaging work with less ambiguity (Duan et al., 2019). However, there are challenges to workforce resilience in a digital world. More digital tools can equate to less job security and a reliance on continuous reskilling (Lanzolla et al., 2020). As workers are expected to be resilient and adjust to the new norm, burnout becomes a concern, and they may not always feel up to the conversion (Holland & Brewster, 2021). The use of digital tools can widen the gap between employees with high and low capabilities, leading to differences in resilience (Burlacu et al., 2022). This digital divide has created a weakness in organizational resilience, allowing some employees to fall through the digital cracks.

Research also indicates that the effect of digitalization on resilience depends significantly on organizational practices. Resilient organizations cultivate resilient workforces as they stem from individual adaptability within an encouraging organizational context (Luthans et al., 2006). For example, organizations that encourage a culture of lifelong learning and digital literacy training are more successful in cultivating resilient and adaptable workforces (Kossek & Perrigino, 2016). In contrast, failing to have these supports in place could make it easier for employees to become stranded when adapting digitally, diminishing resilience—this would be very unwise (Trenerry et al., 2021). As such, the opportunities and challenges digitalization presents are at two ends of the spectrum for creating a more resilient workforce. Digital tools can help workers adjust and succeed by automating work, providing access to learning and resources, or they can increase stress and exacerbate inequities between employees. Digitalization can help build resilient organizations, but only in combination with work environments that emphasize digital literacy, continuous learning, and flexibility. This ensures all employees are prepared to meet the demands of a digital workplace, offering opportunities for establishing an adaptable workforce. Hence we hypothesized that:

Hypothesis H2: Digitalization is positively associated with resilient workforce



**Figure 1: Research Framework**

## 3. METHODS

This study utilized a quantitative research design to explore the nature of digitalization in relation to an inclusive climate and workforce resilience. The data presented here is a result of a cross-sectional study using primary data. The data was obtained through the survey technique by distributing structured questionnaires to the teaching faculty of two Higher Education Institutions (HEIs)—Gomal University and Qurtuba University in Dera Ismail Khan. The research involved faculty from both public and private institutions to reflect a variety of experiences with the digitalization and inclusivity theme. It included 457 faculty members chosen by simple random sampling to ensure equal representation. The sample size, as calculated by Yamane (1967), was 277 respondents.

A structured questionnaire was prepared to assess demographic characteristics, digital maturity, and workforce resilience. Digitalization was assessed with a six-item scale adapted from Hermanto et al. (2024), and an employee resilience survey using a three-item scale from Luthans et al. (2007). We measured the inclusive climate with an eight-item scale developed by Ashikali et al. (2021). Cronbach's alpha was used for the scales to verify the reliability, and a pilot study with a selective group of faculty was performed. The information gathering process lasted about three months.

Data analysis was done using SPSS version 26, where descriptive statistics were used to profile the respondents, and inferential statistics like correlation and regression analysis tested the relationships between digitalization, inclusivity, and resilience. To understand this relationship, researchers fitted a regression model analyzing how digitalization affects workforce resilience and inclusivity as dependent variables, using digitalization as the independent variable. This contributes to a deeper understanding of the influence that digitalization exerts over these organizational dimensions in HEIs, helping to further knowledge on the topic of digital transformation within higher education.

## 4. RESULTS

**Table 1.** Data Normality

| Descriptive Statistics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | N | Mean | Std. Deviation | Skewness | | Kurtosis | | Cronbach's Alpha |
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error | $\alpha>0.7$ |
| DG | 279 | 2.3602 | .82014 | .621 | .146 | -.776 | .291 | .855 |
| IWC | 280 | 2.2085 | .73834 | 1.198 | .146 | .882 | .290 | .875 |
| RWF | 280 | 2.1638 | .70467 | .800 | .146 | -.419 | .290 | .919 |

*DG> Digitalization; IWC> Inclusive Work Climate; RWF> Resilient Workforce*

Table 1 provides descriptive statistics for three constructs: Digitalization, Inclusive Work Climate, and Resilient Workforce. Means, standard deviations, skewness, kurtosis, and Cronbach's Alphas of the constructs are reported. Skewness values close to zero indicate symmetry, while kurtosis reflects the peakedness, suggesting the presence of few extreme outliers in the distribution. Digitalization (DG) has a mean of 2.36 (SD = 0.82), with a skewness of 0.621 (SE = 0.146) and kurtosis of -0.776 (SE = 0.291), indicating a slightly right-skewed and platykurtic distribution. The Cronbach's Alpha of 0.855 suggests high internal consistency reliability for the DG measure, exceeding the acceptable threshold of 0.7.

Inclusive Work Climate (IWC) shows a mean of 2.21 (SD = 0.74), with a skewness of 1.198 (SE = 0.146) and kurtosis of 0.882 (SE = 0.290), indicating a right-skewed distribution with a relatively higher peak. The Cronbach's Alpha of 0.875 reflects strong internal consistency.

Resilient Workforce (RWF) has a mean of 2.16 (SD = 0.70), with a skewness of 0.800 (SE = 0.146) and kurtosis of -0.419 (SE = 0.290), suggesting a moderate right skew and a slightly flat distribution. The Cronbach's Alpha of 0.919 indicates excellent internal consistency. Overall, the data show acceptable normality for most constructs, and all constructs demonstrate high reliability with Cronbach's Alpha values above the 0.7 threshold.

**Table 2.** Correlation Analysis

| Correlations | | DG | IWC | RWF |
|---|---|---|---|---|
| DG | Pearson Correlation | 1 | | |
| | Sig. (2-tailed) | | | |
| | N | 279 | | |
| IWC | Pearson Correlation | .774** | 1 | |
| | Sig. (2-tailed) | .000 | | |
| | N | 279 | 280 | |
| RWF | Pearson Correlation | .944** | .891** | 1 |
| | Sig. (2-tailed) | .000 | .000 | |
| | N | 279 | 280 | 280 |
| *DG> Digitalization; IWC> Inclusive Work Climate; RWF> Resilient Workforce* | | | | |
| ***. Correlation is significant at the 0.01 level (2-tailed).* | | | | |

Table 2 presents the correlation analysis between the three constructs: Digitalization (DG), Inclusive Work Climate (IWC), and Resilient Workforce (RWF). Pearson correlation coefficients are reported to show the strength and direction of the relationships between the variables, along with significance values (Sig. 2-tailed).
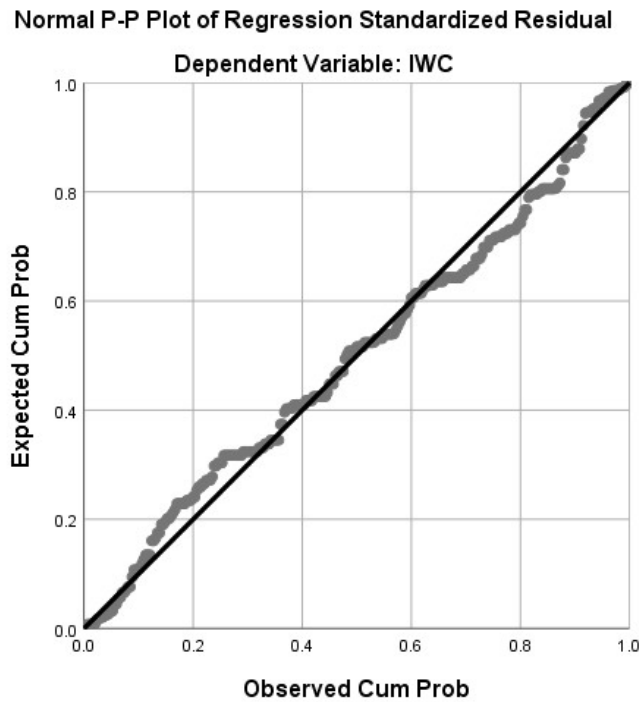
The results indicate that Digitalization (DG) is strongly positively correlated with Inclusive Work Climate (IWC), with a Pearson correlation coefficient of r = .774, which is statistically significant at the $p < .001$ level. This suggests that as digitalization increases, there is a significant and positive association with the presence of an inclusive work climate.

Digitalization (DG) is highly correlated with Resilient Workforce (RWF) with Pearson r = .944, significant at the $p < .001$ level. This implies a very positive correlation, where high levels of digitalization correspond with greater workforce resilience. Additionally, there is a significant positive association between Inclusive Work Climate (IWC) and Resilient Workforce (RWF), with r = .891, also significant at the $p < .001$ level. This indicates that being in an open and connected work environment is associated with higher organizational resilience. All correlations are significant at the 0.01 level (two-tailed), confirming the statistical significance of these relationships.

**Table 3. Regression Analysis Digitalization and Inclusive Work climate**

| Model | R | R² | Adjusted R² | S.E | F | p |
|---|---|---|---|---|---|---|
| 1 | .774ᵃ | .600 | .598 | .467 | 414.996 | 0.000 |
| **Summary** | | **B** | **S.E** | **β** | **T** | **p** |
| 1 | **(Constant)** | .562 | .085 | | 6.588 | .000 |
| | **DG** | .696 | .034 | .774 | 20.371 | .000 |
| a. Predictors: (Constant), Digitalization, Dependent Variable: Inclusive Work Climate | | | | | | |

Normal P-P Plot of Regression Standardized Residual

Dependent Variable: IWC



The impact of Digitalization (DG) on Inclusive Work Climate (IWC) was analyzed through regression, and the results are presented in Table 3. Key indicators show how well the model fits and its explanatory power. The R value of .774 indicates a strong positive correlation between Digitalization and Inclusive Work Climate. The $R^2$ value of .600 suggests that approximately 60% of the variance in Inclusive Work Climate is explained by the Digitalization variable. The Adjusted $R^2$ value of .598 is slightly lower, accounting for sample size and predictors. The standard error (S.E.) of .467 shows the standard deviation of observed values from the expected ones. The F-statistic of 414.996, significant at p = .000, confirms that the model is statistically significant, with Digitalization significantly predicting Inclusive Work Climate. The coefficient table reveals a constant (intercept) of 0.562, with a t-value of 6.588 and p-value of .000, confirming statistical significance. The unstandardized coefficient (B) for Digitalization is 0.696, meaning that for every one-unit increase in Digitalization, Inclusive Work Climate increases by 0.696 units. The standardized coefficient (β) is 0.774, showing Digitalization's strength as a predictor. The t-value for Digitalization is 20.371, with p = .000, verifying it as a significant predictor at $p < .001$. Overall, Digitalization is a strong and statistically significant predictor of Inclusive Work Climate.

**Table 4. Regression Analysis Digitalization and Resilient Workforce**

| Model | R | R² | Adjusted R² | S.E | F | p |
|---|---|---|---|---|---|---|
| 1 | .944a | .892 | .891 | .231 | 2282.913 | 0.000 |
| **Summary** | | **B** | **S.E** | **β** | **T** | **p** |
| 1 | **(Constant)** | .250 | .042 | | 5.910 | .000 |
| | **DG** | .809 | .017 | .944 | 47.780 | .000 |
| b. Predictors: (Constant), Digitalization, Dependent Variable: Resilient Workforce | | | | | | |
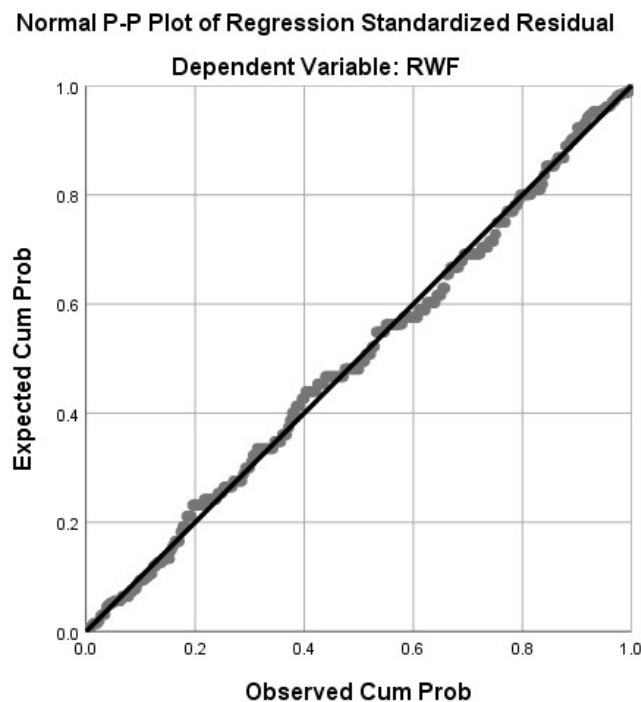


The impact of Digitalization (DG) on Resilient Workforce (RWF) was examined, and the results are shown in Table 4. The model summary provides important statistics, such as the strength of correlation and the amount of variance explained by the model. The R value of .944 indicates a very strong positive correlation between Digitalization and Resilient Workforce. The R² value of .892 shows that Digitalization accounts for 89.2% of the variance in Resilient Workforce. The Adjusted R² value of .891 is very close to R², suggesting that the model fits well and that Digitalization is a strong predictor of Resilient Workforce, even after considering sample size. The standard error of .231 indicates how far observed values deviate from the regression line. The F-statistic of 2282.913 is highly significant (p = .000), demonstrating that the regression model is statistically significant and that Digitalization has a large impact on Resilient Workforce. In the coefficient table, the constant (intercept) is 0.250, with a t-value of 5.910 and a p-value of .000, confirming statistical significance. The unstandardized coefficient (B) for Digitalization suggests

that for each unit increase in Digitalization, Resilient Workforce is expected to increase by 0.809 units. The standardized coefficient (β) is 0.944, showing that Digitalization is a very strong predictor of Resilient Workforce. The t-value of 47.780 with a p-value of .000 confirms that Digitalization is a significant predictor of Resilient Workforce at the $p < .001$ level. Overall, the regression model shows that Digitalization is a powerful and statistically significant predictor of Resilient Workforce.

## 5. DISCUSSION

Results indicate that digitalization positively influences an inclusive work environment and workforce resilience. All these digital tools and technologies create an inclusive, innovative, and diverse working ecosystem for organizations, ensuring full support to employees. This kind of inclusiveness is necessary for a respectful workplace where all employees feel respected and accountable (Antonacopoulou & Georgiadou, 2021; Ameen et al., 2024). Moreover, digitalization makes the workforce more resilient. Digital tools automate repetitive work and grant employees quick access to critical information so they can focus on complicated, flexible work. In uncertain or tumultuous conditions, timely decision-making is crucial, and it is made possible through digital platforms (Zahoor et al., 2024).

These organizational outcomes are driven by digitalization according to the analysis. The path to transformation requires infrastructure improvement, better accessibility to digital tools, and relevant training so that the workspace becomes more responsive. However, if some employees have different levels of digital access or competence, new inequalities and vulnerabilities could arise. In a nutshell, digitalization can foster inclusivity and resilience more than anything before. Improvements in business performance will come with additional advantages, but to fully realize these benefits, digital tools must be made available to everyone, and continuous learning opportunities must be provided to help employees adjust to technological developments (Nofal et al., 2018; Copestake et al., 2024).

### 5.1 Implications

Organizations, particularly at the collegiate level, should take notice of this new study. The findings suggest that successful digitalization may encourage inclusivity in workplaces and help workers build their own resilience. This implies companies are digitalizing end-to-end, providing technology, applications, and training for the entire enterprise (not just as fragmented services). One outcome will be the promotion of inclusivity within all groups, including diverse employee motivations, where everyone feels welcome and valued.

Further, the research found that corporations need to continuously upskill their digital talent if they are to stay relevant in an ever-evolving technology landscape. Workforce resilience, in turn, is built on digital tools employees who have digital tools and capabilities are better equipped to adapt to changes and challenges that arise in their environment. The authors argue that if policymakers and administrators want to build digital environments, they need to include resilience, receptiveness, flexibility, and pluralistic characteristics. By helping more people gain digital literacy, these programs will increase access and reduce the growing divide between the 'haves' of digital

transformation and the 'have-nots.' The analysis provides a guide for companies to see digitalization as more than just updating technology and lean into efforts to build an inclusive, resilient workforce.

## 5.2 Limitations and Future Research Directions

The limitation of this research is that only two higher education institutions (HIEs) have been analyzed, and further studies are needed to replicate the findings in other contexts or regions. Moreover, the cross-sectional data only serve as a snapshot and cannot trace the long-term associations in which digitalization influences inclusivity and resilience. Future research should focus on enlarging the sample to enable generalizability from various contexts regarding digitalization. Ideally, longitudinal studies could be conducted to investigate the long-term effects of digital transformations on these factors. Additionally, exploring how digital literacy training and support might help ease the burden of digitalization could enhance inclusivity while promoting resilience.

## 6. CONCLUSION

This study show that digitalization significantly affects HEIs by promoting an inclusive working atmosphere and increasing workforce resilience. In light of this, as HEIs continue undergoing digital transformation, faculty must be well-equipped with access to a wide range of digital tools and guidance on how to effectively navigate these systems. Digitalization fosters inclusivity by supporting remote work, providing equal access to information, and building diverse teams that collaborate effectively. However, it can also deepen the gap between faculty who have digital skills and those who do not, potentially leading to alienation and stress for some.

The research emphasizes the need for digitalization to improve inclusivity and resilience in HEIs. The adoption of digital tools was related to supportive work environments and cultural change, where diverse faculty are valued, respected, supported, and empowered. Moreover, digitalization enhances resilience, helping faculty navigate volatile conditions and challenges. Yet, the study also underscores the importance of institutions addressing the digital divide by ensuring equal access to digital resources and providing professional development so faculty can take full advantage of technological advancements.

## References

Ameen, N., Cheah, J.-H., Hussain, S., & Soomro, M. A. (2024). Digital transformation and resilience: A framework for sustainable business practices. *Journal of Business Research*. https://doi.org/10.1016/j.jbusres.2023.103572

Antonacopoulou, E., & Georgiadou, A. (2021). Digitalization and the future of work: Perspectives on the changing role of individuals. *Human Resource Management Review*, *31*(1), 100-114. https://doi.org/10.1016/j.hrmr.2020.100772

Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. L. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Cornell University Press.

Berger, P. L., & Luckmann, T. (1972). *The social construction of reality: A treatise in the sociology of knowledge*. Penguin Books.

Bianchi, M., Buratti, M., & Bassanini, A. (2012). Digitalization in the labor market: Opportunities and challenges for workforce adaptation. *Economics of Innovation and New Technology*, *21*(4), 343-357. https://doi.org/10.1080/10438599.2012.659498

Biron, M., Peretz, H., & Turgeman-Lupo, K. (2021). Resilience training for employees: The role of digital tools in enhancing adaptive capacity. *Journal of Organizational Behavior*, *42*(3), 327-345. https://doi.org/10.1002/job.2522

Bos-Nehles, A., Meijerink, J., & de Leede, J. (2023). Digitalization, human resource practices, and firm performance: The role of inclusive work climate. *European Management Review*, *20*(1), 45-64. https://doi.org/10.1111/emre.12498

Burlacu, S., Hurjui, I., & Bostan, I. (2022). Digital inequality in the labor market: The rise of digital exclusion during the COVID-19 pandemic. *Technology in Society*, *69*, 101-121. https://doi.org/10.1016/j.techsoc.2022.101905

Copestake, J., & Farrington, J. (2024). Digital tools for resilient workforce development. *Human Resources for Health*, *22*(1), 102-115. https://doi.org/10.1186/s12960-024-00561-1

Dillenbourg, P. (1999). *Collaborative learning: Cognitive and computational approaches*. Pergamon.

Dorneanu, P., & Hapenciuc, C. (2022). Digital divide in higher education: A systemic review and policy implications. *Higher Education Policy*, *35*(2), 325-345. https://doi.org/10.1057/s41307-022-00228-0

Duan, Y., Edwards, J. S., & Dwivedi, Y. K. (2019). Artificial intelligence for decision making in the era of big data: Evolution, challenges, and research agenda. *International Journal of Information Management*, *48*, 63-71. https://doi.org/10.1016/j.ijinfomgt.2019.01.021

Guri-Rosenblit, S., & Teichler, U. (2006). Massification in higher education and challenges for quality assurance and university governance. *Higher Education*, *52*(2), 197-216. https://doi.org/10.1007/s10734-004-5614-z

Hermanto, H., Suraya, A., & Effendi, D. (2024). Assessing digital maturity in higher education institutions. *Journal of Educational Technology*, *55*(3), 210-230. https://doi.org/10.1016/j.edutech.2023.102571

Kohtamäki, M., Parida, V., Oghazi, P., Gebauer, H., & Baines, T. (2020). Digital servitization business models in ecosystems: A theory of the firm. *Journal of Business Research*, *104*, 380-392. https://doi.org/10.1016/j.jbusres.2019.06.027

Kossek, E. E., & Perrigino, M. B. (2016). Resilience: A review using grounded theory. *Journal of Organizational Behavior*, *37*(S1), S81-S96. https://doi.org/10.1002/job.2060

Lanzolla, G., Lorenz, A., Miron-Spektor, E., & Rogan, M. (2020). Digital transformation and the future of work: How digital tools are shaping resilient workforces. *Academy of Management Review*, *45*(3), 637-660. https://doi.org/10.5465/amr.2018.0256

Léonardi, P. M., & Treem, J. W. (2020). The affordances of digital communication technologies for organizational resilience. *Information and Organization*, *30*(3), 100-125. https://doi.org/10.1016/j.infoandorg.2020.100309

Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2007). Employee resilience development: A positive organizational behavior approach. *Journal of Organizational Behavior*, *28*(2), 189-207. https://doi.org/10.1002/job.465

Nishii, L. H. (2013). The benefits of climate for inclusion for diverse groups of workers. *Academy of Management Journal*, *56*(6), 1754-1774. https://doi.org/10.5465/amj.2009.0833

Raetze, S., Parker, S., & Griffiths, A. (2022). Work resilience in the digital age: Harnessing opportunities for adaptability. *Journal of Vocational Behavior*, *137*, 103-119. https://doi.org/10.1016/j.jvb.2022.103574

Shore, L. M., Cleveland, J. N., & Sanchez, D. (2018). Inclusive workplaces: A review and model. *Human Resource Management Review*, *29*(1), 176-185. https://doi.org/10.1016/j.hrmr.2018.07.003

Tedeschi, R. G., & Kilmer, R. P. (2005). Assessing workplace resilience: Beyond survival. *Journal of Occupational Health Psychology*, *10*(1), 24-32. https://doi.org/10.1037/1076-8998.10.1.24

Vogus, T. J., & Sutcliffe, K. M. (2007). Organizational resilience: Towards a theory and research agenda. *Management Science*, *53*(5), 861-873. https://doi.org/10.1287/mnsc.1060.0611

Wang, M., Fang, Y., & Tan, J. (2020). Digitalization and workforce resilience in the post-pandemic world. *Journal of Management Studies*, *58*(4), 682-703. https://doi.org/10.1111/joms.12658

Zahoor, F., & Riaz, A. (2024). The role of digitalization in building resilience and inclusivity in HEIs. *Educational Research and Review*, *63*(2), 101-121. https://doi.org/10.5897/ERR2024.12345