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## Digitally Transformed Employees Crafting Tomorrow's Skills Cape through Modern HRD

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### Abstract

This study focuses on the digitally transformed employee's future competencies with mediating role of modern human resource development practices. The main purpose of this study is to explore how digital transformation directed towards employees influence their future competencies including the skill sets like global mindset, technical and analytical skills, attitude and soft skills. An empirical study was conducted and cross-sectional approach is adapted to measure the relationship between variables. Data was collected from 256 employees of the banking and telecom sectors by random sampling method. SPSS Hayes model 4 is used to analyze mediation of modern human resource development along with descriptive and demographic analysis in this study. The findings of this study show the direct and indirect effect of modern human resource development on employee future competencies. The partial mediation indicated that the modern human resource development plays an important part in contributing towards employee's future competencies. The results of this study indicated that with the evolution of modern human resource development parallel to the technical advancement fosters more skilled and adoptable environment. This study will help understand organizations to actually witness the impact on this transformation on employee future competencies. The dynamic interplay between the variables offers insight for the researchers and practitioners for enhanced organizational performance by modern human resource development.

**Keywords:** *Human Resource Development, Future Competencies, Digital Transformation, Global Mindset, Soft Skills, Attitude.*

### 1. Introduction

We live in the fast pace of technological global world where technology decides how the value of the organizations needs to be changed. Technology is not only helping the common man to do their daily tasks rapidly and efficiently but also making the sufficient changes in the organizations how things need to be get done there. In past few decades the organizational structure and process are facing the rapid advancement in technology which leads to digital era. While referring towards digital transformation the integration of technology in overall business infrastructure and how it changes values towards the customers. These changes leads to the industrial revolutions. In this regards employees are very important as their competencies are evolving with the modern human resource development practices. Although the digital technology is racing at the speed of light and spreading rapidly by altering the whole system and dealing with how the things could be get done in organizations (Barley, 2020). In a fast developing digital era, it is tremendous challenge for the organizations to remain competitive via adopting latest technology (Amankwah-Amoah & Adomako, 2021). One of the primary contribution of current adaptation is employee's digitalization with changing environment and empowering them with the new technical skills to thrive through this transitions (Trenerry et al., 2021). As organizations are following this transformation, it is of the imperative need to understand how this digital

transformation is impacting the employee future competencies. Recently the HRD has faced the shift in the paradigm while aligning it to digitalization (Bennett, Campion, Keeler, & Keener, 2021). The HRD practices which are traditional in nature are been refined with modern HRD practices over the past years to meet the need of digital era in industries. These modern HRD approaches includes the employee technical & analytical, digital and soft skills and global mindset of the employees as well (Thite, 2022).

The main focus of this study is to investigate the impact of employee digitalization on the employee future competencies. Especially this study investigates the role of modern Human Resource Development (HRD) in this relationship (Yoon, Han, & Chae, 2024). In latest digital era, digital transformation is not an option rather it is basic necessity to meet the competitive edge of the technologies in industrial revolution (W. He, Zhang, & Li, 2021). This involves reshaping industries via digital transformation and main focus is equipping its human resources with skills strategies and approaches to meet their need of digital transformation to beat the competitive in fast pace. This impact is very crucial to understand that their employees are well prepared to contribute to the organizational needs (Heim & Sardar-Drenda, 2021).

The main objectives of this study is to analysis the impact of digital transformation on the employee future competencies along with role of Modern HRD in this perspectives (Bansal, Panchal, Jabeen, Mangla, & Singh, 2023). Despite the numerous research on digital transformation and its impact on employee competencies, the role of global mind set in such competences has not gain much of the attentions (Nicolás-Agustín, Jiménez-Jiménez, & Maeso-Fernandez, 2022). Furthermore, the mediating role of modern HRD in under discussed with its combination of constructs (Piwowar-Sulej, Malik, Shobande, Singh, & Dagar, 2024). This study investigates this gap by providing empirical evidences to the literature to check how future competencies are impacted by employee digitalization.

The organizations must see the pathway through which employee digitalization is meeting the need of employee future competencies in this digital era is the rationale of this study (Carlisle, Ivanov, & Dijkmans, 2023). There is no doubt that companies are investing in the digitalization of equipment to facilitate their employees to minimize the impact of daily tasks burden of the employee, it is really important to investigate whether this transformation is serving its purpose on not (Bagale et al., 2021). This study will help understand organizations to actually witness the impact on this transformation on employee future competencies.

This research is significantly contributing towards the organizational need by providing the comprehensive framework of the policies and procedures to analysis the training and strategies formulation to investigate the role of modern HRD on employee's future competencies. This study further contributes to the existing body of knowledge of the modern HRD by providing empirical evidences of the relationship of employee digitalization and its impact on the employee's future competencies (Zeshan, Morelli, Rasool, Centobelli, & Cerchione, 2024). The finding of this study will significantly contribute to human resource professionals to optimize the workforce performance (Shahzad, Xu, Naveed, Nusrat, & Zahid, 2023). The target population of this study is employees of telecom & banking sector of Islamabad undergoing digital transformation, as these sectors focuses more on the digitalization by introducing main products for their customs on regular basis. Convenience sampling will be used to test the relationship of variables on the employees of telecom and banking sectors as all the employees of such sectors are engaged in trainings and development for the digitalized organizational environment. To address the study gap and objectives of this research, the research questions are proposed as:

Q1: How does this digital transformation impact the employee's future competencies including global mindset, employees' analytical and digital skills, attitude, and soft skills respectively?

Q2. How does modern HRD mediate the relationship between the digitalization of employees and the future competencies of employees?

## **2. Literature Review**

### **2.1.1 Digital Transformation towards Employee**

The term digital transformation is defined as the involvement of digital technology in to the organizational culture to see the impact on the organizational performance as a whole (Trushkina, Abazov, Rynkevych, & Bakhautdinova, 2020). This transformation helps to advance in skills and mind maps of the employees, such as problem solving techniques analytical skills, adaptability to new environment and the development of the technological skills as well. In fast-growing pace of the digital era it is important for organizations to meet this need of the digital era (Stonehouse & Konina, 2020).

### **2.1.2 Modern HRD**

Modern human resource development referred as strategies and practices which helps in improvement of skills and capabilities of the employees along with the knowledge to meet the current changing need of the technological transformation (Swanson, 2022). Modern HRD practices helps foster training and development strategies and also provides the continues learning along with performance management system that came along the digitalization of tools and equipment (Thite, 2022). As human resource practices are very important for the development of the skills of the employee's which overall enhances the digital transformation initiatives (Alsafadi & Altahat, 2021). In order to keep track of the employee's performance the performance management system can help with feedback and with incessant improvement. The employee's capabilities can be enhancing by the modern HRD practices (Kaur, 2024). The ecosystem that boosts the employee's learning, innovation and collaboration are the part of such modern approaches. By fostering such culture future challenges of the employees can be actively taken care of and new opportunities can be achieved with much efficiency (Torraco & Lundgren, 2020).

### **Employee's Future Competencies**

Employee future competencies are defined as the ability of the employees to boost their skills and attributes required to excel in fast pacing era of digitalization of organizations and to keep up with new knowledge and skills (Marr, 2022). Such competencies include global mind set, attitude and soft skills such as communication, teamwork etc., and technical and annalistically skills such as data analysis etc. Weritz (2022) suggests that it is crucial for the employee to effectively communicate the complexity of the modern workplace environment with their competencies and make their contribution for digital world.

## **2.2 Theoretical Foundation**

This study is supported by Human Capital Theory (Becker, 1962), the theory states that investment in human resource development promotes the growth of employee's skills and knowledge through training and assessment which will foster the growth of overall organization. The human capital theory is basically introduced by econometrics but latter in 1950s and 1960 it was introduced to the human development and training investments. There is a correlation between knowledge and technological advancement which is supported and proven by this theory lately. However, the initial definition of this theory equip workers, knowledge and their grooming with the involvement of their schooling (Becker, 1975).

### **2.2.1 Digital Transformation towards Employee and Modern HRD Practices**

Investing in employee development will return in improved and enhanced employee skills and knowledge which will ultimately improve the overall organizational performance (Becker,1964). Digital transformation towards employee includes the upgradation of digital tools and techniques which employee can posits with technological advancements leads to improve and modernization of HRD practices which will give the outcome of technically evolved workplace. This digital transformation towards employee encompasses high tech solution including e-learning, with flexible training solutions (García-Peñalvo, 2021). Employee can keep themselves updated with such training and improve their knowledge and skills through such programs.

Training programs by introducing virtual and augmented realities has changed the boundaries of learning and development in this digital transformational era (Iatsyshyn et al., 2020). Maghool, Moeni, and Arefazar (2018) established these two technologies provides its audience with the immense training program's learning experience that definitely improvise the skill retention among the employees. Culture of Stimulated environment is fostered in the organizations without establishing the risk of real world programs of training and development. Learning curve are accelerated along with the employees' engagement while guaranteeing the employees equipping with complex task hand ability (Afsar & Umrani, 2020). Learning and collaboration in the organizations are increased by the key element of digitalization virtual collaboration to ensuring the culture of modern HRD practices (Nicolás-Agustín et al., 2022). Knowledge sharing and continuous communication has become enable due to such tools and techniques in the organization. Problem solving skills in teamwork cultures has been made possible with the global connectivity which is core element of global mindset in the employees (Adamovic, 2018). Virtual collaboration environment can foster virtual teams to share their practices globally to face the challenges together which will enhance their problem solving skills and decision making hand to hand. Efficiency is achieved with such kind of skills along with the efficacy to ensure the technical proficiency with digitalized work force development which is important enough to gain the digital achievement (Thite, 2022).

Employee or workforce development is achieved by introduction artificial intelligence (AI) for revolutionizing the organizational development. Tools driven by the AI may personalize the learning of individuals according to their needs and learning patterns (Ezzaim, Dahbi, Aqqal, & Haidine, 2024). Such tools and techniques can expedite the HRD progress with the recommendation of the training program's content, development based on the activities and resources as per need of each employee. HR routine tasks could be automated with artificial intelligence for example tracking completion rates or HR focus on strategic activities important to employee's growth and overall success of the company (Popo-Olaniyan, James, Udeh, Daraojimba, & Ogedengbe, 2022).

Companies with highly digitalized culture are efficient in advancing the skills of their employees with modern HRD practices including the collaborative, competing and problem solving workforce (Varshney, 2020). Organizational innovations and the competitive advantages is achieved and improved organizational performance. HRD frameworks incessant the changing requirement of organizational environment by leveraging digitalized techniques and tools. Furthermore, these modern HRD practices are advanced by the digital transformation as data analytics improved the performance management system (Fernandez & Gallardo-Gallardo, 2021) along with the pointing out the skill gap of each employee by keeping track of their performances (Dash, Farooq, Panda, & Sandhyavani, 2019), to propose the development plan for such employees, which is outcome of the upgradation and advancement of technology (Li, 2022). Such management tools are important part of the Modern HRD practices as it increases the likelihood of competitiveness of the digitally advanced organizational environment. Furthermore, the tools in Information technology helps enough to overcome the hurdles of the time and location. Based on this argument it is build that:

***H<sub>1</sub>: Digital transformation towards employee is positively related to modern HRD practices.***

### **Modern HRD Practices and Employee's Future Competencies**

To gain the continuous improvement in collaboration and learning environment modern HRD practices are influences by the digital transformation towards employee including virtual collaborative tools and techniques. Such tools foster global connectivity by enhancing problem solving and team working environment via global network to develop global mindset of employees (Garcia, Smith, Burger, & Helms, 2023). This modern HRD approach gives surety of collaborative learning and solving problems collectively not only proficiency in technology but also gives the chance to work in diverse cultures and teams. Learning culture is very important to foster innovation and improvement in the organization which could be brought by modern HRD practices. Various studies investigated the importance of mentorship which is a crucial part of modern HRD and leads to employee development (Bongomin, Akol Malinga, Amani Manzi, & Balinda, 2023). Job satisfaction & retention is achieved by such

programs along with overall job performance in organizational culture. Numerous modern HRD practices alongside trainings mentoring and team based project are crucial to organizational investment (Swanson, 2022).

Fostering collaborative learning leads to problem solving and team work ability in the employees. It enhance skills of taking risks, smart decision and leads to psychological safety by sharing innovative ideas and not fearing repercussions (AlMunthiri, Bani Melhem, Mohd Shamsudin, & Al-Naqbi, 2024). Covering under human capital theory, modern HRD practices represents continues improvement in employee's collaborative thinking and adaptability for challenges in the future by skill development in employees to foster job performance in the organizations. Under the support of such arguments it is proposed that;

***H<sub>2</sub>: Modern HRD has positive impact on employee's future competencies.***

### **Digital Transformation towards Employee and Employee Future Competencies**

Additionally, the modern HRD practices and programs include the trainings based of team based projects and mentoring session to boost employee creativity (Swanson, 2022). Fostering such cultures in the diverse work environment helps the organization to develop the skills of collaborative learning among their workers. Knowledge sharing and collaboration helps in the complex tasks and problem solving even with the global teams as well (Gokhale, 1995). Essentially building such collaborative environment improved the cohesiveness among teams and through such collaborative efforts business thrive (Gann & Salter, 2000). Psychological safety is also a crucial aspect of the modern HRD practices which can flourish the concept of innovation and taking the risk between the employees of the organizations. AlMunthiri et al. (2024) focuses on psychological environmental safety environment for the creative and innovative environment without any negativity in judgements. Wise decision making can be achieved with such measures of the modern HRD practices to ensure the meeting the need to fulfilling future challenges faced by the company (Piwowar-Sulej, 2021). Employee engagement and motivation is achieved by psychological safety which ultimately promotes the job satisfaction among the workforce along with the improved productivity (Moin, Omar, Wei, Rasheed, & Hameed, 2021). The further future skills can be formulated by the integration of interactive and engaging training and development programs.

Huang, Yang, Zheng, Feng, and Zhang (2023) suggested that the modern HRD practices which includes the simulation based trainings gives the hands on experience of the real world scenarios in virtual evidences in controlled environment. Inconsistency with experimental learning such simulations are helping tools to gain knowledge by experiencing the experimental phase of the particular situation (Morris, 2020). Behavioral changes and other skills developments is achieved by such training and practices in digital world. Attaining the argument in support of human capital theory these trainings and advancements which are helping develop the human brains are extremely helpful in gaining the competitive advantage of the company's growth (Kareem & Hussein, 2019). Researches shows that the outperformance of the companies among the competitors is ensures by affectively using the modern HRD practices in this modern world along with the achievement of financial performance and customer satisfaction (Uraon & Gupta, 2020). To attain the sustainable market place in the world it is of affirmative approach to deal with learning culture through applying modern HRD practices in the workplace which is more accessibly personalized and more efficient techniques (Thite, 2022).

This study is supported by human capital theory, which posits that employee's skills and knowledge is crucial to the growth of organization (Desta, Tadesse, & Mulusew, 2022). It suggests that employee competencies can be enhanced through training workshops and educational development. Continues opportunities to learn are important for the development of human resource (Dachner, Ellingson, Noe, & Saxton, 2021). So, in digital transformation context HRD practices make sure to train the employee and utilize digital technology to support overall organizational performance. The digital literacy among the employees is a vital element of this transitions to make smart and advance decisions in honor of the



company's future (Cetindamar, Abedin, & Shirahada, 2021). To further investigate the relationship of employee's future competencies and digital transformation of the employees it is hypothesized as:

***H<sub>3</sub>: Digital transformation of the employees has positive impact on employee future competencies.***

### **Mediating role of Modern HRD in Digital Transformation of Employees and Employee Future Competencies**

This study will provide deeper understanding of how future competencies of the employees along with global mindset could map the organizational upgradation of employee by giving them training and provided them expertise in skills development perspectives with the help of digital transformation of employees (A. Jaiswal, 2022). Weritz, Braojos, Matute, and Benitez (2024) explained that with the help of digital transformation skills like soft skills and analytical and digital skills can be fostered along with the global mindset. In digital work environment it is crucial for effective communication and collaboration among employees to have attitude and soft skills like adaptability and team work (Trenerry et al., 2021). E-learning platforms and VC tools are helpful in developing soft skills in digital collaborative workplaces. Furthermore, such skills are accessible in flexible manners in such digital era. As the employees get familiarized with digital technology it gets even easier for them to learn advance techniques like data analytics and digital tools by improvising their analytical skills to analysis the data which ultimately leads to informed decisions in boosting their business (Philip & GavriloVA Aguilar, 2022).

S. Gupta et al. (2023) main focus was on the global mindset of the employees in digital transformation. As the vast number of companies are getting globalized so it is important for the companies to get their employees familiarized with global mindset and become familiarized with different cultures and market places. It is easier for the employees to get access to global network, cross cultures and different training programs by these cultures with the help of Digital transformation (DT) (Yadav, Prakash, Arora, & Mittal, 2023). It is easier to take benefit from international opportunities by better managing the global mindset and strengths the employees in such perspectives.

Future skills of the employees can be strengthening by involving DT into HRD practices of the companies like eLearning platforms upgrades the employees continuously by give them trainings by offering personalized training programs (Robbe Groskamp, 2024). Such opportunities and platforms includes the vast number of interactive opportunities engaging learning experiences starting from online and virtual simulation courses to upgrade the employee's skills e.g. technical and analytical skill set. Contrary to this data analytical tools help the companies in measuring the progress of the workers by tracking their skills gap and progress and provide plans accordingly (Pappas, Mikalef, Giannakos, Krogstie, & Lekakos, 2018). Such kind of approaches guarantees that they are receiving the exact trainings as per their needs of upgradation digitally.

Continuous learning and innovation is the part of DT in companies as it promotes the culture of incessant upgradation. Dynamic learning culture is been introduced by the use of digital tools and techniques among the companies which encourages it workers to take risks of developing new and smart ideas (Trushkina et al., 2020). This innovative culture fosters the environment of the digitally enhances and proactive workplace which promptly responds to challenges and opportunities in the digital economic era. In order to success in digital era companies needs to invest in digital tools and technology which encompasses the digital transformation to help its employees develop proactive and adaptable work environment (Zhang & Chen, 2024). Not only just the employee's performance could be enhanced but the overall companies' growth is in the hands of this DT.

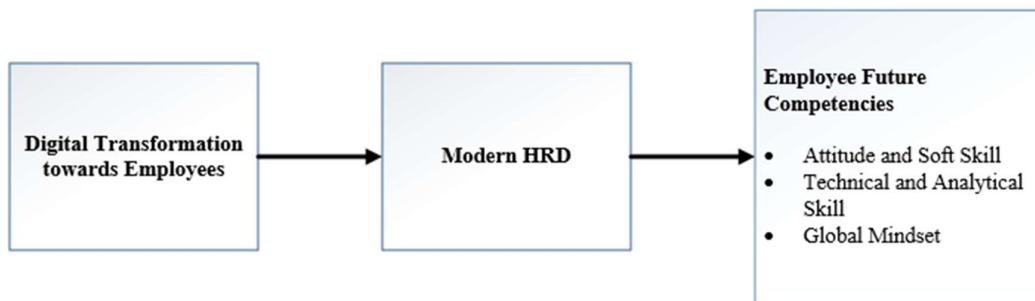
Human capital theory supports this hypothesis by emphasizing on the point where valuing the development of employees improves the company's outcomes in longer run. Becker (1964) says theta the valuable assets of the companies are employees, so strategic investment in their improvement is profitable to the companies with the help of training programs that will develop and enhance the skills set in them. Such form of strategic investments are the modern HRD practices tools and techniques to maximize the employee's potential and teaching them how to compete in this fast pacing digital era (Ryketeng & Syachbrani, 2023). This hypothesis suggests that the digitalization of the employee is

facilitated by the modern HRD practices which will ultimately impact the employee's future competencies (Piwovar-Sulej et al., 2024). This mediating role of HRD practices focuses on the mechanism through which it collectively and integrally enhance future competencies of the employee (Kaur & Kaur, 2022).

Alsafadi and Altahat (2021) says personalized trainings, data driven training of performance management and skills set of the employees to get hands on in their jobs are part of modern HRD practices which derives DT initiative. Such kind of trainings guarantees the incessant learning and update the skills to remain consistent with technological advancements (N. Jaiswal, Misra, Khang, & Misra, 2023). In fact modern HRD practices keeps the employees to efficiently and effectively use the technology and enhance the chances of getting supreme benefits from the DT. In return overall skills for example global mind set, technical and analytical and soft skills can be improvised. Under the umbrella of human capital theory, the modern HRD practices enhances the strategic importance of employee upgradation for long run success of the company (Akdere & Egan, 2020). Integration of modern HRD practices and DT of employees the synergy among the organizations could be achieved which will boost the both as it also fosters the resilience among the employees to keep competitive advantage in dynamic environment (Z. He, Huang, Choi, & Bilgihan, 2023).

Researches suggests that job satisfaction, performance and employees engagement can be achieved among employees by the companies which are investing in modern HRD practices like data driven software's, performance management system etc. (Mukuze, 2023). The companies have confidence on their employee's expertise and knowledge to conquer the digital world by strategically investing on them. It not only upgrades the performance but also boost their economic advancements by the principle of human capital theory (Agyabeng-Mensah, Tang, Afum, Baah, & Dacosta, 2021). Therefore, it is proposed that:

***H<sub>4</sub>: Modern HRD practices mediates the relationship between digital transformation of employee and employee's future competencies.***



**Figure 1. Theoretical Framework**

### 3. Research Methodology

#### 3.1 Research Design

This study is empirical in nature, cross sectional approach is adapted to measure the relationship between employee digital transformation, modern HRD and employee future competencies. Online questionnaires were distributed to the Telecom & Banking sector of the Islamabad to collect data.

#### 3.2 Sample and Data Collection

The target population of this study is employees of telecom & Banking sector of Islamabad undergoing digital transformation. Convenience sampling was used to test the relationship of variables on the employees of telecom and banking sector, efforts were made to randomly select participants from the population to reduce the biasness from convenient sampling and the sample size of 265 counter track the limitation of convenient sampling as the large sample size is taken for this analysis which definitely



reduce the biasness. Both the sector play a crucial role in growth and development of economy. These sectors are on the front hand in adopting and implementing the digital transformation towards employees. The telco sector specifically a pioneer in advancing and promotion new technologies and necessitates the continuation and adoption in innovation. In telecom sector there is high demand of digital and technical skills. The valuable contributions towards examining the impact of digitalization is by this sector. For the banking sector to enhance the digitalization to gain the ultimate customer satisfaction and boost the experience of online banking via online transactions and by means of different products this sector is also playing a pivotal role in the selection of this study. Data of 256 employees was received as a response to this study. This sample size is sufficient to provide the reliable results with data. As will be seen in demographics it covers the diverse range of the respondents to check the effect on the variables.

### 3.3 Measure

#### 3.3.1 Digital Transformation of Employees

The scale of Dijkstra- Henseler, (2019) 11 item scale was used to measure digital transformation on 7 point –Likert scale oscillating from 7= Never to 1-always and reliability of this scale is 0.859 on Cronbach alpha.

#### 3.3.2 Modern HRD & Employee Competencies

Modern HRD was measured on 5 point –Likert scale with 3 items from the scale of (Piwowar-Sulej et al., 2024). It is measured ranging from 5 not applied at all to 1- applied fully and reliability of this scale is 0.71 on Cronbach alpha. Same scale was used to measure attitude and soft skills and technical and analytical skills with 3 & 4 items respectively and reliability of this scale is 0.76 on Cronbach alpha. Future competencies were measured ranging from 5 not present at all to 1- developed fully and reliability of this scale is 0.73 on Cronbach alpha.

#### 3.3.3 Global Mindset

Global mindset was adapted from the scale of (A. K. Gupta & Govindarajan, 2002), this 8 item 7-point Likert scale ranges from 7 strongly disagree to 1 strongly agree and reliability of this scale is 0.856 on Cronbach alpha.

## 4. Results

### 4.1 Convergent and Discriminant Validities

First, factor analysis was performed using maximum likelihood without rotation. The Kaiser-Meyer-Olkin measure of sampling adequacy is 0.763, which is higher than the indicated value of 0.6 (Kaiser, 1974). Additionally, the Bartlett test of Sphericity (Bartlett, 1950) is significant ( $\chi^2(406) = 4892.126$ ,  $p < .01$ ). Second, the scree plot, eigenvalues, and total variance explained are analyzed, and it is determined to retain 3 factors for further study with total variance explained by drawn 3 factors is 63%.

**Table 1. KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.763
Bartlett's Test of Sphericity	Approx. Chi-Square	4892.126
	df	406
	Sig.	.000

The convergent validity explains the Average Variance Extracted (AVE) and Composite Reliability (CR) values of the first factor is 0.555 and 0.95 while for the second factor the CR value is 0.938 and AVE value is 0.56 while for the third factor the CR value is 0.91 while the AVE value is 0.573. Both the value of AVE is above than cut-off value  $> 0.50$  (Hair, Risher, Sarstedt, & Ringle, 2019) and CR are also greater than recommendation  $> 0.70$  (Peterson & Kim, 2013).

#### 4.2 Demographic Variables

Out of total sample of 256, 78.8 % individuals are male and remaining 29% individuals are female. 29.7% are permanent staff, 36.3% belongs to temporary staff criteria and 34% are contractual employees of the respective sectors. From all the above mentioned sample distributions 1.2% are less than 20 years of age, while 48.8% are from 20 to 29 years, 39% are from the age of 30 to 39 years and remaining 10% are of the age of 40 to 49 years and above.

**Table 2. Descriptive Statistics**

	N	Min	Max	Mean	Std. Deviation
Digital Transformation	256	1.73	6.45	3.988	1.201
Modern HRD	256	1.67	5.00	3.117	0.874
Employee Future Competencies	256	1.64	5.43	3.832	0.875

#### 4.3 Mediation Analysis using Hayes Process Macro Model 4

Hayes process macro model 4 is used to analyses the mediation effect on the variable. By analysis the direct and indirect effect of the variables the analysis shows the mediation in the table 3.

**Table 3. Direct and Indirect Effects**

	R <sup>2</sup>	MSE	F	df1	df2	p
0.595	0.354	0.495	139.760	1.000	254.000	.000
	<b>B</b>	<b>SE</b>	<b>t</b>	<b>P</b>	<b>LLCI</b>	<b>ULCI</b>
constant	1.388	.1527	9.094	.000	1.089	1.689
DT	0.433	.0367	11.822	.000	0.362	0.505
<b>R</b>	<b>R<sup>2</sup></b>	<b>MSE</b>	<b>F</b>	<b>df1</b>	<b>df2</b>	<b>p</b>
0.602	0.362	0.492	71.929	2.000	253	.000
	<b>B</b>	<b>SE</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
constant	1.804	0.175	10.293	.000	1.459	2.149
DT	0.252	0.045	5.554	.000	0.163	0.342
Modern HRD	0.327	0.062	5.229	.000	0.203	0.450
Total Effect of X on Y						
	<b>Effect</b>	<b>SE</b>	<b>t</b>	<b>p</b>	<b>LLCI</b>	<b>ULCI</b>
	0.395	0.038	10.274	.000	0.318	0.470
Direct Effect of X on Y						
	0.252	0.045	5.554	.000	0.163	0.342
Indirect Effect of X on Y						
	0.143	0.041	3.487	.000	0.083	0.202

*Note. Outcome Variable = Employee Future Competencies; Digital Transformation (DT)*

Direct effect of digital Transformation (DT) on Employee Future Competencies is significant as p value is  $<0.05\%$  and  $R^2$  shows the variation of 35%, which accepts H1, H2, H3. The indirect effect is also significant as  $R^2$  shows variation of 36% and there are no zeros in upper and lower intervals. Since as the sign of direct and indirect effects are same and positive so it is complimentary mediation., which accepts H4.

## 5. Findings & Discussions

The findings of this study shows the positive relation between digital transformation towards employee and employee future competencies. Especially the combination of digital tools and techniques in the organizational culture has enhanced the soft and attitude skills of the employees along with the analytical and technical skills. These findings suggest that it is very crucial to understand the role of digital transformation to thrive in the fast growing digital era of technology. Furthermore, the results of the mediation suggest that the organizations which are more focused on the modern HRD practices are more prone to enhancing digital competencies in the employee which ultimately leads to overall organizational performance. This study contributes with really significantly positive results from the combination under study. Past studies included the variable like critical skills, but this study contributes with global mindset along with soft and analytical skills (Weritz, 2022). The alignment of these studies really proves that digitalization towards employee eliminates the gap between digitalization and investment in human capital which is underpinned by the human capital theory (Swanson, 2022). While the overall findings of this study were in line with the literature but there were certain inconsistencies like the low impact of digitalization with soft skills and among different demographics it shows little inconsistency. But overall results were consistent, like mediating role of modern HRD practices were significant with 36% variance. Digitally transformed employees and future competencies were significant with 35% variance.

This study explores the relationship between employee digital transformation, modern human resource development practices, and employee future capabilities. The results show that digital transformation has a significant positive impact on improving employee capabilities, including attitudinal and soft skills, technical and analytical skills, and global mindset. The study establish that modern human resource development practices play a vital facilitating role in effectively translating digital transformation efforts into concrete improvements in employee skills (Kaur & Kaur, 2022). By combining digital transformation initiatives with modern human resource development practices, companies can effectively develop a future-oriented workforce. These efforts not only improve individual employee skills, but also help enhance the company's overall competitiveness and innovation capabilities. They lay the foundation for further research and practice strategies to cope with the complexity of digital transformation and build an adaptable workforce.

### 5.1 Research Implications

Companies should strategically integrate digital transformation initiatives into their core businesses. This includes introducing digital tools and platforms to enable seamless workflows, increase productivity, and support innovation. Organizations must ensure that these technologies are easy to use and that employees are adequately trained to use them effectively. A comprehensive approach to employee development should be taken, focusing not only on technical skills but also on soft skills and a global mindset. In addition to technical skills such as digital literacy and data analysis, training programs should be designed to improve adaptability, problem-solving skills, and cultural awareness (Falloon, 2020). Performance management systems should incorporate metrics to assess employees' digital skills and their ability to adapt to new technologies. Regular feedback and performance evaluations can aid recognize areas for enhancement and guide future training exertions. Leaders must also support such training and programs to enhance the employee future competencies (Kolasani, 2023). By addressing such practices organizations can harness these areas and build the digitally transformed environment and organizational culture.

This study focuses on the challenges that encompasses the digital HRD practices for example the initial investment which is really big and the other one is resistance to change which most of the employees are not going to get themselves comfortable with changing environment. Companies should promote the culture of innovation and challenges it will enhance the capacity of the employees to accept the changes especially which are better for their future. Culture of adaptability and acceptance along with the culture of investment in training smart HRD decisions. This is the pathway to enhance the employee's engagement and saving costs for achieving the ultimate economical organizational benefits.

## **5.2 Theoretical Implications**

This study contributes to the human capital theory by encompassing the collaboration of technological advancement and human capital development. The study contributes with its empirical evidences that the both advancements can improve the skills of the workers and leads to organizational success (Azeem, Ahmed, Haider, & Sajjad, 2021). Wholesome, the study gives the practitioners and policy formulators a valuable insight to look deeper into modern HRD practices and digital transformations by highlighting the needs of investment in human capital to achieve competitive advancement to the competitive edge in rapidly growing and evolutionary environment of digitalization. This study categorizes the different skills to provide a theoretical framework for easy understanding that how the combination of skills and future competencies can improve the problem solving skills when combined with modern HRD in organizational sector locally and globally. It is very essential for overall productivity and adaptability (Nicolás-Agustín et al., 2022). This study also provides the theoretical frame work for different sectors that how these combinations and relationships operates in such sectors. Theoretical implacability in various sectors is examined in this study. Future theoretical work could focus on different mediators and moderations like different leadership styles, different cultures of organizations and relationship among the digitally transformed employees.

## **5.4 Research Limitations & Future Directions**

Like any other study this study is also not free from limitations. The first limitation of this study is that it is cross sectional study which shows biasness, future researches could do the longitudinal research to get unbiased results. The generalizability of this research is second limitations as only telecom and banking sector undergoing through digitalization has been the sample of this study, future researches could use different industries to get more generalized results. This study only focuses on general modern HRD practices, while the future studies could focus on formal and informal both HRD practices which are really important to measure digitalization of the employees in digital era. Furthermore, future researches could use additional variables like independent employee's prior experiences in digitalization.

Adding to the limitations of this study, future researchers should consider several other areas to study the impact of digital transformation of employees on modern HRD practices and skills sets of the employees. Significantly the industrial horizon can be broadening and move beyond the banking and telco sectors to see the impact among and on the variables. Manufacturing, healthcare and retail along with the education industry could be explored to help understand the digitalization and its impact on employee's skills in such different environments to highlight the challenges and opportunities among different industrial cultures (Shahi & Sinha, 2021). Furthermore, different geographic and cultural context could be checked while studying this combination in future. Different cultures must have variety of the economic and technological infrastructures to encompass the attitude towards learning technology (Dąbrowska et al., 2022). A treasured insight can be driven from different cultures about the digitalization of employees. However, the machine learning, AI and block chain technology's impact on digitalization and employee capability can be study further in future. Enhancing the understanding of how these technologies integrated among each other is really crucial to the contribution of this specific field of study.

Mental health of the employees in this regard has not yet captured the attention of the researcher very much. Though this study primarily focuses on the skill sets of the employees but work life balance and stress of the employees may provide the comprehensive understanding of this phenomenon. Virtual reality (VR) trainings, simulations, gamification learning, and personalized path of learnings to improve employee learning capability can be studied further. These all guidelines for the future researches could contribute a valuable insight to the literature and practical problems which needs the drastically prompt attention to can be studies and discussed in the future of his digitalization era of technology and employee.

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