The Influence of Demographic Variables on Perceptions of HR Agility in the Workplace: A Study of the IT Industry in Telangana

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Abstract

As the digital era continues to transform industries, Human Resource (HR) agility is essential for organizational responsiveness and innovation. This study explores how demographic factors age, gender, educational qualification, and industry type influence HR professionals' perceptions of key HR agility dimensions: Digitization of Human Resources (DHR), Organizational Network Analysis (ONA), and Organizational Design (OD). Conducted among 385 HR professionals across IT, Manufacturing, and Service sectors in Telangana, the research employs a quantitative, cross-sectional survey and applies Chi-square analysis to examine these associations. The demographic profile indicates a majority of male respondents, with a strong representation of mid-career professionals and highly educated individuals, particularly from the IT sector. Chi-square test results reveal statistically important relationships between all demographic variables and perceptions of DHR, ONA, and OD ($p < 0.05$), leading to the refusal of the hypotheses. Younger and more educated professionals displayed greater alignment with digital HR systems and agile structures, while industry type influenced the extent of exposure to and adoption of these practices. The findings highlight the importance of demographic diversity in shaping perceptions and adoption of HR agility tools. Organizations aiming to implement digital HR systems and agile frameworks must consider these demographic variations to enhance acceptance and effectiveness. This study contributes to existing literature by bridging the gap between HR agility and demographic dynamics, offering practical implications for HR leaders to design inclusive, adaptive strategies that support workforce engagement and organizational agility in technology-driven environments.

Keywords: *HR Agility, Digitization of Human Resources, Organizational Network Analysis, Organizational Design, and Demographic Variables*

Introduction

In the face of rapid technological advancements and shifting workforce dynamics, organizations are increasingly embracing HR agility to remain competitive and adaptable.

Human Resource (HR) agility involves the ability of HR practices to quickly respond to changes, foster innovation, and optimize organizational performance. Key components of HR agility include the DHR, ONA, and OD, which are central to transforming traditional HR practices into more flexible and efficient systems. DHR integrates technology to streamline recruitment, training, and performance management, while ONA leverages data to enhance communication and collaboration across an organization. OD focuses on reshaping organizational structures to foster innovation and responsiveness through flat hierarchies and decentralized decision-making (Cascio & Montealegre, 2016; Rigby et al., 2016). Despite the growing importance of these HR agility practices, limited attention has been given to how individual demographic characteristics influence the perception and adoption of these practices. Understanding these demographic influences is essential for tailoring HR strategies and ensuring that digital and agile HR systems are effectively implemented across diverse workforces (Bersin, 2017; Bondarouk & Brewster, 2016). The present of this work is to explore how demographic factors effect HR professionals' perceptions of HR agility dimensions-DHR, ONA, and OD in organizations in Telangana. The work aims to offer perceptions into how demographical variables shape the reception and effectiveness of these digital and organizational transformations. By examining these relationships, the research seeks to offer actionable recommendations for HR leaders to design more inclusive and effective strategies for implementing HR agility practices that align with the diverse needs of their workforce.

Literature Review

In recent years, Human Resource (HR) agility has developed as a critical factor for organizations directing to adapt quickly to market changes and drive innovation (Bersin, 2017). HR agility is demarcated as the ability of HR practices to respond fast and effectively to both internal and external changes. This concept is integral to modern organizations as it helps improve organizational performance, enhance employee satisfaction, and foster a culture of continuous learning (Cascio & Montealegre, 2016).

Digitization of Human Resources (DHR) is one of the primary drivers of HR agility, with technology renovating HR roles such as recruitment, performance management, and employee growth (Marler & Parry, 2016). By adopting digital tools, HR departments can streamline administrative tasks, improve decision-making, and enhance transparency. The rise of big data and analytics further strengthens DHR by allowing organizations to make data-driven choices regarding employee retention, performance, and talent administration (Angrave et al., 2016). However, the success of DHR is contingent on the organization's readiness to adopt new technologies and the attitudes of employees towards these innovations (Stone et al., 2015).

Organizational Network Analysis (ONA) is another critical component of HR agility. It focuses on analysing communication and collaboration patterns within an organization (Cross et al., 2002). ONA helps identify informal networks, key influencers, and communication bottlenecks, which can be optimized to improve organizational performance. Recent studies highlight the role of demographic factors such as gender, age, and educational background in shaping an individual's position within these networks (Hollingshead, 2018). Finally, Organizational Design (OD) plays a pivotal role in promoting agility. The shift towards more agile organizational structures, such as flat hierarchies and decentralized decision-making, has been shown to improve collaboration and responsiveness (Rigby et al., 2016). Demographic characteristics influence employees' perceptions of OD, with younger employees tending to favor more flexible, team-based structures, while older employees may prefer traditional hierarchical designs (Kotter, 2014).

Research Gap: While there has been significant research on the acceptance of HR agility performs such as DHR, ONA, and OD, there remains a gap in the literature concerning the influence of demographic factors on the perception and adoption of these practices. Most studies have focused on organizational and technological aspects of HR agility, with limited attention given to how individual demographic shape the reception and implementation of these practices (Bersin, 2017; Bondarouk & Brewster, 2016). Moreover, few studies have explored these relationships within specific industry contexts, particularly in emerging markets like India. This work objects to fill this gap through examining how demographic factors impact HR professionals' perceptions of HR agility dimensions-DHR, ONA, and OD in the context of IT companies in Telangana. Understanding the intersection between demographics and HR agility will afford actionable visions for HR leaders to design additional inclusive and active HR strategies.
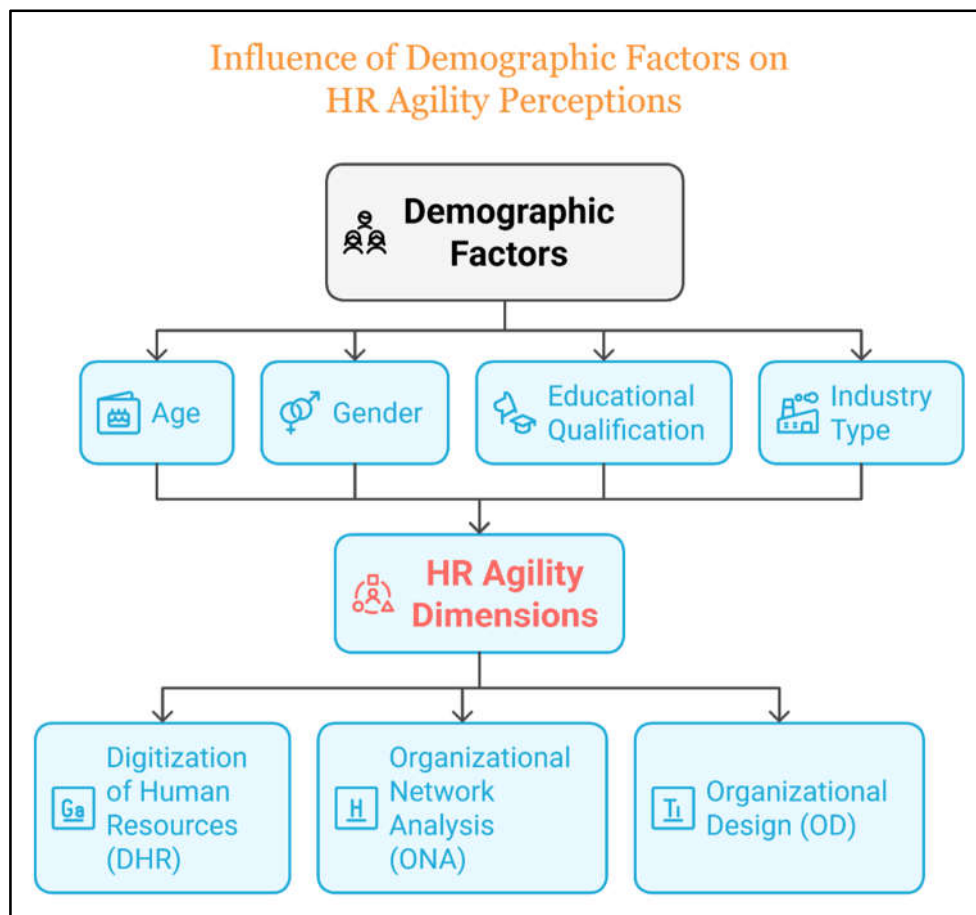
Objectives:

1. Identify significant associations between demographic factors (age, marital status, educational qualification, and industry type) and perceptions of DHR, ONA, and OD.

2. Analyze how demographic diversity shapes the implementation and reception of agile HR practices in IT companies in Telangana.

Hypotheses:

- H_{01}: There is no significant association between demographic factors and perceptions of Digitization of Human Resources (DHR).

- H$_{02}$: There is no important relationship between demographic factors and perceptions of Organizational Network Analysis (ONA).
- H$_{03}$: There is no significant association between demographic factors and perceptions of Organizational Design (OD).

Conceptual model

Methodology

Research Design: This work uses a measurable, cross-sectional survey strategy to explore how demographic factors (age, marital status, education, and industry type) influence perceptions of DHR, ONA, and OD among HR professionals in Telangana's IT sector.

Sampling and Respondents: A stratified random sampling method was used to select 385 HR professionals from IT, Manufacturing, and Service sectors, ensuring balanced representation across industries. Stratification also considered age and educational qualification for deeper analysis of demographic influence.

Instruments Used: Data were collected using a structured questionnaire developed from prior research. It included three sections: (1) demographic information, (2) perceptions of DHR, and (3) perceptions of ONA and OD with a 5-point Likert scale.

Statistical Analysis: Data were analysed using SPSS. Descriptive statistics (frequencies and percentages) summarized the demographic profile. Chi-square tests were employed to identify important associations between demographic variables and perceptions of DHR, ONA, and OD. A p-value of less than 0.05 was considered statistically important.

Results and Discussion

Demographical analysis

The demographic profile of the sample provides meaningful insights into the composition of HR professionals in Telangana, highlighting main features such as gender, age, education, and industry type. A majority of respondents are male (62.1%), while females make up 37.9%, reflecting prevailing trends in HR and IT sectors where male participation remains higher, though female representation is gradually increasing. The age distribution is led by professionals in the 36–45 years group (36.1%), followed by the 26–35 years group (33.2%), indicating that mid-career professionals dominate the workforce. This implies a strong presence of experienced individuals who likely hold influential roles in shaping HR strategies, particularly regarding DHR, ONA, and OD. In terms of education, the sample is highly qualified, with 48.1% holding postgraduate degrees and 35.1% being graduates. This educational background suggests that the respondents are capable of understanding and implementing advanced HR technologies and agile organizational frameworks. Industry-wise, IT & ITES professionals represent the largest segment (41.6%), followed by Manufacturing (37.7%) and Services (20.8%). This underscores the IT sector's leadership in digital HR adoption, while Manufacturing and Service sectors may still rely more on traditional systems. Overall, the demographic composition reflects a diverse, experienced, and well-educated HR workforce. The concentration of professionals in tech-driven industries and their educational levels position them well to understand and influence the transition toward agile, digital HR practices. This diversity offers rich insights into how demographic variables shape perceptions of HR agility in a rapidly transforming business environment.

Table 1. Distribution of the sample respondent's demographic profile.

Demographic Profile		Frequency	Percent
Gender	Male	239	62.1
	Female	146	37.9
	Total	**385**	**100.0**
Marital Status	20-25 yrs.	69	17.9
	26-35 yrs.	128	33.2
	36-45 yrs.	139	36.1
	46-55 yrs.	49	12.7
	Total	**385**	**100.0**
Qualification	Diploma	65	16.9
	Graduate	135	35.1
	Post Graduate	185	48.1
	Total	**385**	**100.0**
Industry Type	Manufacturing	145	37.7
	IT&ITEs	160	41.6
	Service Sector	80	20.8
	Total	**385**	**100.0**

Chi-Square analysis

Hypotheses (H01)

The Chi-Square analysis indicates important associations among demographic factors and perceptions of DHR. The results highlight that gender (Chi-Square = 19.170, p = 0.014) is significantly related to DHR, suggesting that male and female HR professionals perceive the digitization of HR practices differently. This may reflect gender-specific perspectives toward adopting technology in HR (Chaudhuri & Ghosh, 2019). The analysis also reveals a important association among age and perceptions of DHR (Chi-Square = 80.313, p = 0.000). Younger professionals tend to be more open to adopting new HR technologies, while older professionals may prefer traditional methods, reflecting generational

differences in the acceptance of digital tools (Marler & Parry, 2016).

Further, educational qualification is strongly associated with perceptions of DHR (Chi-Square = 70.155, p = 0.000). HR professionals with higher educational qualifications are more possible

to have encouraging attitudes towards the digitization of HR practices, likely due to their greater familiarity with technology and its applications in HR (Bondarouk & Brewster, 2016). Finally, industry type also shows a significant relationship with DHR (Chi-Square = 28.199, p = 0.030), with professionals in the IT sector having more favorable views on digital HR tools compared to those in the Manufacturing and Service sectors. This reflects the higher adoption of technology in the IT industry, where digital HR practices are more prevalent. These findings emphasize the importance of considering demographic differences when implementing digital HR strategies. Tailored approaches can help organizations well address the diverse wants and perceptions of their workforce.

Table 2. Relationship between the demographical profile with Digitization of HR (DHR) variable.

S. No.	Description	Chi-Square Tests	
		Pearson Chi-Square Value	Asymp. Sig. (2-sided) P-Value
1	Gender of respondent and DHR	19.170	0.014
2	Age of respondent and DHR	80.313	0.000
3	Qualification of respondent and DHR	70.155	0.000
4	Industry type of respondent and DHR	28.199	0.030

Hypotheses (H02)

To examine the second hypothesis (H_{02}), a Chi-Square test was conducted to determine whether demographic factors significantly influence perceptions of Organizational Network Analysis (ONA). The results are presented in Table 3 and show statistically significant relationships across all demographic variables. The gender of respondents was significantly related to perceptions of ONA, with a Pearson Chi-Square of 37.131 and a p-value of 0.000, representative that male and female professionals perceive organizational networks differently. Age also demonstrated a highly significant association with ONA perceptions (Chi-Square = 114.186, p = 0.000), suggesting that different age groups engage with or understand organizational communication patterns in distinct ways. Educational qualification was another significant factor, with a Chi-Square of 62.758 and a p-value of 0.000, representing that respondents with varying levels of education have differing insights or familiarity with network-based organizational practices. Similarly, industry type showed a significant relationship with perceptions of ONA (Chi-Square = 37.338, p = 0.002), suggesting that the

extent of exposure to network analysis tools may vary across industries such as IT, Manufacturing, and Services.

Overall, these results lead to the rejection of H$_{02}$, confirming that demographic factors significantly influence perceptions of Organizational Network Analysis. The findings highlight the importance of considering demographic diversity when introducing or optimizing network-based strategies in HR. Tailoring ONA initiatives based on employee demographics can enhance acceptance, relevance, and impact within organizations.

Table 3. Relationship between the demographical profile with

Organizational Network Analysis (ONA) variable.

S. No.	Description	Chi-Square Tests	
		Pearson Chi-Square Value	Asymp. Sig. (2-sided) P-Value
1	Gender of respondent and ONA	37.131	0.000
2	Age of respondent and ONA	114.186	0.000
3	Qualification of respondent and ONA	62.758	0.000
4	Industry type of respondent and ONA	37.338	0.002

Hypotheses (H03)

To test Hypothesis H$_{03}$, a Chi-Square examination was shown to observe the association between demographic factors and perceptions of OD. The results presented in Table 4 indicate statistically significant associations across all demographic variables, leading to the refusal of the null hypothesis.

Gender was significantly associated with perceptions of OD, with a Pearson Chi-Square = 28.292 and p = 0.001. This suggests that male and female respondents may differ in how they perceive and adapt to organizational structures, including hierarchy, role clarity, and team dynamics. Age demonstrated an even stronger relationship with OD (Chi-Square = 97.342, p = 0.000), implying that different age groups may have varying levels of comfort or experience with agile and flexible organizational designs.

Educational qualification also showed a significant influence (Chi-Square = 90.551, p = 0.000), indicating that individuals with higher academic attainment may better understand or appreciate modern, dynamic organizational frameworks. Industry type, with a Chi-Square value of 33.117 and p-value of 0.016, further supports that exposure to agile design practices differs across sectors like IT, Manufacturing, and Services.

These findings confirm that demographic variables significantly impact employees' perceptions of Organizational Design. Recognizing these differences is essential for HR practitioners aiming to implement adaptive, inclusive, and effective organizational structures. Customized design strategies that align with workforce diversity can enhance engagement, communication, and overall organizational agility.

Table 4. Relationship between the demographical profile with Organizational Design (OD) variable.

S. No.	Description	Chi-Square Tests	
		Pearson Chi-Square Value	Asymp. Sig. (2-sided) P-Value
1	Gender of respondent and OD	28.292	0.001
2	Age of respondent and OD	97.342	0.000
3	Qualification of respondent and OD	90.551	0.000
4	Industry type of respondent and OD	33.117	0.016

Conclusion and Implications

The findings from the Chi-Square analyses across all three hypotheses reveal a consistent and statistically significant relationship between demographic factors (age, gender, educational qualification, and industry type) and perceptions of key dimensions of HR agility—namely, DHR, ONA, and OD. These outcomes approve the rejection of all three null hypotheses (H_{01}, H_{02}, H_{03}), demonstrating that demographic features show a essential role in shaping how HR professionals perceive and engage with agile HR practices. For DHR, age and educational background significantly influenced perceptions, with younger and more educated employees displaying greater adaptability toward digital HR tools. Similarly, perceptions of ONA were strongly associated with demographic differences, suggesting that factors such as communication style, generational expectations, and network positioning vary across demographic lines. The strongest patterns emerged in OD, where preferences for hierarchical versus agile structures were notably influenced by age and industry type.

Implications for Practice: These findings highlight the need for HR leaders and organizational decision-makers to consider demographic diversity when implementing HR agility initiatives. A one-size-fits-all approach to digital transformation and structural redesign may not resonate equally across the workforce. Tailored strategies such as targeted training for older employees, inclusive communication in network analysis efforts, and adaptable organizational model scan enhance adoption and effectiveness. Furthermore, organizations,

especially in dynamic sectors like IT, must prioritize inclusive change management practices that recognize the varied needs and readiness levels of different demographic groups. By aligning HR practices with workforce diversity, organizations can foster greater engagement, agility, and flexibility in the face of incessant transformation.

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