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MANAGEMENT | RESEARCH ARTICLE

Do workforce diversity, inclusion practices, & organizational characteristics contribute to organizational innovation? Evidence from the U.A.E

Iffat Sabir Chaudhry^{1*}, Rene Ymbong Paquibut¹ and Muhammad Nawaz Tunio²

Abstract: The current study attempted to determine if workforce diversity (inherent or acquired) and its inclusion practices (implementing fairness, belongingness, uniqueness, and diverse workplace climate) contribute to the innovativeness of the organizational climate. It also considered whether organizational characteristics (i.e., type, size, and industry) encourage or moderate innovation in work settings. The self-administered survey was adopted to collect responses from the employees working in different types and sizes of the organizations across the industries in the United Arab Emirates. The responses from five hundred and eleven (511) participants were analyzed using partial least square structural equation modeling (PLS-SEM). The formative and reflective measurement models and structural paths were estimated for quality checks and hypotheses testing, respectively, using Smart PLS-3. The findings confirmed that diversity and inclusion practices in the workplace significantly contribute to its innovative climate. The f^2 effect size demonstrated a stronger impact of organizational inclusion practices compared to its diversity in engaging innovation and change at the workplace. Moreover, large size organizations were more engaged in innovative activities compared to small size firms. The

ABOUT THE AUTHOR

Iffat received her PhD in Management with focus on Organizational Behaviors and Workforce Emotions. Her research activities are primarily focus on the organizational designs and process and how they influence on workforce psychology. Aligned to the research focus, the authors intended to investigate if workforce diversity and its inclusion contribute to the innovativeness of firms in United Arab Emirates. Iffat and Rene conceptualized the study, designed the framework, collected data and analyzed it to draw results and conclusions; Nawaz participated in literature writing with overall review of the project and its editing. The findings helped us to learn how U.A.E. -being commercial hub to 200 nationalities- is exploiting the benefits of hosting diversity in achieving its vision of becoming innovative leaders world-wide. This research is a part of our institutions endeavors to acknowledge and contribute to the government's endeavors of achieving its Vision-2030 by highlighting the organizational factors conducive to innovation.

PUBLIC INTEREST STATEMENT

Engaging with people from diverse cultures helps us to comprehend the different perspectives existing in the world in which we live, work. This engagement helps to reduce our stereotypes and biases regarding diverse groups and provide us a chance of including them as part of the group. Diversity inclusion can trigger creativity and drive innovation. The economies and organizations which aspire to be innovative regionally and internationally need to understand how innovation can be cultivated through the inclusion of diversity in their workplaces and working environments. Based on the premise, the researchers investigated whether diversity and its inclusion is contributing to the U.A.E. based firms' innovation adaptability or not. Also, if innovation adoption is centered only to large, profit-centric firms from specific industries. The findings confirmed the strong role of diversity inclusion in promoting innovation within the workplace. Additionally, the large size organizations were reported to be better in adapting to the innovative work climate.

findings have implications for policy setters in the governmental bodies and practitioners across industries in multicultural regions, promoting culture of innovation.

Subjects: Organizational Theory & Behavior; Social Psychology of Organizations; Management & Organization

Keywords: Belongingness; diversity; fairness; inclusion practices; industry; innovation; organization size; organization type; uniqueness

1. Introduction

In 2014, the United Arab Emirates (UAE) government launched a national strategy of innovation with the aim of becoming one of the most innovative nations in the world within the next seven years (UAE Government, 2019). Its primary motive was to develop a national culture that encourages innovation and supports the shift from an oil-based to a knowledge-driven economy. To do so, the public and private sectors were expected to participate in the national innovation strategy by adopting new technologies and developing innovative products and services.

In response to the national call, a significant number of public and private UAE organizations adopted the country's strategic plan and have been seeking ways to innovate. One of the ways to drive organizational innovation is through a diverse workforce (Kemeny, 2017). Diversity is a source of innovation and creativity that enables firms to gain a competitive advantage (Bassett-Jones, 2005). Companies that hire employees who have inherent (i.e., ethnicity, gender, language, religion, and abilities) and acquired (i.e., educational background, marital background, and work experiences) diversity traits—referred as two-dimensional diversity or 2D—out-innovate and out-perform others (Hewlett et al., 2013, December).

It is imperative for organizations to create an environment where a diverse workforce is integrated (Thomas & Ely, 1996), and they feel included in the system (Bilimoria et al., 2008). Inclusion is the degree to which an employee perceives that they are an accepted member of the group and are treated fairly enough by the organization, which satisfies their needs of belongingness and uniqueness (Shore et al., 2011). When working in an inclusive environment where “outside the box” ideas are heard, and a “speak up” culture is maintained, employees are 3.5 times more likely to contribute their full innovative potential (Hewlett et al., 2013, December).

Moreover, certain characteristics and structural designs are conducive to a higher rate of innovation and change acceptance (e.g., firms involved in industrial manufacturing or in the computer or electronic industry or of large size) are required to be more innovative and adaptable for profit-making and long-term viability (PricewaterhouseCooper, 2013). In comparison, industries where cut-throat competition is not prevailing, or where firms are small to medium size (with fewer resources), decisions about spending for research and innovation are at the discretion of the management.

This study examines the role of workforce diversity and inclusion practices on organizational innovation in the public and private sectors of the UAE. It further determines whether certain organizational characteristics are more conducive to innovativeness than others. The study findings help answer the following research questions:

- a. Does workforce diversity contribute to innovation in U.A.E firms?
- b. Do inclusion practices result in increased innovative contributions of a diverse workforce?
- c. Do firms with certain characteristics innovate better than others?

The study findings have implications for organizational leaders and human resource recruiters who are entrusted with the task of hiring and retaining the right people for higher organizational productivity and adaptability to ever-changing environmental needs. Earlier, no studies have

been undertaken which could have helped the government bodies and the industry leaders in understanding better the role of workforce diversity and its inclusion in enhancing long-aspired innovation-oriented culture in the region. Hence, the study findings will provide guidelines to the government policymakers in realigning their policies with innovation advancement and culture-creation conducive to innovation in the region.

2. Literature Review

Innovative companies grow significantly faster than less innovative companies. According to PwC's Global Innovation Survey (PricewaterhouseCooper, 2013) of the industrial sectors, the most innovative companies grew 38% over the last three years compared to the least innovative, which managed barely 10% growth over the same period (PricewaterhouseCooper, 2013). Middle Eastern countries are diverse in terms of culture, social patterns, ethnicity, language, religion, political system, economy, and innovation. The UAE, in the Middle East, adopts innovation and appreciates innovative approaches for organizations and individuals for the sake of peace and economic prosperity (Gul et al., 2015). While the Middle East, in general, is far behind in contributing new knowledge compared to the rest of the world, the UAE has undertaken the challenges of promoting a knowledge-based economy through investment in education and innovation (Ryan & Daly, 2019).

Many scholars mentioned that there is not a consensus on a single definition of innovation because it is very multi-dimensional. Innovation is defined as "a creation of better products, services, processes, and technologies, implying a complex use of ideas, acceptable by markets, government and society" (Fatur & Likar, 2009, p. 13, 2010). While looking at the nature of innovation as creating new things, innovation indicates fundamental changes in industrial structures and organizational growth (Tohidi & Jabbari, 2012). It is crucial in the ever-changing environment of businesses. It affects organizations and its dimensions (i.e., job satisfaction, quality of products, performance, total quality management (TQM), knowledge management (KM), adoption of information system and much more, considering it vital for the survival of the firms (Wijk et al., 2008). To succeed in a competitive business environment, managers need to adopt innovation. In this regard, human resources are a key driver of innovation because it cultivates a competitive culture and develops an innovation-conducive system (Maier et al., 2014).

Human resources (HR) development is the process of increasing the knowledge, skills, and capacities of all the people at the workplace and in society at large. In economic terms, it could be described as the accumulation of human capital and its effective investment in the development of an economy (Silva, 1997). Human capital plays a significant role in fostering innovation because it plays a role in both radical developments and in smaller continuous changes. Firms should leverage human capital to develop organizational expertise for creating new products and services (Çalışkan, 2010; Chen et al., 2009). Competitive human resources provide an advantage for organizations and are essential for their development (Searle & Ball, 2012).

2.1. Employee Diversity and Organizational Innovativeness

The many aspects and dimensions of diversity cannot be contained in one definition; however, renowned scholar Kreitz (2008) defines diversity as "any significant difference that distinguishes one individual from another" (p. 102). Dobbs (1996) added that "diversity can be specified in age, sex, geography, lifestyle, education and experiences" (p. 351) (Manoharan & Singal, 2017). Diversity is an integrated part of every organization, and it can be addressed and converted as a source for organizational capability and organizational success. Treating the workforce as homogenous can limit the organization as diverse people need different social treatment, and they have their own concerns (Urick, 2017). Diversity is crucial to employee development as well as the organization's development. Therefore, the diversity of human resources management must be imperative to attract, develop, retain, and manage a diverse workforce (Corritore et al., 2020).

HR practices that consider diversity create mutual respect and recognition for the employee as well as the organization. With reference to the social exchange theory (Cropanzano et al., 2017;

Ratnasingam et al., 2012), people in the organization behave positively and perform more productively when organizations value their existence and contributions (Cropanzano & Mitchell, 2005). Diversity oriented practices minimize biases and discrimination, which results in innovation and productivity (Forbes, 2021); thus, the first hypothesis is as follows:

H1: Workforce Diversity has a significant positive impact on organizational innovativeness.

2.2. Employee Inclusion and Organizational Innovativeness

Scholars and practitioners are taking an interest in diversity in the workplace (Buengeler et al., 2018) and in helping people in diverse work environments feel included (Roberson, 2006). Mor Barak (2000) conceptualized inclusion as a continuum for the degree to which employees perceive themselves as a part of critical organizational processes (Cho & Mor Barak, 2008). Understanding perceptions of inclusion are important because they affect job satisfaction, commitment to the organization, and workers' mental health (Rizzo, 2016). Fairness is an aspect of inclusion that prevails in organizations when they develop trust between employees and supervisors. This results in the improved performance and social behavior of the employees, which leads to customer satisfaction (Anshari, Almunawar, Lim & Al-Mudimigh, 2019; Mohammad et al., 2019). On the other hand, unfair situations can be very harmful to the organization. Therefore, it is necessary to understand because work-related variables are influenced by employees' perceptions of fairness and job satisfaction (Chang et al., 2016).

Along with being treated fairly, it is imperative for employees to be an integral part of the organization. Organizational studies have persistently argued for maintaining relationships with other people is not only a desire for belonging but also a psychological need of the employees. When a person is ignored or rejected by other people or group at work, it can decrease his/her sense of belonging and self-esteem (Machin & Jeffries, 2017). Inclusiveness unifies and fulfills people's social needs and is positively associated with achievement. It develops profound connections and social acceptance. However, some organizations make people feel insecure and isolated (Bryer, 2020).

The literature has highlighted belongingness as an important aspect of inclusion, but uniqueness is equally important in organizational diversity because it brings novelty to the workplace. Unique talent and perspectives in the workplace raise self-worth and perceptions of belongingness (Boekhorst, 2015; Van Woerkom & De Bruijn, 2016).

Likewise, a diverse climate is essential in aggregating employees' perceptions about the organization, its structure, characteristics, and prevailing values. A diverse climate shows how much an organization recognizes the diversity-friendly practices like diversity training and mentorship of all levels of employees. The evidence that disadvantaged employees are less committed suggests that organizations need to consider how they can structure their HR system, practices, and climate to meet the expectations of the employee and generate commitment among diverse people (Moon & Sandage, 2019). Consequently, inclusion practices generating a sense of fairness, belongingness, uniqueness, and diverse climate/culture among employees is important for generating innovation at the workplace (Jones et al., 2021). Hence, the following hypotheses are proposed:

H2: Workforce inclusion practices have a significant positive impact on organizational innovativeness.

H3: The impact of workforce diversity is strengthened by organizational innovativeness in the presence of employees' inclusion practices.

2.3. Organizational Characteristics and Organizational Innovativeness

Moreover, the characteristics of the firm may affect its working structure or climate by facilitating or hampering innovation. Prior literature has shown a positive association between the organizational characteristics and its inclination toward innovation and change acceptance. The studies by Camisón-Zornoza et al. (2004) and Damanpour (1992) supported the positive relationship between organizational size and innovation. Lee and Xia (2006) conducted a meta-analysis of 54 correlations that confirmed a positive relationship between organizational size and innovation adoption; however, it was moderated by the type of organization, stage of adoption, scope, and type of size measure. Similarly, studies have established the difference between public and private firms in terms of their change-oriented behaviors (Andersen, 2012). Congruently, a few sectors (e.g., industrial manufacturing, pharmaceuticals, computer and electronics, mining, construction) are reported to be more innovative and have a high impact on organizational competitiveness compared to the least innovative sectors (e.g., transportation and storage; PricewaterhouseCooper, 2013). Therefore, it is necessary to consider the role of organizational characteristics in informing organizational innovativeness, adaptability, assessment, diversity, and inclusion. Hence, the study hypothesizes that:

H4: Organizational characteristics play a significant role in organizational innovativeness.

Furthermore, it would be interesting to see if organizational characteristics (e.g., size, type, and industry) moderate the relationship between workforce diversity and organizational innovativeness. Thus, the following hypothesis is proposed:

H5: Diverse workforce contributes more innovative potential in organizations of a specific type, industry, and size.

3. Research Design and Methods

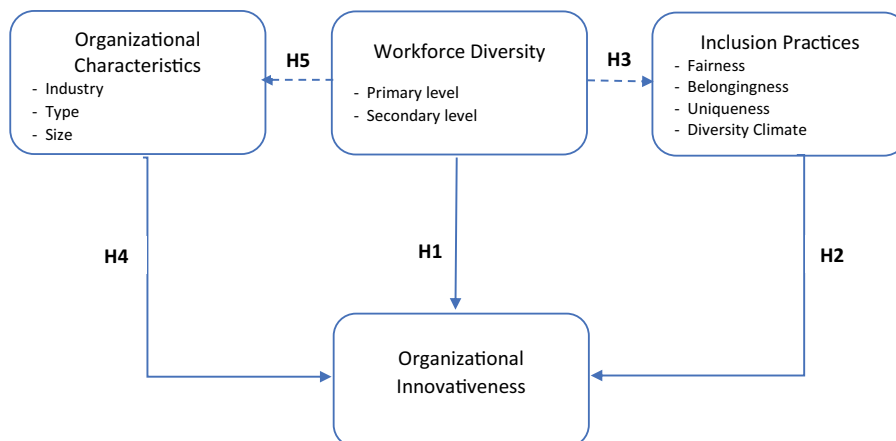
3.1. Research Framework

The research framework (Figure 1) included three exogenous constructs: workforce diversity, inclusion practices, and organizational characteristics. The impact of these exogenous constructs has been tested on the endogenous construct of organizational innovation.

3.1.1. Exogenous Constructs

Workforce Diversity is operationalized as the primary (inherent) and secondary (acquired) differences among the employees based on their demographic profile (Kossek & Lobel, 1996). The

Figure 1. Research Framework.



workforce diversity high order construct (HOC), or the second-order construct, is categorized into the two sub-dimensions of primary and secondary level diversity (also referred low-order or first-order constructs), following Daft and Daft (2009). The sub-dimensions of *primary level diversity* includes age, gender, ethnicity, disability, and native language. *Secondary level diversity* includes marital status, parental status, religious beliefs, and work background.

Inclusion practices are operationalized as work arrangements and practices that facilitate the inclusion of diverse employees in the organizational working without any discrimination. The inclusion practices (HOC) consist of four sub-dimensions (LOCs). These include fairness (i.e., an employee's perception of the organization being fair in management processes and interpersonal treatment and distribution of opportunities), belongingness (i.e., an acceptance by the group, and the sense of connection with its members), uniqueness (i.e., distinctive and differentiated sense of self), and diversity climate (i.e., the inclusion of people from diverse backgrounds and their contribution valued by the organization).

Organizational characteristics can be enormous; however, in this study, only three aspects have been included to determine their role in organizational innovativeness. Thus, *organizational characteristics* are operationalized as *industry type* (in which the organization serves), *organizational type* (whether public, private or not-for-profit), and *size* (in terms of the number of employees). Organizational size may be defined in terms of assets, sales, customers, and the number of employees. The current study uses the number of employees because this has been used to determine the size of the organization (where small-size firm employees <100 people, medium-size employees 100–499 people, large-size employees above 500 people).

3.1.2. Endogenous Constructs

Organizational innovativeness is operationalized as the implementation of a new or significantly improved product (good or service), process, or organizational method in business practices (Dutta & Lanvin, 2012; WIPO & INSEAD, 2012) that enable adaptability and change in the firm to gain a competitive advantage over its competitors.

3.2. Measurement Models Operationalization

The multi-dimensional workforce diversity and inclusion practices variables were designed as formative-formative (type IV) and reflective-formative (type II) hierarchical latent variables to reduce model complexity and make it parsimonious (Becker et al., 2012; Jarvis et al., 2003).

The *primary level* and *secondary level* sub-dimensions of workforce diversity were formatively measured using categorical indicators. The inclusion practices sub-dimensions for *fairness*, *belongingness*, *diversity climate*, and *uniqueness* were measured reflectively by four, three, two, and four indicators, respectively, to depict the reflective-formative relationship between the composite construct of inclusion practices and its sub-dimensions. A five-point Likert scale (1 = strongly disagree to 5 = strongly agree) was used to record the responses of the participants.

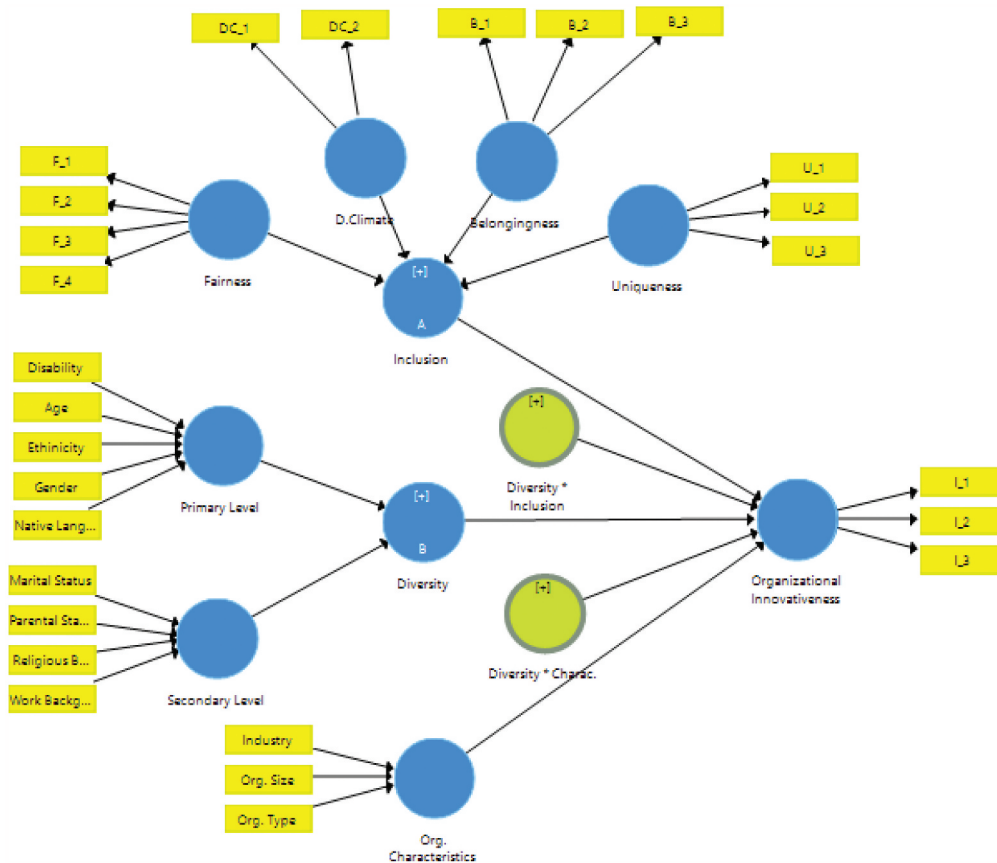
The construct of organizational characteristics was formatively measured by three measures: industry, type, and size. Industry and organizational type were designed as categorical indicators, and size was measured on an ordinal scale.

The endogenous construct of organizational innovativeness was measured reflectively with three indicators using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). [Figure 2](#) illustrates the measurement models.

3.3. Sample and Data Collection

A survey was conducted using multi-stage sampling techniques. Stratified sampling was used to include workers from different types of firms from a variety of industries, and snowball and convenience sampling were used to collect responses from employees working in different types

Figure 2. Measurement Models of Study Constructs.



of organizations across various industries in the UAE. It was a cross-sectional study where data was collected from the study sample using a self-administered questionnaire over a period of two weeks. The participants were informed about the purpose of the study, and the link to the online survey was shared through emails, WhatsApp, Facebook, LinkedIn, and team collaboration platforms like MS Teams, Hangouts, and Zoom.

In two weeks, responses were collected from 537 participants. Twenty-six responses were not included in the analysis based on missing data values, and the remaining five hundred and eleven (511) responses were used in the analysis. A total of 252 (50%) respondents worked in private sector organizations, and 199 (39%) were employed in the governmental or non-profit sector. Only 11% of the participants were working in publicly listed companies. Moreover, 16% of participants worked in small firms, 22% of the participants worked in medium organizations, and 62% of the respondents worked in large organizations. The participants represented industries including (but not limited to), finance and investment, gas and energy, health care, public administration, security forces, education, manufacturing sector, consultancy and professional services, information related, housing, retail, entertainment, aviation, etc. Details are available in [Table 1](#).

4. Analysis and Results

The partial least square structural equation modeling (PLS-SEM) technique was adopted to test the measurement models and the hypothesized relationships between the exogenous and endogenous constructs. PLS-SEM facilitates the testing of the measurement model (relationship of measures with the constructs) and the structural model (the relationship between the constructs). Recent work (e.g., Bodoff & Ho, 2016; Cantaluppi & Boari, 2014; Schuberth et al., 2018) have found

Table 1. Respondents Demographic Profile

Age	Frequency	Ethnic Background	Frequency
18-24 years	145	U.A.E. National	223
25-34 years	176	Gulf/Middle-East/ African Arab	140
35-44 years	118	Asians	71
45-54 years	34	Americans/ Latins	22
55 years and above	32	Europeans	18
		Australians	6
Gender		Africans (non-Arabs)	13
Male	228	Others	16
Female	277		
Disability		Organization Type	
No	329	Private Organization	252
Yes	95	Government/Not-for-profit Org.	199
Don't Want to Disclose	86	Public Listed Company	56
Care Giver / Parental Status		Size of Organization	
No	253	Small Sized (Emps >100)	84
Yes	252	Medium Sized (Emps 100-499)	111
		Large Sized (Emps 500 +)	313
Marital Status		Industry Type	

(Continued)

Table 1. (Continued)

Single		244	Manufacturing	36
Married		219	Finance / Insurance / Investments	76
Separated/Widowed		45	Health Care / Social Assist./Pharm	60
			Utilities, Oil, Gas & Energy	74
Native Language (Arabic)			Retailing	22
No		149	Public Admin & Security forces	45
Yes		360	Housing, Accomm. & Food Services	24
			Arts, Entertainment & Recreation	20
Religious Belief			Educational Services	37
Islam		427	Consulting, Prof., Tech. Services	31
Christianity		43	Information (Publishing, IT etc.)	33
Judaism		15	Aviation	12
Buddhism		10	Others	39
Hinduism		8		
No Religion		7		
Others		0		

PLS-SEM useful for categorical and ordinal data as indicators in measurement models for latent constructs for path model estimation. Furthermore, the formatively measured constructs of workforce diversity supported the selection of PLS-SEM for the current analysis. Also, PLS-SEM is a useful approach to understand the relative impact of the attribute as a whole (J. Hair et al., 2019). Thus, it was used to help determine the workforce diversity aspects (e.g., gender over ethnicity or age over religion) substantial for an innovative work-climate.

Based on the suggestion of J. F. Hair et al. (2013), the multi-stage procedure encompassed structural and measurement models specification, data collection, and hypotheses testing. The measurement models (outer model) specified the reflective and formative latent constructs included in the study (i.e., workforce diversity, inclusion practices, organizational characteristics, and organizational innovativeness). The structural model (inner model) specified the predictive strength of the hypothesized relationships among the study constructs. The results of the quality tests of the measurement models and the hypothesized relations of the study constructs in the structural model are discussed below.

4.1. Assessment of Measurement Models — Quality Testing

The quality assessment of high-order exogenous constructs for workforce diversity and inclusion practices were conducted at two levels. First, the relating indicators were compared to first-order constructs (sub-dimensions of variables). Second, the formative first-order constructs (as manifested indicators) were compared to their high-order latent constructs (MacKenzie & Royle, 2005). The validity and reliability assessments and their sub-dimensions were conducted using the two-stage approach.

4.1.1. Reflective Measurement Models Assessment

First, quality checks for the reflective measurement models (i.e., organizational innovativeness [endogenous construct] and belongingness, diversity climate, fairness, and uniqueness [low-order dimensions of inclusion practices construct]) were conducted to confirm indicator reliability (outer loadings of 0.7 and higher), internal consistency reliability (composite reliability of 0.7 and higher), convergent validity (Average Variance Extraction of 0.5 and higher), and discriminant validity (the square root of AVE > highest correlation with any other construct as per Fornell-Larcker criteria).

The results are provided in Table 2 and confirm the reliability of indicators for each reflective measurement model with outer loadings higher than 0.6, except item three of the uniqueness scale (LOC of inclusion practices), which was removed from further analysis. The composite reliability score for organizational innovativeness and inclusion practices sub-dimensions of belongingness, diversity climate, fairness, and uniqueness remained 0.879, 0.818, 0.603, 0.811, and 0.796, respectively. The AVE score of all of the reflective constructs remained higher than 0.5 and met the discriminant validity as per Fornell-Larcker criteria with the square root of constructs' AVEs greater than the highest correlation with any other construct (see Table 3).

4.1.2. Formative Measurement Models Assessment

Subsequently, the formative measurement models (workforce diversity, primary level diversity, secondary level diversity, inclusion practices, and organizational characteristics) quality were tested by assessing the outer weights (> 0.5), significance (> 1.96), and multi-collinearity (variance inflation factor-VIF value < 5) at two stages (results provided in Table 2).

First, the outer weights and significance levels of primary and secondary level diversity low-order constructs were tested. The findings confirmed that age, native language, marital status, and religious belief met the quality criteria. However, the outer weights for the remaining indicators for primary level diversity (i.e., disability, ethnicity, and gender) and secondary level diversity (i.e., parental status and working background) remained insignificant. As suggested by Wong (2013), if the indicator's outer weight is non-significant, the significance of its outer loadings needs to be checked, and if found significant, they must be retained for analysis. Further analysis confirmed that the outer loading of

Table 2. Results Summary for Reflective & Formative Outer Models

First Order Constructs	Measurement Type	Items	Indicator Reliability (Outer loadings)	AVE / T-Values	Composite Reliability / VIF Values
Belongingness	Reflective	Belong_1	0.704	0.600	0.818
		Belong_2	0.809		
		Belong_3	0.808		
Diversity Climate	Reflective	DClim_1	0.858	0.514	0.603
		DClim_2	0.606		
Fairness	Reflective	Fair_1	0.643	0.519	0.811
		Fair_2	0.730		
		Fair_3	0.757		
		Fair_4	0.745		
Uniqueness	Reflective	Uniq_1	0.749	0.566	0.796
		Uniq_2	0.746		
		Uniq_3	0.463 (Removed)		
		Uniq_4	0.762		
Primary-level Diversity	Formative	Age	0.585	4.022 (OW)	1.112
		Disability	0.076	1.365 (OL) (n.s.)	1.032
		Ethnicity	0.046	3.428 (OL)	1.185
		Gender	0.077	1.512 (OL) (n.s.)	1.033
		Native Language	0.613	5.385 (OW)	1.247

(Continued)

Table 2. (Continued)

Secondary-level Diversity	Formative	Marital Status	0.424	3.099 (OW)	1.242
		Parental Status	0.143	1.500 (OL) (n.s.)	1.143
		Religious belief	0.758	8.971 (OW)	1.156
		WorkBackground	0.098	1.597 (OL) (n.s.)	1.005
Organizational Characteristics	Formative	Industry	0.238	1.236 (OL) (n.s.)	1.289
		Org. Type	0.550	1.220 (OW)	1.032
		Org. Size	0.874	1.914 (OW)	1.028
Second Order Constructs	Measurement Type	First -order construct dimensions	Outer Weights	T-Statistics	Collinearity Statistics
Diversity	Formative	Primary Level	0.765	5.167	1.210
		Secondary Level	0.400	2.221	1.210
Inclusion	Formative	Fairness	0.710	9.336	2.299
		Belonging	0.273	3.284	2.329
		Uniqueness	0.070	16.178 (OL)	2.043
		D Climate	0.121	2.334	1.041
Endogenous variable					
Organizational Innovativeness	Reflective	Inno_1	0.870	0.707	0.879
		Inno_2	0.837		
		Inno_3	0.815		

ethnicity remained significant with ($t = 3.428$). However, the loadings of remaining indicators of disability ($t = 1.365$), gender ($t = 1.512$), parental status ($t = 1.500$) and working background ($t = 1.597$) remained insignificant. In this case, when both weight and loading values were non-significant, the eliminated indicators were subjected to the content validity of the measurement model. However, dropping an indicator after being verified as part of a construct is similar to dropping a part of the construct and is not advisable (Bollen & Lennox, 1991; Freeze & Raschke, 2007). Therefore, all the indicators with lower loadings and weights (parental status, working background, disability, gender, and ethnicity) were retained based on their importance in assessing employee diversity.

Subsequently, the two-stage approach was used. The latent scores from the low-order constructs (primary and secondary level diversity, belongingness, diversity climate, fairness, and uniqueness) were used as indicators of high order latent constructs (of diversity and inclusion practices), and their weight significance and collinearity tests were conducted. The results confirmed the significance of the outer weights of all the first-order dimensions of primary and secondary diversity, fairness, belongingness, and diversity climate, but not uniqueness. The outer loading for uniqueness ($t = 16.178$) remained significant at 99.999% and was retained in the analysis. Subsequently, the collinearity assessment of the first-order manifested indicators of the high order constructs of diversity and inclusion practices met the quality criteria.

Next, the outer weights and significance of organizational characteristics were tested. The findings confirmed that the outer-weights of organizational type and size remained higher than 0.5, confirming their eligibility for analysis. However, the outer-loading for industry-type remained insignificant despite being retained for further analysis based on its contribution to organizational innovation (Oke, 2007). The VIF values for all three indicators (type, industry, and size) remained < 5 , clearing it from collinearity issues.

4.2. Assessment of Respondents Diversity — Descriptive Analysis

In the first level of analysis, the demographic diversity of the participants was assessed at the primary and secondary levels to determine if the respondents represented the diverse workforce from UAE firms.

4.2.1. Primary Level Diversity

The employees' primary level of diversity was assessed based on their age, gender, ethical background, physical disability, and native language. The findings revealed that people from all age brackets participated in the study, with the highest participation from employees in the age group of 25 to 34 years (35%), followed by participants from the age groups of 18 to 24 years (29%), 35 to 44 years (23%), 45 to 54 years (7%), and above 55 years (6%). Likewise, both male and female employees participated in the study, but more females participated (55%, $n = 277$).

In terms of ethnicity and nationality, the highest participation came from UAE nationals (43.7%), followed by the nationals of Gulf, middle east, and Arab African countries (27.5%). The participation from Asian countries was 14%, followed by a small percentage of respondents from American (4%), European (3.5%), Australian (1.2%), African (non-Arab; 3%) regions. Though the UAE is a commercial hub to residents from 200 countries who work in different organizations, the research was conducted in an Arab-oriented university with a higher percentage of Arab working students who participated in the study, so more Arab workers participated in the study compared to other ethnicities.

Almost 19% of participants reported that they had some form of disability, compared to 64.5% who reported no disabilities. However, 17% of respondents chose not to disclose if they had a disability. The UAE has several laws and regulations in place to support people with disabilities and provide them with equal and fair employment opportunities in the labor market (UAE Government Portal, 2020). It is due to the untiring efforts of the UAE government that almost 1 out of 5 participants in the study were placed in a job despite having a disability of some kind.

Table 3. Discriminant Validity of Reflective Constructs - Fornell-Larcker Criterion Analysis

Constructs	Belongingness	D.Climate	Fairness	Organizational Innovativeness	Uniqueness
Belongingness	0.775				
Diversity Climate	0.232	0.706			
Fairness	0.704	0.175	0.720		
Organizational Innovativeness	0.576	0.198	0.657	0.841	
Uniqueness	0.659	0.113	0.661	0.499	0.752

In terms of language variety, 71% of the respondents reported Arabic as their native language. The remaining 29% had other native languages, including English, French, Spanish, German, Japanese, Chinese, Indian, Tagalog, Dutch, Urdu, Ghanian, and Jamaican. This demonstrates the wide variety of languages spoken by UAE residents. Hence, the findings confirmed the participation of a diverse workforce in terms of age, gender, ethnicity, abilities, and language.

4.2.2. Secondary-level Diversity

Subsequently, workforce diversity at the secondary level helped determine if the acquired differences existed among the respondents. Thus, the participants' religious beliefs, marital status, parental status, and work background information were taken into consideration.

The descriptive analysis revealed that 48% of the participants were single, and 43% were married, while 9% of respondents were either separated or widowed. Half of the participants (252) were responsible either for their parents or children.

Furthermore, it is imperative to take into consideration the religious diversity of the workforce to understand if employees' religious beliefs have any role in their innovativeness. According to World Population Review (2020), the UAE is a Muslim country with 76% population following Islam, 9% following Christianity, 10% following Hinduism and Buddhism, and less than 5% other religions. The religious beliefs of the participants were mostly homogenous, with 84% of participants being Muslims, 8% following Christianity, and 7% from Judaism, Buddhism, and Hinduism altogether. Only 1% of the participants reported that they followed no religion, but this reflects the UAE's societal makeup at large.

The findings confirmed that employees from diverse work backgrounds participated in the study, ranging from different manufacturing firms to service-oriented organizations. The results depicted diversity among employees at both the primary and secondary levels.

4.3 In-Groups Variances Across Diversity Aspects

Though it was outside the scope of the study, a series of Kruskal-Wallis tests were undertaken to determine the ingroup variances existing within the diversity aspects in terms of employees' perceptions regarding their organizations being fair, having a diverse climate, and if they felt part of the group identity while being regarded for their uniqueness.

The findings confirmed no significant differences between men and women in perceiving their firms as fair, having a diverse climate, and inclusive with an appreciation for distinctiveness, which does not align with previous findings (e.g., Findler et al., 2007). These results can be attributed to the women-friendly work environment in the UAE, which is enforced and monitored through strict laws to maintain gender equality.

In contrast, a significant difference ($\chi^2 = 4.964$, $p = .026^*$) was found between native Arabic speakers and non-Arabic speakers in terms of feeling valued as part of a family at their company (belongingness). Arabic speakers reported that they were more likely to be able to voice a contrary opinion without fear of negative consequences compared to non-Arabic speakers ($\eta^2 = 8.501$; $p = .004^{**}$; uniqueness). Additionally, non-Arabic speakers agreed less on the fair division of administrative tasks (that do not have the owner) in their firms and also on equal opportunities for growth and development or work-life balance, leading to lesser confidence in developing careers in their companies (fairness).

Next, people between 35 to 44 years reported a higher level of belongingness for the company ($p = .006^{**}$) compared to the people younger to them. On the other hand, people 25 to 34 years of age found their work identities as an important part of their self-identity ($p = .019^*$) and felt valued as part of the organizational family ($p = .039^*$). Another interesting finding showed that people younger than 45 were more comfortable raising their voices without fearing negative consequences; however, people over 45 feared to raise their voices ($p < .01$).

Subsequently, the findings also confirmed significant differences between the mean ranks of employees with different marital statuses (i.e., married, unmarried, separated, or widowed) in terms of being respected and valued as part of an organizational family ($p = .004^{**}$). However, no differences were reported across the fairness, uniqueness, or diverse climate dimensions of inclusion practices at their respective firms. Similarly, it was also determined that people with or without children and elders' responsibilities do not have any ingroup variances across the inclusion dimensions of fairness, diverse climate, uniqueness, and belongingness. No significant differences were identified within the groups of people (engaged or not engaged) with children and elderly care, in terms of their inclusion at the workplace.

However, employees with disabilities reported significant ingroup differences across all the dimensions of inclusion practices (fairness, diverse climate, uniqueness, and belongingness) compared to employees without disabilities. Disabled employees found their companies less oriented toward a diverse climate and less fair in providing equal opportunities for career or talent development or maintaining work-life balance (fairness). Also, they felt less valued as a part of the organization, and their feeling of belongingness to their workplaces was minor compared to non-disabled employees (belongingness). Likewise, they agreed less on being understood well by their colleagues or being heard when giving opinions (uniqueness). These perceptual differences prevailed between employees with and without disabilities. Organizations' inclusion practices need to be addressed by firms and governmental organizations to mandate work opportunities and confirm that they are accepted, included, are seen as an integral part of their workplaces, and given equal opportunity of growth and development. The detailed results are provided in [Table 4](#).

Next, the hypothesized relationships between the study variables were tested.

4.4 Assessment of Structural Model — Hypotheses Testing

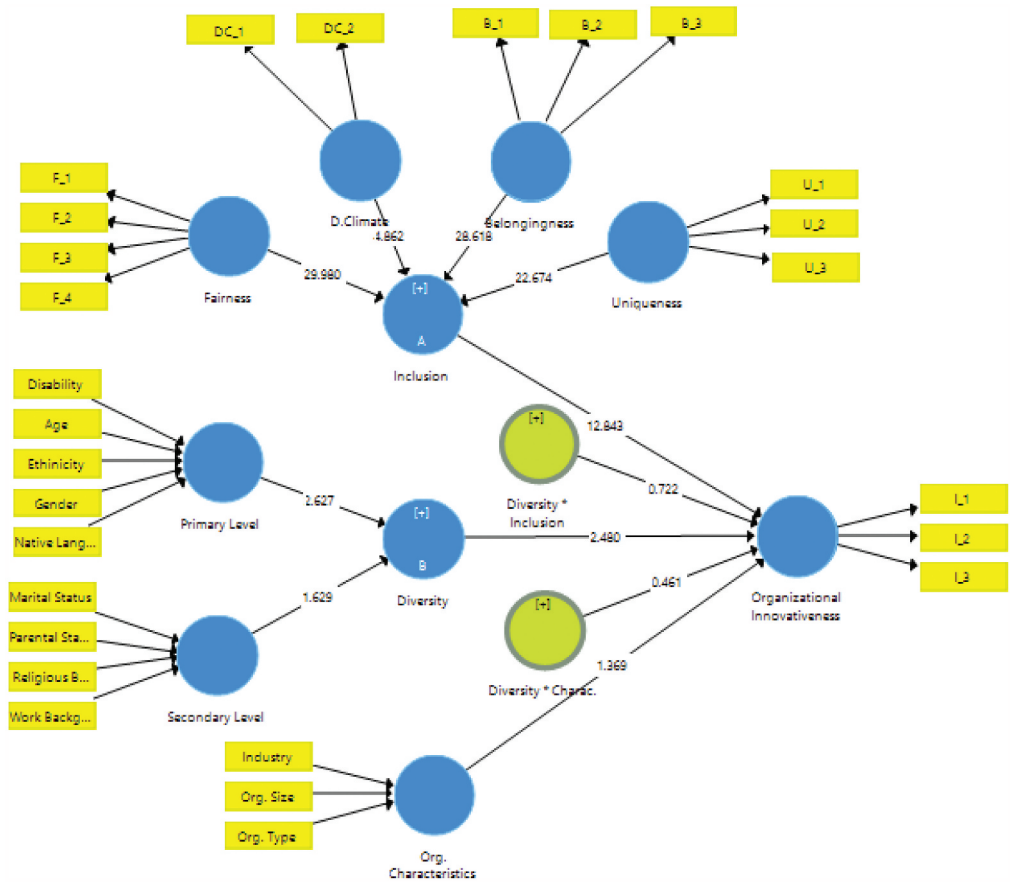
Bootstrapping using Smart PLS with 5000 samples and path weighting was used to calculate the path coefficients of the inner model ([Table 5](#)). The structural model assessment findings ([Figure 3](#)) represented the strength of hypothesized relationships between the study constructs.

4.4.1 Diversity → Innovativeness

The findings for Hypothesis 1 indicated that workforce diversity significantly contributed to organizational innovativeness ($t = 2.480$, $p = 0.01$). At the first-order level, primary level workforce diversity remained significant ($t = 2.627$, $p < 0.05$), whereas secondary level diversity had an insignificant impact on organizational innovativeness ($t < 1.96$).

The current study determined the weights of specific workforce diversity attributes as a whole, rather than as distinct attribute levels (e.g., focusing on the role of an employee's age relative to their

Figure 3. T-Statistics Values of Structural Paths.



ethnic background in innovation, change acceptance, and practice while at work) does not focus on a particular age group. It was necessary to identify the relative impact of the diversity attributes to understand which attributes contribute to organizational innovativeness so that organizations may focus more on them while recruiting and hiring human capital. The deeper analysis of primary level diversity identified that age ($t = 3.977^{***}$) and language ($t = 5.181^{***}$) differences among the employees contributed significantly to innovation within an organization compared to gender, ability, and ethnic-based differences. Likewise, at the secondary level, diverse religious backgrounds ($t = 8.896^{***}$) and marital status ($t = 3.166^{**}$) contributed more to the innovative working climate of the organization compared to diverse work-backgrounds and parental responsibilities, which remained insignificant in enriching the organization’s innovative capability.

4.4.2 Inclusion practices → Innovativeness

Subsequently, hypothesis two was supported because the relationship between inclusion practices and organizational innovation remained significant ($t = 12.843^{***}$). The first-order level analysis confirmed that all the sub-dimensions of inclusion practices, including fairness ($t = 12.345^{***}$), belongingness ($t = 12.584^{***}$), uniqueness ($t = 11.842^{***}$), and diversity climate ($t = 4.699^{***}$) significantly contributed to organizational innovation.

4.4.3 Organizational characteristics → Innovativeness

Hypothesis 4 stated that organizational characteristics (i.e., industry type, organizational type, and size) would positively contribute to an innovative climate. At the high-order level, the impact of

Table 4. In-Group Variances Across the Aspects of Diversity

Inclusion	Disability	Mean Rank	Chi-Square	p-value
Div. Climate_1	No	221.82	10.212	.001**
	Yes	177.62		
Div. Climate_2	No	205.01	4.708	.030*
	Yes	234.47		
Belonging_1	No	222.45	13.101	.000***
	Yes	172.76		
Belong_2	No	222.54	13.074	.000***
	Yes	173.51		
Belong_3	No	221.87	13.687	.000***
	Yes	171.60		
Unique_1	No	218.64	4.699	.030*
	Yes	188.77		
Unique_4	No	222.39	15.053	.000***
	Yes	169.82		
Fairness_2	No	223.78	13.444	.000***
	Yes	173.45		
Fairness_3	No	221.62	9.807	.002**
	Yes	178.33		
Fairness_4	No	217.48	4.561	.033*
	Yes	187.84		
Arabic Language				
Belong_3	Yes	259.70	4.964	.026*
	No	227.15		
Unique_1	Yes	264.77	8.501	.004**
	No	221.99		
Fairness_1	Yes	221.74	4.625	.032*
	No	193.83		
Fairness_2	Yes	261.85	4.401	.036*
	No	230.98		
Fairness_3	Yes	260.69	4.184	.041*
	No	230.61		
Fairness_4	Yes	261.13	6.966	.008**
	No	222.22		
Marital Status				
Belong_3	Single	259.98	11.265	.004**
	Married	246.08		
	Seperated/ Widowed	200.93		
Age				

(Continued)

Table 4. (Continued)

Belong_1	18-24 years	223.04	12.522	.006**
	25-34 years	252.47		
	35-44 years	284.26		
	45-and above	256.63		
Belong_2	18-24 years	252.97	9.986	.019*
	25-34 years	262.27		
	35-44 years	257.35		
	45-and above	201.05		
Belong_3	18-24 years	258.88	8.376	.039*
	25-34 years	261.78		
	35-44 years	242.78		
	45-and above	207.14		
Unique_1	18-24 years	269.76	12.290	.006**
	25-34 years	254.60		
	35-44 years	256.45		
	45-and above	198.18		

*** significant at <1%; **significant at 1%; *significant at 5

organizational characteristics on its innovativeness remained insignificant ($t = 1.369$). However, the t -statistics of its indicators (i.e., size, type, and industry) were assessed individually to determine if they influence an organization's innovativeness. The findings indicated a significant, positive relationship between the organization size and its innovativeness level ($t = 2.434$, $p = 0.015$), indicating that large size firms are more conducive to innovation, change, and adaptability.

Further, publicly-traded, private, government, and non-profit organizations contribute differently to innovation based on the premise that private-sector or publicly traded organizations may be more innovative compared to the governmental or non-profit sector. The results identified that organization type had no role in the innovativeness of an organization ($t = 0.269$, $p = 0.788$).

Next, the role of the industry-type (in which organization is functioning) was tested in organizational innovativeness to assess if diverse manufacturing or service providing firms have any superiority on one another in terms of being innovative; however, the results remained insignificant ($t = 0.445$, $p = 0.656$).

4.5. Moderating Effects Assessment

Next, Hypothesis 3 stated that the relationship between workforce diversity and organizational innovation is strengthened in the presence of inclusion practices and was tested by assessing the moderating role of organizational inclusion practices. The findings rejected the hypothesis ($t = 0.722$), meaning that the presence of inclusion practices does not necessarily reinforce the influence of diversity on the organization's innovative climate.

Further, the moderating effect of organizations' characteristics on the relationship of organizational diversity and innovation was assessed to test Hypothesis 5. To determine if a diverse workforce is more committed to innovation and change, large for-profit and manufacturing concerns were compared to small-medium not-for-profit firms. The moderating impact remained insignificant ($t = 0.440$, $p = 0.660$), meaning that a diverse workforce adds to the organizational innovativeness, irrespective of the size, type, or industry.

4.6. Coefficient of Determination- R^2 and f^2 Effect Size Tests

Next, the R^2 of the endogenous construct of organizational innovation was observed to assess the predictive relevance of exogenous constructs of workforce diversity, inclusion practices, and organizational characteristics. The R^2 of organizational innovativeness remained 0.469, meaning that at least 47% variance within the organizational innovativeness can be explained by workforce diversity, inclusion

Table 5. T-Statistics of Path Coefficient (Inner Model)

	Study Hypothesis (High-Order Level)	T Statistics	P Values	Accepted/Rejected
Hypothesis 1	Diversity → Organizational Innovativeness	2.480	0.013**	Accepted
Hypothesis 2	Inclusion → Organizational Innovativeness	12.843	0.000***	Accepted
Hypothesis 4	Org. Characteristics → Organizational Innovativeness	1.369	0.172	Rejected
	Moderating Effects	T Statistics	P Values	
Hypothesis 3	Diversity → Inclusion → Organizational Innovativeness	0.722	0.471	Rejected
Hypothesis 5	Diversity → Org. Characteristics → Organizational Innovativeness	0.461	0.645	Rejected
	Total Indirect Effects (First-Order Level)	T Statistics	P Values	
	Primary Level Diversity → Organizational Innovativeness	2.627	0.009**	
	Secondary Level Diversity → Organizational Innovativeness	1.629	0.104	
	Fairness → Organizational Innovativeness	12.345	0.000***	
	Belongingness → Organizational Innovativeness	12.584	0.000***	
	Uniqueness → Organizational Innovativeness	11.842	0.000***	
	Diversity Climate → Organizational Innovativeness	4.699	0.000***	

*** significant at <1%; **significant at 1%; *significant at 5%

practices, and organizational characteristics. J. F. Hair et al. (2013) mentioned that an R^2 value of 0.20 and above might be considered higher in behavioral studies. The F -test results confirmed that the R^2 value was significant at 1%.

Subsequently, the f^2 effect size was calculated to determine the specific contribution of workforce diversity, inclusion practices, and organizational characteristics in organizational innovativeness (Table 5). R^2 included and excluded values were calculated by deleting each exogenous construct from the model one after another. Following the rule of thumb, the effect size ($f^2 = 0.78$) of inclusion practices can be considered large, and workforce diversity ($f^2 = 0.04$) and organizational characteristics ($f^2 = 0.03$) can be considered small (Table 6).

5. Discussion and conclusion

The aim of the study was to determine whether workforce diversity, inclusion practices, and specific organizational characteristics contribute to the innovation in UAE firms, and to determine

Table 6. f^2 Effect Size

Exogenous Constructs	R ² Included	R ² Excluded	f^2 Effect size (R ² included – R ² excluded) / (1-R ² included)
Diversity	.469	.446	.04
Inclusion Practices	.469	.053	.78
Org. Characteristics	.469	.450	.03

whether inclusion practices and certain organizational characteristics result in increased innovative contributions of a diverse workforce.

The findings provided evidence that organizations that hire diverse workforces and integrate them as part of their workgroup have a higher level of innovation and change acceptance. They lead or adopt early to new business systems and develop new products or processes to succeed in the changing environment (supporting the work of Levine & Moreland, 2004). This means that diversity must be made part of the organizational culture and should not be burdened with negative stereotypes and exclusion. Nevertheless, organizational characteristics are partially conducive to an innovative work climate.

The findings reported that the inherent or primary level diversity (i.e., diversity people are born with) more effectively contributes to an innovative organizational climate compared to secondary level diversity (i.e., diversity that people acquire over time). The study identified four kinds of diverse attributes of the employees that unlock the potential for an innovative attitude and behavior: age, language, religious beliefs, and marital status. The age differences among organizational members and language variety are the main pillars of an innovative work-climate. When people from various age groups work together, they tend to display more creativity at work (as reported by Mothe & Nguyen-Thi, 2021). Likewise, people speaking a variety of native languages and who represent an assortment of ethnic backgrounds contribute better to the innovative working climate compared to similar language speakers. Additionally, employees from varied religious belief systems and diverse marital statuses contribute more to the innovative culture of the organization. On the contrary, no support was found for the role of employees' gender, ethnicity, abilities, work-backgrounds, or child/paternal responsibilities in the innovative climate of the firm. This means that an employees' contribution to an organization's innovation is not influenced by gender, ethnicity, disability, or caregiving responsibilities.

Moreover, the organization's practices of employee inclusion enhance organizational value through innovation in today's global marketplace. A feeling of belonging to a company has a strong relationship with the creativity and innovativeness of employees. Likewise, being allowed to be unique raises their perceptions of belongingness (as suggested by Boekhorst, 2015). Employees are more adaptable and flexible to changes when they perceive that their work climate appreciated, diverse, and are treated fairly.

On the contrary, the findings did not support the moderating role of inclusion practices within organizational diversity and innovativeness, which does not align with prior literature. This means that diverse employees contribute to innovation regardless of whether inclusion practices are in place in the workplace. However, inclusion practices contribute to employee creativity and adaptability, regardless of their demographic characteristics. Thus, the impact of employee inclusion on organizational adaptability and innovation is stronger compared to employee diversity.

With respect to organizational characteristics, several structural and strategic dimensions have been reported to have a positive relationship with innovation. Specifically, an organization's size, type, and industry are conducive to an innovative work environment. The study results support prior findings that

suggest that large firms are more likely to have an innovative climate and adapt (Camisón-Zornoza et al., 2004; Lee & Xia, 2006). This is because they have more financial and human resources at their discretion, which enables them to engage in the continuous process of improvement and develop new methods and procedures for making the organization efficient. However, the industry did not have a significant role in whether the organization was creative or adaptable. Likewise, organizational type (whether private, public, or not-for-profit) received no support for the hypothesized impact of the type of organization on its innovative climate. These findings can be based on the premise of higher acceptance of innovation in the Emirates, both by public as well private sector, to become a regional and international innovation hub (MOFAIC-Ministry of Foreign Affairs & International Cooperation, 2020). In 2020 Global Innovation Index, the United Arab Emirates remained top among Arab countries and 34th globally, in its capacity to innovate (Global Innovation Index, 2020). However, larger firms do appear to be more innovative, but organization type and industry do not contribute to organizational innovation. Moreover, these aspects of an organization did not moderate the influence of workforce diversity on organizational innovation and adaptability to environmental changes. This means that a diverse workforce is flexible and adaptable, regardless of the type or size of the organization. Instead, the employees diversity add value to the firm through innovation, whether working in a large or small private, public sector, profit, or not-for-profit organization. Likewise, industry type has no influence on a diverse workforce's contribution to organizational adaptability. Whether in the service sector or in manufacturing, diversity plays a significant role in organizational change and development.

The study achieved the objectives of determining the role of diversity and inclusion in organizations being innovative and adaptable. However, future studies should conduct a comparative analysis between different types of firms in terms of diverse representation in their entire workforce and about their perception about the company's diverse climate and inclusion practices that lead to an innovative work climate. Furthermore, the participants represented the workforce from a wide variety of industries; however, future studies should increase the sample size to have a higher number of employees participating that work in different industries to help generalize the results. Also, it would be interesting to determine in future studies, if both public and private sector firms in high-income economies respond to innovation similarly, as is the case of U.A.E. based firms or differ based on their organization type (private vs. public).

In essence, the UAE is the hub of business and the center of excellence in the Arab region, the demographic data of the UAE population underscores the need for diversity based on their growing size and immigration patterns. These demographic shifts are changing the makeup of the workforce, and researchers must make the best use of the wide variety of demographic traits at their discretion. To start with, organizations need to recognize the importance of understanding identity differences and need to make them an integral part of the system. Organizations need to create a fair and equitable company culture where biases and stereotyping have no room and where employees are involved in decision-making. Also, organizations must broaden the demographic choices by including people from varied age groups, religions, ethnicities, and languages. On the other hand, the UAE government must keep up with its doctrine of providing equal work opportunities and growth for everyone in the country, irrespective of caste, creed, and origin based on meritocracy. Furthermore, the government needs to pay attention to the diverse work groups and develop policies -ensuring not only the fair placement but also thorough inclusion of the diverse workforce in their respective workplaces. The government's current policies of engaging human capital from around the world are aligned with their long-term vision of becoming the most innovation-oriented nation in the world.

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Data availability statement

The data used for drawing study findings is provided along with the manuscript as supplementary material.

Ethical statement & informed consent

The procedures used in the study followed the ethical guidelines. The participants were well informed about the purpose of study and their verbal consent was obtained before data collection. The information of the study participants was kept confidential to maintain anonymity of their responses.

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