Research Article

Diversity and Inclusion for Innovation-Led Growth

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India is currently in a transformative period known as Amrit Kaal. The goal is to develop the country into a fully developed nation by the time it celebrates its 100th year of independence in 2047. This achievement necessitates a gradual shift in the economy from being driven by investment to being driven by innovation. Consequently, India needs to prioritize diversity and inclusion while simultaneously revitalizing and strengthening its higher education system.

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Moving to the Next Stage

How do economies progress and enhance the well-being of their citizens? Progressive economies adopt inclusivity and undergo a process of continuous improvement. In the initial stages of development, when society is impoverished, the economy must efficiently utilize its labor force and natural resources. However, the productivity of labor, as well as the wages and income of individuals, cannot surpass a certain level until the economy transitions from a factor-driven stage to an investment-driven stage. Investment-driven economies operate with a higher level of capital per capita and focus on efficiently producing standardized products and services (Porter, 2008). This approach leads to higher wages but leaves them vulnerable to financial crises and external demand and supply shocks. Nevertheless, in order to advance from a middle-income level to a high-income level, economies must transition from an investment-driven stage to an innovation-driven stage. Innovation-driven economies generate high-value-added goods and services while heavily investing in advanced skills, cutting-edge technology, and innovative capabilities (Dulger, 2018).

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Envisioning India in Amrit Kaal

India is currently in a transformative period known as Amrit Kaal. The aim is to develop the country into a fully developed nation by the time it celebrates its 100^{th} year of independence in 2047. It took India 60 years since gaining independence to reach a $1 trillion economy milestone. However, the subsequent trillion was achieved in just 7 years, and the third trillion was added in a mere 5 years, as of 2019. Currently, India stands as the world's fifth-largest economy with a Gross Domestic Product (GDP) of $3.5 trillion. If its real GDP grows at a rate of 7% per year, it is projected to reach $38 trillion in 2047. This assumption is reasonable because a 7% growth in real GDP is nearly equivalent to a 10% growth in nominal GDP measured in US dollars. This assumption is supported by the fact that over the last twenty years, from March 2003 to March 2023, the Consumer Price Index (CPI) inflation in India increased on average by 6.58% per year, while the Indian currency depreciated at an average rate of only 2.78% per year (from Rs. 47.50 per US dollar on March 31, 2003, to Rs. 82.22 on March 31, 2023) (NSO, 2003-2023; RBI, 2022; RBI, 2023). Assuming that in the next twenty to twenty-five years, inflation in India will increase on average by 5% per year and the Indian currency will depreciate at a rate of 2% per year, India's GDP measured in US dollars will increase at a rate of the real GDP growth rate plus 3% per year. Therefore, it is projected that India's GDP will reach around $38 trillion by 2047. Consequently, the per capita GDP of the country is expected to increase from $2,500 in 2022 to over $23,000 in 2047. Hence, when India celebrates 100 years of independence, it will likely be not only an upper-middle-income country in terms of the average prosperity of its people but also strategically positioned as a developed nation, being one of the three largest economies in the world. However, achieving such a milestone requires a gradual transformation of the economy from an investment-driven stage to an innovation-driven stage. The first budget of Amrit Kaal for India outlines a vision that includes a technology-driven and knowledge-based economy, along with strong public finances and a robust financial sector (Jose, 2023).

Diversity and Inclusion are Essential in the Current Climate

As India strives to become an innovation-driven economy, it is crucial to place renewed emphasis on diversity and inclusion while simultaneously revitalizing and strengthening its higher education system. The significance of diversity and inclusion lies in their ability to foster an open and creative environment that facilitates the exploration and development of new ideas. By incorporating a range of perspectives in the decision-making process, organizations can enhance the likelihood of identifying and implementing

the best ideas. Furthermore, a diverse team can help tap into new markets by comprehending different cultures, languages, and business practices. Additionally, fostering a diverse and inclusive workplace can aid in attracting and retaining top talent, which is pivotal for organizations seeking to drive innovation.

Diversity and inclusion are deeply ingrained in Indian culture. India is home to various religions, sects, creeds, castes, and languages, and it embraces people of all ages, genders, and abilities. In India, the concept of inclusion is highly valued, emphasizing equal treatment for all individuals irrespective of their differences. This sentiment is mirrored in the country's laws and policies, which safeguard the rights of every individual, regardless of their background. India also boasts a diverse economy, encompassing a wide range of businesses and industries that provide opportunities for individuals from all backgrounds to succeed. Despite these strengths, India still faces challenges regarding diversity and inclusion. For instance, although the Indian economy has grown nearly 11 times since 1990, the participation rate of women in the workforce has declined from 30 percent in 1990 to 19 percent currently, significantly lower than in many other developing economies such as China (62 percent), Indonesia (54 percent), Brazil (49 percent), and South Africa (46 percent) (Gupta, 2023). Women in India often face discrimination and violence. However, India has made progress in promoting diversity and inclusion. The country has enacted laws to protect women's rights, and businesses are increasingly recognizing the importance of diversity and inclusion in their workplaces. Overall, India is a nation that values diversity and inclusion, and these values are reflected in its laws, policies, and businesses.

In recent years, diversity and inclusion in the Indian corporate sector have received significant attention. Organizations are beginning to realize that having a diverse and inclusive workforce is not only morally right but also beneficial for business. There are several actions organizations can take to cultivate a more diverse and inclusive environment. These include promoting diversity and inclusion throughout the business, including in the recruitment process, workplace culture, and products and services offered. Additionally, providing flexible work arrangements, such as remote work options, flexible schedules, and job-sharing opportunities, can accommodate the needs of a diverse workforce. Creating an inclusive culture is also crucial, ensuring that everyone in the organization is treated equally and with respect, regardless of gender, caste, race, religion, or sexual orientation. These initiatives will foster an inclusive workplace culture where all individuals are valued and have equal opportunities for growth and development.

Focusing on Higher Education to Foster an Innovation-Driven Economy

Higher education plays a crucial role in nurturing innovation by providing individuals with a solid knowledge foundation in their chosen field. This foundation enables individuals to comprehend the current state of their field and identify areas where new ideas and approaches can be introduced. Additionally, higher education fosters critical thinking skills, which are vital for innovation. Critical thinking empowers individuals to assess ideas, identify challenges, and devise creative solutions. Moreover, higher education offers opportunities for collaboration among peers, professors, and industry professionals, facilitating the exchange of ideas and the development of novel approaches and solutions. It also cultivates an entrepreneurial mindset, which is essential for driving innovation.

In other words, the higher education sector naturally aligns with an innovation-driven economy. Currently, India's higher education system presents a multifaceted landscape characterized by both progress and challenges. With 1,113 universities and 56,205 colleges, India boasts one of the largest higher education networks globally (AISHE, 2021-22). The number of institutions has grown by over 400 percent since 2000, leading to a considerable improvement in the Gross Enrolment Ratio (GER), which increased from 10 percent in 2000 to 27.3 percent in 2020. However, India still lags behind China (51 percent) as well as most of Europe and North America, where higher education enrolment rates reach around 80 percent. While India has established several commendable Higher Education Institutions (HEIs), particularly in the fields of engineering and sciences, none of them rank highly in global university rankings. Currently, only three Indian institutions appear in the top 200 QS 2023 ranked universities. In contrast, China has 12 institutions in the top 200 list. In Amrit Kaal, India needs to heavily invest in higher education to improve both the Gross Enrolment Ratio (GER) and the quality of higher education. Currently, India has over 41 million students enrolled in Higher Education Institutions (HEIs). The National Education Policy (NEP) 2020 has set a GER target of 50 percent by 2035, which means that in less than 15 years, India must create additional capacity equivalent to its current capacity. India's contribution to global scientific publications is only 4.3 percent, a quarter of what the United States and China produce, despite India accounting for 17.7 percent of the world's population. Additionally, India has a low researcher count of only 15 researchers per 100,000 people, significantly lower than China (111), the United States (423), and Israel (825). Furthermore, India's research and development investment as a percentage of GDP is very low at 0.69, in

contrast to China (2.1), the United States (2.8), and Israel (4.3). Therefore, it is crucial for India to prioritize and focus on enhancing the quality of higher education in the country.

Needless to say, diversity and inclusion in higher education are of great importance. Indian Higher Education Institutions (HEIs) have made significant progress in this area over the years, with a current ratio of 105 female students per 100 males in our universities and colleges. However, females continue to be largely underrepresented in the fields of mathematics, physics, engineering, and technology. They also face underrepresentation in senior faculty positions and leadership roles. For instance, less than 3 percent of the more than 1,000 universities in India have ever had a female vice-chancellor. Moreover, there is a significant lack of representation of foreign students and faculty members in our HEIs. Only a small number of foreign students, primarily from Nepal, Afghanistan, Bangladesh, and a few African countries, are enrolled in Indian HEIs. It is now crucial not only to take appropriate measures to increase gender diversity in the hard sciences and leadership positions but also to focus on internationalizing higher education in the country. We must create an inclusive and welcoming environment for all students and faculty members.

The encouraging news is that the total number of students enrolled in schools and, consequently, the Gross Enrolment Ratio (GER) in school education in the country is rapidly improving. In the academic year 2021-22, the total student enrolment in primary to higher secondary school education reached 255.7 million, compared to 253.8 million enrolments in the previous year. Furthermore, there has been an overall improvement in GER at all levels of school education, including primary, upper primary, and higher secondary, from 2020-21 to 2021-22. Notably, GER at the higher secondary level increased from 53.8% in 2020-21 to 57.6% in 2021-22 (UDISE+, 2021-22). Additionally, there is a ratio of 102 females to 100 male students in higher secondary education. Improvement in gender diversity in schools is also evident in the STEM field. The number of girls applying for the National Eligibility cum Entrance Test (NEET) 2022, conducted by the National Testing Agency (NTA) for admission to undergraduate MBBS/BDS/Ayush courses, surpassed the number of boys applying for the same entrance exam. Similarly, for the Joint Entrance Examination (JEE) Main, conducted by the NTA since 2019 for candidates seeking to pursue engineering courses, female registration increased from 29% in 2019 to nearly 30% in 2022 (0.26 million females out of 0.87 million candidates). The Indian education system, one of the largest in the world with approximately 1.5 million schools and 9.5 million teachers, of which 51% are female, has witnessed substantial improvement in basic infrastructure facilities over the past decade. Currently, 89.3% of schools have electricity connections, 93.6% have handwashing facilities, 97.5% have girl's toilets, and

98.2% have access to drinking water (UDISE+, 2021-22). The enhancement of basic infrastructure has not only contributed to the improvement of GER in school education but also to gender diversity in schools, which will ultimately foster greater diversity in Higher Education Institutions (HEIs), particularly in the STEM field.

Utilizing Technology as an Enabler

Technology, particularly the internet, holds immense potential in promoting diversity and inclusion. Universal internet access can be a catalyst for providing equal opportunities to individuals regardless of their background. It helps bridge the digital divide by granting access to valuable information, educational resources, and skill-building platforms. Through the internet, individuals can enhance their knowledge, acquire new skills, and gain access to quality educational materials. Moreover, internet connectivity opens doors to job opportunities, online markets, and e-commerce platforms, empowering individuals to improve their economic circumstances. The internet also facilitates the exchange of ideas, traditions, and cultural practices across borders, fostering cultural diversity and understanding. It enables people from different backgrounds to connect and learn from one another, promoting inclusivity and mutual respect. Additionally, marginalized communities can harness the power of the internet to amplify their voices, share their stories, and advocate for their rights. Access to vital information and resources empowers these communities to overcome social and economic barriers they may face. It is projected that India will achieve universal internet access by 2030 (Singh and Singh, 2023). This milestone aligns with the Amrit Kaal era, particularly from 2030 onwards, which could mark a significant turning point in the country's socio-economic trajectory. With universal internet access, India will be poised to become a truly inclusive, innovation-driven, and equitable economy. This progress will pave the way for India to celebrate its 100 years of independence as a developed nation, embodying the values of diversity and inclusion.

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