

Promoting equity, diversity and inclusion: policies, strategies and future directions in higher education, research communities and business

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Abstract—This paper provides a multi-perspective vision of diversity and inclusion (D&I) projects aiming to promote equity in organisations seeking to build virtuous contexts where people can achieve positive professional and personal objectives. It introduces the understanding of D&I, best practices and outcomes of projects promoted in multicultural organisations, including academia, universities and research centres (Politecnico di Torino, university education in France and the French CNRS) and in leading international companies, namely Accenture and Nestlé. The paper gathers and extends the discussion and ideas exchanged in the D&I panel of the conference ADBIS-2022.

Index Terms—diversity, inclusion, equity, inclusive research and development

I. INTRODUCTION

It may seem like a simple matter of common sense that justice is central to any well-functioning society. However, the question of what justice is, exactly, and how it is achieved are more complex matters. The principles of justice and fairness point to ideas of fair treatment and “fair play” that should govern all modes of exchange and interaction in society and serve as guidelines for carrying out justice. Our world is better if everyone is accepted for their talents, skills, and abilities, regardless of gender, race, socio-economic situation, religion, etc. These concepts are the backend of promoting equity, diversity and inclusion. Even if some consider them universal, they are understood and declined according to culture, economic interests, social organisation and expectations. We are interested in investigating how these concepts are understood in higher education, research communities and business in two European countries, namely Italy and France. We focus on promoting these values in institutions and companies with international environments that have to balance national culture and perspectives and the multicultural and multinational environments that characterise them.

Higher education, research communities, and business organisations in the last few years have started to put in their agendas the challenge of transforming their environments towards equal, diverse and inclusive communities. Even if the objective is similar, the policies and strategies vary depending on the organisation’s culture and the characteristics of the people they gather. Initial results and experiences have started to emerge, and it is essential to highlight the principles but particularly the barriers faced to share good practices and identify future directions.

This paper provides a multi-perspective vision of diversity and inclusion (D&I) projects aiming to promote equity in organisations seeking to build virtuous contexts where people can achieve positive professional and personal objectives. It introduces the understanding of D&I, best practices and outcomes of projects promoted in multicultural organisations, including universities and research centres (Politecnico di Torino, French universities and French Research Institutes) and in leading international firms, namely Nestlé and Accenture. Through these academic and industrial examples, we classify and compare the different understandings of D&I, comparing visions in multicultural organisations with European perspectives and objectives regarding equity. The paper gathers and extends the discussion and ideas exchanged in the D&I panel of the conference ADBIS-2022. The following research questions guide our analysis and discussion.

- 1) What does “being included” mean and on what and whose terms does inclusion happen in organisations with different cultures?
- 2) What are the challenges and barriers to achieving or making progress towards true Diversity through Inclusion?

- 3) Are there relevant examples of best practices on how to “bake” diversity into a data-driven project/experiment/research?

Accordingly, the remainder of this paper is organised as follows. Section II provides background definitions of the concepts we use to address our study. Section III describes the D&I project and main results and impact metrics from Politecnico di Torino. Section IV introduces the leading and guiding strategies developed in the company Accenture. Section V introduces the perspective of Nestlé about D&I, the implemented strategies and its impact on the company. Section VI describes the policies adopted by the French government about promoting equity environments and how this national objective has been implemented by the French Ministry of Education and the French Council of Scientific Research (CNRS) to develop diversity and gender equity in universities and research labs. Section VII proposes an analysis of the different best practices and results; it compares them and discusses their impact and barriers. Section VIII concludes the paper and and future directions.

II. EQUALITY, EQUITY, DIVERSITY AND INCLUSION: SOME DEFINITIONS

Equality, Diversity and Inclusion is a social project to ensure fair treatment and opportunity for all. It aims to eradicate prejudice and discrimination based on an individual or group of individual’s protected characteristics¹. The project works under the assumption that people are similarly-abled/empowered and that they can access benefits under the same conditions. Yet, people are diverse for many reasons (race, gender, geographical location, culture, physical abilities, etc.); thus, it is impossible to assume a universal concept of “person”. As such, equity emerges as an essential element to add to the equation when organisations are seeking to adhere to diversity and inclusion (D&I) initiatives. Before studying different D&I programs in academia and industry, the following sections define the guiding concepts we use to discuss equity and D&I in education, research and business.

A. Equality, Equity and Justice

Equality means each individual or group of people is given the same resources or opportunities. Equity recognises that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome. Justice (taken outside of a legal construct of crime and punishment) involves removing the barriers that prevent equality and equity². Instead of providing services that reach the most significant number of people, the equity paradigm promotes investing in the transmission of services to people who need them most [1], [2].

¹<https://www.ph.ed.ac.uk/equality-diversity-and-inclusion/about-edl/what-does-equality-diversity-and-inclusion-mean>

²https://medium.com/@sandeepkumar_52041/equality-equity-and-justice-5f71ebe31245

a) *Equality*: is the quality or state of being equal. It calls for the homogenisation of the members of a group so that no difference is perceived among them. Gender equality, also known as sexual equality or equality of the sexes, is the state of equal ease of access to resources and opportunities regardless of gender, including economic participation and decision-making, and the state of valuing different behaviours, aspirations and needs equally, regardless of gender. According to UNICEF, gender equality “means that women and men, and girls and boys, enjoy the same rights, resources, opportunities and protections. It does not require that girls and boys, or women and men, be the same or be treated exactly alike. These visions adopt an existential and universalist definitions of the categories “women” and “men” and oversee their particular characteristics depending on their location of enunciation. For this reason, it is possible to consider other categories, such as equity and justice.

b) *Equity*: according to the Webster dictionary, *equity* is defined as “justice according to natural law or right”; “specifically freedom from bias or favouritism”. Gender equity, defined by the European Institute for Gender Equality, is the “provision of fairness and justice in the distribution of benefits and responsibilities between women, men and all genders.”

Thus, gender equity means respecting all people without discrimination, regardless of gender. It also means addressing gender inequalities that limit a person’s ability to access opportunities to achieve better health, education and economic opportunity based on their gender. The category recognises the difference within the categories and addresses inequalities that prevent people from completing the same options.

Gender equity considers the provision of fairness and justice in distributing benefits and responsibilities between women and men.

c) *Justice and Fairness*: “Justice as Fairness: Political, not Metaphysical” is an essay by John Rawls [3], published in 1985, that describes the conception of justice. It comprises two main principles of liberty and equality; the second is subdivided into the Fair Equality of Opportunity and the Difference Principle. Justice is action following the requirements of some law. Still, others believe that justice consists of rules common to all humanity that emerge from some consensus.

Fairness typically strives to work out something comfortable and adopt procedures that resemble the rules of a game. Promoting fairness means ensuring that people receive their “fair share” of benefits and burdens and adhere to a system of “fair play” [4].

B. Inclusion and Diversity

In general, inclusion is associated with an organisational effort and practices in what different groups or individuals with diverse backgrounds are culturally and socially accepted. From a public policies perspective, inclusion is all about empowering people by respecting and appreciating what makes them different in terms of age, gender, ethnicity, religion, disability, sexual orientation, education and national origin.

The OECD ³ understands *diversity* from the point of view of nationalities that can lead to reason about ethnic inclusion. Therefore, thanks to D&I, it is possible to establish a dialogue on inclusion, cultural diversity and equity (DICE) to promote better inclusion of ethnic minorities. Other categories considered by the OCDE include disability, gender equality, equal pay for work of equal value, professional development and promotion, parenthood, and inclusion of LGBTIQ+ staff such that they do not encounter any form of discrimination or hostility and thrive at work.

Diversity is a critical step towards achieving an environment with varied perspectives. Inclusion allows those perspectives to be shared, heard and valued. The trick is that diversity is a tangible, quantifiable metric. At the same time, inclusion requires sophisticated methods for taking the community's pulse and engaging with community members to safely express their unique experiences within the collective culture. In defining suitable ways to promote diversity, it is essential to consider it a multiperspective concept. Still, it denotes a social interaction project of perception on how collectivities should be designed (working groups at university, organisations within companies and any human group). The project of diversity specifies the way people should get together to share their pieces of knowledge and expertise to achieve a common objective. They should understand that they are targeting a common benefit that impacts other collectivities. The more diverse the group is the more material and immaterial value they can achieve.

C. Measuring D&I and equity

Companies devote more attention and resources to advancing diversity, equity and inclusion (DEI). More than 1,600 CEOs have signed onto the CEO Action for Diversity & Inclusion Pledge and 40% of companies discussed diversity and inclusion in their Q2 2020 earnings calls versus only 4% the same quarter a year prior [5]. Gartner analysis reveals an almost 800% increase in job postings for dedicated diversity recruiters. Measuring workforce representation is challenging, particularly for global organisations that manage self-identification and define their underrepresented talent across geographies. Even if that demographic information is available, it is hard to know what mark the organisation is trying to hit.

Although organisations have found ways to measure and track diversity successfully, they have not been able to do the same for inclusion. To effectively track inclusion, organisations must measure employee sentiment with a considered definition of inclusion, ensuring the organisation can act fast on the results. The Gartner Inclusion Index ⁴ uses a broad and multi-faceted definition of inclusion and addresses the related concept of diversity by devoting one category to employee perceptions of representation: fair treatment, integrating differences, decision making, psychological safety, trust, belonging and diversity [5].

The French Ministry for Equality between Women and Men, Diversity and Equal Opportunities together with the Ministry of Labour ⁵ have identified the following criteria to guide strategies for promoting diversity & inclusion: (i) prevention of gender-based and sexual violence; (ii) a culture of equality for youth feminist diplomacy; (iii) professional equality and economic autonomy for women; (iv) equality for men and women in the territories; (v) access to health, social and political rights; (vi) women in culture and media and sports.

The European Commission has proposed D&I Index in the Workplace ⁶ a questionnaire for companies to assess their policies. The questionnaire has been applied to almost 122,000 employees and the total number of responses received was over 38,400 (French firms). The 10,000 responses show staff sentiment and will feed into a new diversity and inclusion action plan.

D. Rationale

According to the definitions from different perspectives showing how equality, equity and justice/fairness are related, it is possible to realise that the following questions can arise: Equal to whom? Equity compared to whom? Justice/fairness for whom & in what cases? It is clear that in the case of equality, there is always an ideal of reference. In most cases, particularly in Western organisations, the model is the European (male) citizen with specific rights, characteristics and obligations. We are all equal, which means that regardless of the origin of people, they aim to become European (male) citizens. In this context, "multiculturality" is blurred through the notion of integration/assimilation, where under-represented groups are accepted if they adhere to an ideal citizen. For instance, women must be as competitive, aggressive and determined as men if they want relevant professional achievements.

Given that everyone has different backgrounds and situations (skills, mastering a language, opportunities, workload), it is easy to see that the concept of equity is necessary. Putting everyone on the same level of possibilities, they can fight to take opportunities and obtain benefits. Still, the barriers preventing people from reaching benefits are not removed in both programs. Here is where justice appears, intending to remove those barriers and allow people access to achievements under equity conditions.

Finally, diversity and inclusion allow defining programs that tune the degree of diversity an organisation seeks according to what categories; and then the policies to adopt for including people with specific attributes to the organisation. The idea is to enrich the organisation as a production system for the common good. Beyond the conceptual background of the values, the question is, which are the best practices to apply to promote them? How are these practices assessed and how to measure their impact? The following sections describe best

⁵<https://www.egalite-femmes-hommes.gouv.fr/cp-retour-dexperience-index-diversite-et-inclusion-21-02-2022/>

⁶https://ec.europa.eu/info/about-european-commission/organisational-structure/people-first-modernising-european-commission/people-first-diversity-and-inclusion_en

³<https://www.oecd.org/gov/pem/diversity-and-inclusion.htm>

⁴<https://www.gartner.com/en/newsroom/press-releases/2019-10-30-gartner-says-diversity-and-inclusion-are-the-no--1-ta>

practices from different institutions, some metrics and possible insight into their impact.

III. POLITECNICO DI TORINO

Politecnico di Torino (PoliTo in the following), a University with a longstanding tradition in Engineering, has always been characterised by the underrepresentation of women, both among students and in the academic staff. It is one of the ambitions of the last strategic plan, *Polito for Impact*⁷ to devote more efforts at creating a diverse environment, in the belief that embracing diversities represents an indispensable opportunity for research and innovation.

As a first follow-up, two dedicated political figures were introduced in 2018: the vice-rector for quality, welfare and equal opportunity and the rector's delegate for gender equality and diversity. According to standard practices⁸, the Gender Observatory was then established in 2019, where PoliTo stakeholders -including organisational ones- meet periodically to verify the gender aspects of internal policies.

The Gender Observatory coordinated the publication of the first gender balance report, in 2020, entitled *Diversity is Excellence*⁹. The 150-plus-page publication highlighted through extensive data analysis the main gender characteristics of PoliTo community. Noticeably, the better performance on average of the female component emerged both among students and in the academic staff -presumably a byproduct of their under-representation.

The analysis was the starting point for preparing the subsequent gender equality plan (*GEP 2021-2024, Towards diversity*)¹⁰, which 67 actions grouped into six thematic areas address the principal stresses highlighted in the gender balance report and will be monitored in their implementation through five key performance indicators.

Among the actions it is certainly worth mentioning the *WeAre-HERE* project¹¹, aimed at attracting more female students on engineering courses. The project stems from a 24-hour hackathon launched during the March 8 celebrations in 2019 to 70 selected male and female PoliTo students. The hackathon had been launched, searching for new ideas to overturn the stereotype of engineering as a male-dominated subject. In particular, we realised that even among those students who passed the engineering entrance test, there was a gender gap in the dropout to finalise enrolment: women dropped out 30 per cent more than men. The chosen target was thus female high school students. The winning project, selected by a committee of experienced journalists and communicators, emphasises already in the double meaning of its title (we are here/we are her) what is its core idea. Rather than senior inspirational women figures, female engineering students are

the best testimonials to resolve the doubts of those high school girls who, despite having the skills and inclination for STEM subjects, ultimately do not enrol in engineering. Each year, WeAreHERE contacts through many different channels -both in the presence and on social media- 30 female PoliTo scholars selected and trained for the task with interested high school girls. The impact of this action on uncertain female students in its first 3 years of implementation has already been significant: female enrolments in engineering, after 10 years in which the percentage had stabilised at around 24%, have increased to 27%, a relative increase of more than 10%.

Other key actions that are part of PoliTo GEP aim to establish an environment more inclusive of the needs and inclinations of each member of our academic community. Examples are the creation of gender-neutral bathrooms, the adoption of the dispenser with sanitary napkins against period poverty and the institution of "*carriere alias*", i.e., appropriate administrative paths for those people whose elective and biological gender differences.

The above actions have been debated and finally adopted by PoliTo community. Still, perhaps the more challenging issues concerning internal consent concerned the adoption of measures for reducing the higher difficulty women experience concerning men in their careers, from hiring to promotion to atypical roles. For instance, at PoliTo the Glass Ceiling Index for academics is now 1.7: much higher than 1, which would represent gender equality in career progression. The literature agrees on the complex and intertwined origins of the phenomenon, which is also rooted in unconscious biases. Such unconsciousness is one of the reasons why it is difficult to have people accept that positive actions -specifically supporting women hiring and promotion- are needed for the benefit of the whole academic community. A central role in the implementation of PoliTo GEP has thus been given to awareness raising -especially for leadership and management- about gender (in-)equality in academia, crucial for integrating a shared gender perspective into policies and programmes.

IV. ACCENTURE

Accenture aims to be the world's most inclusive and diverse company. We are accelerating a culture of equality to ensure all our people feel they belong and can advance and thrive. Our culture of equality is an innovation multiplier – it creates better solutions for our clients and inspires their inclusion and diversity efforts. At Accenture, we believe no one should be discriminated against, period. We do not tolerate discrimination because of differences, such as age, disability, race and ethnicity, gender identity, gender expression, sexual orientation or religion. This is not a statement. We approach the I&D topics like any other business topic, with a structured strategy and KPIs&metrics to monitor our progress.

We set bold goals, take comprehensive action and hold ourselves accountable on I&D topics. Our commitment to equality starts at the top with our executive chairman, CEO and diverse board of directors (members from 6 countries across 4

⁷<https://www.pianostrategico.polito.it/en/>

⁸<https://eige.europa.eu/gender-mainstreaming/toolkits/gear/step-step-guide>

⁹https://www.life.polito.it/en/equal_opportunities/gender_policies/gender_equality_report

¹⁰https://www.life.polito.it/en/equal_opportunities/gender_policies/gep_and_geap

¹¹<https://weareheropolito.it/>

continents and 5 women). Additionally, our Global Management Committee sets the strategic direction and prioritizes our actions.

We are working to achieve a gender-balanced workforce by 2025. This means a workforce that is equally 50% women and 50% men for those whose gender is binary.

- 2020: We achieved our goal of having women in 25% of all managing director positions
- 2025: towards having women in 30% of managing director positions.
- As of August 2022, women represent 47,4% of Global workforce

Our I&D Strategy follows a specific framework: we believe that organizations need bold leadership, comprehensive actions & empowering environment to reach a culture of equality & enjoy the business benefits of it.

Bold leadership – establish diversity, advancement and gender-balanced goals. That means holding Leaders accountable to achieve results and take proactive action to improve work culture.

Diversity Council: an internal council composed of senior HR, Business, and Marketing colleagues to manage the I&D agenda. Each professional family has been identified as an I&D Lead (at the managing director level) to be an active focal point on I&D topics. The I&D Leads are expected to generate innovation and contamination between Accenture and its stakeholders and clients. Starting from the leadership to create a positive cascade to all our people: Our Managing Directors are asked to indicate at least one I&D priority when they develop their business plans.

Comprehensive actions – Implement talent actions across attraction, retention, development, advancement & business processes, creating a level playing field for opportunities.

Empowering environment – Build an inclusive and bias-free workplace, and role-model inclusive mindsets in our everyday behaviours.

Client & Partners - Engage clients and partners to drive measurable change in local communities, bring I&D to life in our client work and position as a critical driver of value creation. Our ecosystem is part of our commitment to reach a culture of equality for all. Engaging clients, partners, institutions, and universities are a crucial value-creation driver and is the only way to build an inclusive and equal society. We strongly believe in external associations' partnerships that support Accenture in delivering the best solutions possible and helps share best practices and create a virtuous ecosystem, with a mutual contamination approach (e.g., Valore D, Parks Liberi e Uguali, Everywoman Network).

Two of our most successful initiatives this past FY are:

a) *Being My Self:* It is a project that started from a small coaching session and became a collection of 29 success stories of our women. The stories have been compiled into a book where the authors tell their strength, determination, and tenacity with great simplicity and transparency. Moreover, we had a series of 7 articles encapsulating the testimonies of other female colleagues who dream of taking off or giving voice to

their struggles. Finally, the project is enriched by a series of 7 podcasts developed in collaboration with Wired in a format designed to engage talent by presenting the story of some female professionals and related skills most sought after in recruiting.

b) *PRIDE Corner:* We distributed rainbow gadgets in our Italian offices during International Day Against Homophobia, Biphobia, and Transphobia. We invited people to join the PRIDE Ally network and lighting of the Milan Bonnet building with rainbow colours to be visible in Milan's skyline.

V. NESTLÉ

A few years ago, we developed and implemented an Employer Value Proposition. This document allowed us – through interviews and surveys – to listen to our people and university students from the leading Italian universities and to share who we are, what we believe in and how we ensure our people grow and develop.

At Nestlé, we are convinced that respect and care are the basis of everything we do: we foster diversity and inclusion, which help us grow as individuals and a company.

Therefore, we want to create a work environment, a business culture, and a leadership model that guarantees equal opportunities to everyone at all levels. The idea behind every project we develop is that each of us, in our way, can and must contribute to promoting and defending an inclusive culture that values people.

In 2019, we launched the Nestlé Gender Balance Acceleration Plan, the global plan aiming to increase the percentage of women in management positions in the Group. Today, over 40% of managerial positions globally are held by women. The Nestlé Gender Balance Acceleration Plan contains several specific actions:

- 1) Support all managers in promoting an inclusive work environment and eliminate the so-called 'unconscious bias.
- 2) Encourage the use of Nestlé's paid parental leave program and flexible work policies.
- 3) Offer inspirational mentoring programs to help younger colleagues' personal and professional growth.
- 4) Hire and promote women to managerial positions.
- 5) Foster gender balance.
- 6) Continue our commitment to promoting equal pay and eliminating the conditions that create gender pay gaps.
- 7) Report the signs of progress in Nestlé's Annual Report on Creating Shared Value.

It is with great pleasure that we can look at the Italian figure: 37% of the managers of the Nestlé Group in Italy are women. A number destined to grow!

In 2021, the Bloomberg Gender-Equality Index included Nestlé for its transparency in gender policies and attention to gender equality in the workplace due to the promotion of female leadership and enhancement of talent, fair wages and gender equality in pay, inclusive culture, policies against sexual harassment, and brands in favour of women.

Nestlé is very attentive to the needs of parents working in the company. There are several Nestlé initiatives to support parents. For example, the company nursery at the Perugia plant in San Sisto or the affiliated one at the Assago headquarters. In 2021, we launched the Nestlé Parenting Initiative, an international project aimed at supporting new parents worldwide so they can face the parenting experience with serenity and awareness. In Italy, the Parenthood community was immediately involved in developing further projects aimed at new parents who work for us. In 2022, the Group also announced a new parenting support policy, extending parental leave for all primary caregivers to 3 months, compared to the previous 14 days.

Expression of this desire for inclusion and integration was the creation, 3 years ago, of a GLOBAL IT HUB to attract IT professionals to Milan from all over the world, who would help every country prepare the best technology that made Nestlé “Win” on the market. And today, after 3 years, the numbers show we are on the right path (see Figure 1): 150 people of 26 different nationalities, who make up a single body and whom – also in terms of Gender Balance – are giving their contribution to the Group strategy as shown by the numbers below.

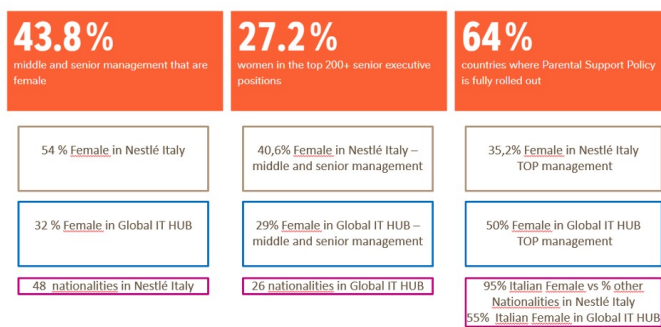


Fig. 1. Global IT Hub in numbers

Our goal is to create a D&I network that includes universities, the research community, and businesses to go beyond internal D&I actions and collaborate with standard D&I plans to build an inclusive, innovative, and reflective society. For this reason, we hold seminars and conferences and catch all possible occasions to raise awareness on the topic to stimulate us to maintain a truly inclusive culture.

VI. UNIVERSITIES AND RESEARCH LABS IN THE FRENCH ACADEMIC ENVIRONMENT

The French governmental decree of 8 June 2022, published in the Official Journal, inscribed Equality between women and men, Diversity and Equal Opportunities as part of the plan of the Prime Minister. The program involves all political and economic domains of the country, including universities and research institutions. These institutions have included these categories in all their business processes and created special offices that design guidelines, policies, and recommendations.

a) *Equality and Diversity in Universities:* The Equality-Diversity program in universities is guided by special commissions that promote equality between women and men and create programs against all types of discrimination within the university. The objective is to ensure that the gender equality dimension, the struggle against discrimination, non-stereotypical communication and actions are integrated into the institution’s thinking, projects and activities. The Equality-Diversity missions in universities act in three main perspectives. First, they work in the prevention and awareness of sexist, homophobic and transphobic violence. The second diversity and equality program addresses gender-sensitive communication through strategies developing recommendations for practising the inclusive language, considering mainly the visibility of the category “woman”. The third program concerns teaching equality, with training programs, conferences and seminars on gender and sexuality in education. Universities’ equality and diversity offices develop material and become resource centres for all questions of equality and discrimination. In particular, they disseminate charters that describe equality policies concerning students and all staff (teaching, research, administrative and technical staff).

b) *Equality between Women and Men at the French Council of Scientific Research (CNRS):* Moving towards absolute equality is a necessity shared by the entire scientific community. In 2019, women represented 32% of all research staff and 28% of researchers. While 40% of researchers in administration are women, this percentage is 22% in business¹².

The proportions differ according to the field of research, with the most diverse areas being health and chemistry. In the CNRS, between 2014 and 2018, the percentage of women researchers increased in 8 institutes. However, it decreased slightly at the Institute for Information Science and Interaction (INS2I, 22.6% to 22.3% women) and even more somewhat at the National Institute for Nuclear and Particle Physics (IN2P3, from 25.1% to 25.0%), two institutes where women were already minimal present. Recruitment strategies were, therefore, insufficient to compensate for the effect of retirements for these two institutes. It is, therefore, only because of the many departures of men that institutes have not seen their share of female researchers decrease, not because of the massive recruitment of women.

The CNRS, as part of institutional action, has created female-male equality commissions in all its laboratories that are gathered together as reflection communities in delegations across the country. The objectives of these commissions are to identify, understand and deconstruct the mechanisms that lead to the fact that most research laboratories in computer science and many other sciences are only composed of 20% women and that this proportion decreases in positions of greater responsibility. Their actions include, in general: (i) awareness-raising actions aimed at communicating, within the laboratories, gender stereotypes in computing; (ii) animation

¹²Statistical information has been published in https://www.ins2i.cnrs.fr/sites/institut_ins2i/files/download-file/actions_parite_ins2i_web_0.pdf

actions (seminars and days); (iii) scientific mediation actions to promote computer science to attract talent; (iv) the establishment of an inclusive workspace where everyone feels well-integrated and confident; (v) actions to facilitate career development.

c) *Attracting female talent in sciences: Discovering digital science.* The Institute for Information Science and Interaction (INS2I) of the CNRS has published a comic book that takes us on a journey of discovery of 12 women scientists, *Les décodeuses du numérique* (The digital decoders), working in the digital world. These portraits can be used as a support for professional discovery in the *Avenir* courses (courses of the future) at secondary school or personalised support at high school. Still, they can also support mathematics and industrial science and technology courses. Ten educational sheets are available to accompany the reading. They concern both knowledge of the digital domain and the notions of algorithms studied in general and technological secondary school or more random disciplines such as biology.

Initiatives to promote scientific careers for girls. The associations *Femmes et mathématiques* (Women and Mathematics) and “Animath”, in collaboration with the Blaise Pascal Foundation, have been organising “Girls, maths and computing: a luminous equation” days. They take place all over France and help to promote scientific careers for girls, professions where they are under-represented. These days, volunteer girls can learn about careers related to mathematics and computing through a conference, a workshop, speed meetings and theatre forums. For secondary school girls, *Rendez-vous des jeunes mathématiciennes et informaticiennes* (Get together for young mathematicians and computer scientists) are held regularly. For a few days, they work on real problems in mathematics or computer science. These are places for exchange and meetings that actively encourage them to consider their future studies.

d) *Different forms of knowledge production:* The CNRS wishes to encourage diversity in the profiles of its researchers. Scientists’ promotion is associated with a set of important missions to ensure the recognition of researchers with varied profiles:

- Contribute to scientific progress.
- Training through research, teaching, using and disseminating scientific knowledge.
- Innovating, transferring and promoting research results.
- Managing and taking collective responsibility.
- Engage in geographical, thematic or functional mobility.

In 2018, the CNRS signed the San Francisco Declaration on Research Assessment (SF-DORA [6]), which calls for a preference for qualitative assessment and the avoidance of quantitative bibliometric indicators, which may be objective but are meaningless and often misleading.

Scientists’ production is evaluated concerning a maximum of 10 significant scientific products to have contributed to the advancement of knowledge, which is not reduced to the production of publications. Moreover, since scientists’ missions and activities are multiple and cannot be reduced to the advancement of knowledge, promotion is based on

the appreciation of a professional career where periods of differentiated activities can coexist. Thus, to evaluate scientists’ scientific production, a scientist must perform an auto-evaluation according to a grid with 40 points to be allocated across 5 criteria:

- 1) Contribute to scientific progress.
- 2) Training through research, teaching, using and disseminating scientific knowledge.
- 3) Innovating, transferring and transforming research results into economical value.
- 4) Managing and taking collective responsibility.
- 5) Engage in geographical, thematic or functional mobility.

The grid allows highlighting the relative weight of one or more missions. One or more tasks may be at 0 or have a low score, but this does not affect the quality of the production assessment.

VII. ANALYSIS, COMPARISON AND DISCUSSION

According to the best practices described in the previous sections, we can propose some answers to the research questions that guide our study.

a) *What does “being included” mean, and on which and whose terms does inclusion happen in organisations with different cultures?:* The Politecnico di Torino and the French academic and research system have adopted the gender category, namely female/male, as a backbone of programs and strategies towards inclusion. Both institutions have mainly focused on looking for female talent, particularly in those sciences where women are an underrepresented group. They have also considered the gender identity category in a broader sense, with inclusion policies for LGBTQ++ communities, including administrative procedures and the use of inclusive language and courses for teaching diversity to their students, professors and staff. Their programs promote awareness through dissemination actions alerting micro-racism and micro-misogynist practices and policies.

In the case of companies, we have described two complementary best practices. The Accenture’s program considers gender in a broad vision considering LGBTQ++ and female/male in a general category. Their actions create an inclusive organisation where CIS female and male¹³ collaborators are considered independently from the LGBTQ++. The understanding of a diverse and inclusive environment in Accenture is the one that promotes well-being through inclusion actions for all regardless of their gender identity without denying this diversity. In the case of Nestlé, the non-binary understanding of gender is less exposed; the D&I plan seems to focus on women. However, the company promotes rights, like parenting leave, independently of gender identity. Both companies promote their multi-national identity and recognise the value in this characteristic, for example, through their programs for attracting talent.

¹³Cisgender (often shortened to CIS; sometimes cissexual) is a term used to describe a person whose gender identity corresponds to their sex assigned at birth, Wikipedia <https://en.wikipedia.org/wiki/Cisgender>

The first set of actions is working by adopting clear policies and making them work. Other aspects remain open about creating value (not necessarily economic value) and well-being. As discussed previously, women are still underrepresented in decision-making positions, their working load remains higher than that of their male colleagues, and the evolution of their careers remains complex and sometimes longer. Micro-misogynist behaviour and bias regarding age, attitude, physical attributes, and character, among others, persist.

b) *What are the challenges and barriers to achieving or making progress towards true Diversity through Inclusion?*: The main barrier faced by the current D&I programs seeking for equity and fairness/justice is the complexity of the issue. Defining programs that promote intersectional ¹⁴ [7] understanding of their communities and of the people they want to include in their organisations is a multi-objective optimisation problem.

c) *Are there relevant examples of best practices on how to “bake” diversity into a data-driven project/experiment/research?*: Academic institutions and companies have generated quantitative profiles to observe their “population” careers concerning gender and other categories like nationality, language, expertise, etc. Data harvesting to drive these statistics and then the definition and computation of indices like the one proposed by Gartner have been a good thermometer to measure D&I status and perspectives, for example at Nestlé. At the CNRS, Although 34,4% of researchers are women, in 2020, they will still only represent 30,6% of research directors (RDs) - i.e., ten points more than in 2000 - and 25,1% of exceptional research directors, the highest grade obtained through successive promotions. And only 24.3% of units were headed by women in 2020. The variability is also high depending on the scientific field, with the share of female researchers ranging from 19% in mathematics to 43% in biological sciences and 49% in social sciences and humanities. The trends of the last two decades are positive, but more and more women will reach retirement age, making it more challenging to maintain the momentum for improvement. Beyond statistics, the CNRS prepares deeper analysis to identify and correlate the variables that lead to the current numbers. The idea is to understand the social context within laboratories and universities to address the origin of inequalities beyond quotas.

Politecnico di Torino has chosen to adopt a data-driven approach to inclusion policies. In particular, a strategic gender mainstreaming approach is pursued, integrating data analysis -namely gender budgeting- with a gender perspective in policy making activities-the aforementioned PoliTo Gender Equality Plan. Each year, key gender indicators of the academic population - from student population to teaching, technical and administrative staff - are monitored both at the level of the university and individual courses, departments and

¹⁴The concept of intersectionality describes the ways in what systems of inequality based on gender, race, ethnicity, sexual orientation, gender identity, disability, class and other forms of discrimination “intersect” to create unique dynamics and effects.

administrative structures. The data are published in a dedicated area of PoliTo’s website ¹⁵ and analyzed in their trends every three years in PoliTo’s extended Gender Balance report - the 2020 version is the already mentioned *Diversity is Excellence* report - approved by the central bodies and discussed at dedicated events.

VIII. CONCLUSIONS AND PERSPECTIVES

This paper introduced a general background underlying the projects of diversity and inclusion as tools to achieve equity and fairness in international organisations established in Italy and France. The paper shows a core understanding of diversity centred on binary gender (female, male) or at least with an heteronormed vision of gender, even if LGBTQ+ is also considered a category. Other categories cross this vision: race, language, physical abilities and socio-economy. In international organisations, such as those we studied, the inclusion of people with different nationalities, languages, physical skills and socio-economic backgrounds does not face enormous barriers. This situation is valid as long as there is a *lingua franca* that can be used to interact and as long as people adhere to Western culture. In some institutions, for example, in France, laicity is the key to dealing with religious differences because it homogenises the professional codes, including behaviour and speech adopted by people (students, professors, administrative staff).

The main characteristic of the strategies implemented in the D&I programs that we studied is that they are centred on quantitative criteria. Thus, inclusion strategies are oriented toward balancing distributions of populations or increasing the number of people of a specific category accessing disciplines (e.g., STEM) and decision-making positions.

In companies and academia, hiring and attracting talent programs show officially voluntary actions willing to allow professional fulfilment of collaborators where gender, race, language, nationality, physical abilities, religious beliefs, culture, and socio-economic background, are guiding criteria. However, the gender category is at the centre of the programs. For example, many D&I at work programs and academic ones reason about the roles allocated to the members of their communities. The objective is to avoid associating gender with a person’s organisational roles. This objective is challenging because the position that a person adopts in an organisation is always traversed by the person’s gender identity and the way it is assumed. Besides, there are still some commonplaces in D&I programs, like parenthood and family aids and facilities (e.g., University of Lyon has a program for students parenting and parental leave for collaborators despite their gender and identity). Indeed, few D&I-aware programs consider protection for single collaborators who can have caregiving duties and might need special programs adapted for their social condition. Single and people in couples invest time differently, and the way they do this is intersected by their role and, consequently, by their gender identity.

¹⁵https://www.life.polito.it/en/equal_opportunities/gender_policies/gender_data_monitoring

To conclude, our study proposes three takeaways to readers. The first one is that beyond the statistics and quantitative assessments of D&I indices, the social awareness created in the organisation and its members is critical. “We are an organisation that collectively is figuring out how to improve our members’ well-being by being fair”. The second takeaway is that organisations must continuously tune their D&I programs and define the objectives they are looking for with these initiatives: improve productivity through well-being, target new markets, attract outstanding talent to promote meritocracy, empower under-represented communities to allow them to break the glass ceiling, etc. The third takeaway is that D&I programs can also seek to propose a new productivity order to achieve the common good [8]. In such perspective, productivity, working time vs private time, and the evolution of careers should consider quantitative and qualitative criteria (e.g., the San Francisco DORA declaration [6]), other forms of knowledge production and dissemination. For example, the Ubuntu values [9]¹⁶ is an example of an alternative being adopted in countries of the global south (e.g., Colombia). We wonder whether the next step of D&I towards equity is not believing that another production system and philosophy are possible!

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¹⁶Ubuntu can best be described as an African philosophy that emphasises ‘being self through others. It is a form of humanism expressed in the phrases ‘I am because of who we all are’ [9].