Exploring the Social Impact of Diversity and Inclusion: A Case Study on Employee Well-being

A case study by Novartis and WifOR Institute

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Executive summary

Companies strive to create a diverse, equitable and inclusive workplace where everyone can be their best and true selves. In times of globalization and advancing demographic change, diversity as well as inclusion play an increasingly important role in working life. Diversity and inclusion is not only important for businesses, as it enables the recruitment of diverse talent, promotes innovation and increases employee engagement and productivity. It is also a sign of social responsibility: an inclusive work environment provides equal opportunities for all and makes diversity a strength.

The purpose of this case study is to examine the relationship between diversity and inclusion and more importantly, prepare the grounds for a social impact framework for diversity, inclusion and employee well-being. As recognized leaders in Impact Valuation, Novartis and WfOR Institute suggest with this case study new impact pathways for diversity, inclusion, and employee well-being in the business environment. The explorative study sheds some light on how companies can connect their diversity and inclusion initiatives to their impact on society statements.

The explorative case study proved how interdependent the topics of diversity, equity and inclusion are. Furthermore, the study analyzed descriptively to what extent the inclusion of employees at Novartis influenced their well-being (utilizing absenteeism as a proxy). Based on the findings from the literature review, the correlation analysis of D&I and the considerations regarding absenteeism, the framework for two impact pathways (value to society) was developed. Going forward, these can be applied to monetize the social impact of absenteeism or turnover. A direct connection (or allocation keys) between D&I initiatives and these outcome indicators would require more research. The value to business perspective only led to descriptive results due to sample size and was excluded in this article.

Due to the explorative character of the case study, it is to be considered as a starting point for further research around impact valuation for diversity, equity, and inclusion. A key challenge for scaling the approach for the social impact of D&I beyond Novartis is the lack of harmonization in terms of D&I initiatives and measurement. Therefore, we recommend proceeding with only the second part of the pathway and compare corporate absenteeism and sick days as well as turnover rates per company to country statistics. Both can be monetized into social cost. The connections to inclusion and diversity can be established on a project level. Going forward, monetizing the social impact of absenteeism and turnover will give the impact valuation framework a new perspective, creating a proxy for employee well-being and a company's impacts on society through its D&I performance.
Measuring the social impact of diversity, equity, and inclusion in business

Companies strive to create a diverse, equitable, and inclusive workplace where everyone can be their best and true selves. In times of globalization and advancing demographic change, diversity as well as inclusion play an increasingly important role in working life. Diversity & Inclusion (D&I) are an integral part of a productive working environment as it fosters innovation, drives engagement, and attracts talent (Cho and Mor Barak, 2008; Apfelbaum and Mangelsdorf, 2017; Lorenzo et al., 2017; Haddon, 2018; Isham, Mair and Jackson, 2019). Often, the intention behind corporate D&I activities is to make the most out of the positive aspects of a diverse workforce while creating an empowering culture with a strong sense of belonging and psychological safety. Successful diversity management can establish different perspectives and thus, a broader knowledge base, higher innovative power, and productivity. It creates better access to new talents and opportunities through expanded networking access of diverse teams (Nathan, 2015; Lorenzo et al., 2017) and appears to be crucial in fostering innovation (Lorenzo et al., 2017).

Literature shows how strongly diversity & inclusion are connected and dependent on each other. The goal of diversity is to create a culture of inclusion, which in turn attracts and retains a diverse workforce. The purpose of this case study is to examine the relationship between diversity and inclusion and more importantly, paving the way for a first social impact framework for D&I in terms of economic outcomes, and impacts on employee well-being. As recognized leaders in Impact Valuation, Novartis and WifOR Institute suggest with this case study new impact pathways for diversity, inclusion, and employee well-being in the business environment. The explorative study sheds some light on how companies can connect their diversity and inclusion initiatives to their impact on society statements.

Aligned with the Capitals Coalition, “Impact” is defined following the Impact Management Platform (2023) and the G7 Impact Taskforce as “a change in an aspect of people’s well-being, or the condition of the natural environment caused by an organization”. While the social, environmental, and economic (SEE) impact valuation methods are already well established and applied by multinational companies (see Value Balancing Alliance, 2023), some gaps still exist. One of these gaps is the social impact of diversity, inclusion, corporate culture, and employee well-being.

Corporate activities lead to immediate outputs, which causes a certain impact through changes in outcome variables. The fundamental impact framework (input / activity, output, outcome, impact), which is widely used by business and academia, is fundamental for measuring and valuing impacts on society. It follows the assumption that organizational activities ultimately result in measurable positive and negative outcomes and impacts on society (see Figure 1).

![Figure 1](image-url)
The following case study starts with a short literature review, outlines the measured data inputs, and summarizes some key take-ways from analyzing Novartis diversity, inclusion, and outcome data from three countries. Based on these learnings, in the second part, we present two impact pathways and conclude with a potential way forward.

**Literature review (summary)**

**Diversity and performance**

Desk research has shown how most of the studies are concerned with the diversity indicators gender and ethnicity within the context of corporate performance measurement. Regarding the optimal relationship between diversity and (economic) performance, the studies show a non-linear, inverse u-shape, which ranges between the values of 40 and 60 percent. This means that with a right diversity balance, the economic performance can be maximized (Hoogendoorn, Oosterbeek and van Praag, 2013; Nathan, 2015; Sodexo Operations, LLC, 2018).

A study by Nathan shows a “strong and robust link between ethnic diversity and process innovation, and between gender diversity and product innovation” (Nathan, 2015). Besides increased performance, Sodexo’s findings further indicate that the operating margins are 8 percent points higher for entities with a diverse team structure (Sodexo Operations, LLC, 2018).

The 2017 quantitative research of Boston Consulting Group (BCG), points to a connection of increased revenues by 38 percent due to innovative products and services resulting from a diverse workforce (Lorenzo et al., 2017). Performance in this context is defined as innovation revenue and measured due to the share of revenues from new products and services. Also, the McKinsey study “Diversity wins. How inclusion matters”, shows that gender diverse companies are 28 percent more likely to financially outperform their peers (Dixon-Fyle et al., 2020). Findings also show that companies with high ethnic and cultural diversity outperform the earnings before interest and taxes (EBIT) margin with a 36 percent likelihood (Dixon-Fyle et al., 2020). Other researchers demonstrated a positive relationship of racial and gender diversity to business outcomes such as sales, number of customers, market share, and relative profits (Herring, 2017).

**And what about inclusion and performance?**

In contrast to the interest that prevails over studies that investigate the relationship between diversity and performance, there are only a few studies making this concrete connection between inclusion and performance. The above-mentioned study by BCG has also shown that inclusion is crucial in fostering innovation (Lorenzo et al., 2017). With reference to inclusion, BCG demonstrates a significant difference of 10 percent in revenues from innovative products and services between companies that ensure a favorable inclusive work environment and companies that do not.

It should be mentioned that employment relationships vary by organization size and sector. That means inclusion is practiced in different ways (Sameer and Özbilgin, 2014). It is necessary to distinguish between formal and informal voice channels. For example, large companies are more likely to work within hierarchical structures, therefore, they provide rather little contact between managers and employees. As a result, there are more formal channels of participation than informal ones and less flexibility when it comes to inclusion.

Company inclusion is a way to measure the wellbeing of employees. Findings from studies show that the work environment and working conditions have a significant impact on the health and wellbeing of employees (Fletcher, 2018). A comprehensive wellbeing strategy and culture positively
impact firm performance (Haddon, 2018; Isham, Mair and Jackson, 2019). For example, employee engagement is considered a key driver of career wellbeing. When organizations intentionally address wellbeing, engagement, daily uplifts, and booster the sense of belonging, the effects are additive and mutually beneficial for employees and business outcomes alike (Junça-Silva, Caetano and Lopes, 2017; Krekel, Ward and De Neve, 2019; Gallup, Inc., 2021; Morgan, 2021).

Because there is a relationship between wellbeing and health, health influences wellbeing and wellbeing itself influences health. There is also a relationship between wellbeing and mental illness, such as depression and anxiety (Department of Health UK, 2014). Mental illnesses are associated with high costs for the company but also with high costs for society. Poor mental health and associated productivity losses cost the global economy about $2.5 trillion per year in 2010. These costs are projected to rise to $6 trillion by 2030 (The Lancet Global Health, 2020). This means absenteeism costs companies (and society) billions of dollars each year in lost productivity, wages, poor quality of goods/services, and excess management time. In addition, companies face costs due to employee turnover: Employees whose wellbeing suffers because of a bad company culture become dissatisfied employees and quit – or at least consider quitting (Morgan, 2021).

In summary, the desk research indicates that corporate diversity is positively influencing business performance but with certain limitations (U-Shape) once teams become very heterogenic. The limited research on inclusion outlines a positive relationship between inclusion, innovation, and employee well-being. Finally, inclusion is closely linked with employee well-being and health. These key assumptions from the literature review flow into the construction of the impact pathways.

What to measure and where to start

Literature shows that a variety of indicators have been analyzed in the context of D&I and performance. Evidently, there is a lack of standardized indicators as well as large scale studies.

The explorative study at Novartis included data for 3 years from 3 country organization with a total of 4,000 employees. Based on the available data, the Novartis explorative study included the following diversity indicators at country level at division, site, and function each quarter for three years: gender, age, nationality, manager shares, and mean affiliation.

The inclusion indicators consist of 19 inclusion categories in total, which are also available at the division, site, function, and gender levels per quarter. Indicators used for the analysis in this study are described in the Figure 2.
In terms of performance, we looked at absenteeism, GDP share, and sales. In contrast to the detail provided by the diversity and inclusion indicators, the performance indicators were only available at an aggregated country level and only made limited sense to analyze different functions and teams. As a result, the findings from the joint consideration of diversity, inclusion, and performance were only descriptive and excluded in this article. The impact on business perspective could be further explored by analyzing a bigger D&I data sample and its impacts on the P&L (value to business).

Depending on availability of data, the impact pathways outlined later could be adapted and applied from different angles.

**A glimpse into the results and some key take-ways**

Studying the relationship between diversity and inclusion has shown the interdependencies between the two. The results show how various social groups (diversity) in a company (like gender, age groups or nationalities) correlate clearly with different inclusion indicators. Some selected key take-aways analyzing the data for three Novartis country organization are listed below:

- The higher the share of foreign employees (diversity), the higher the level of inspiration (inclusion)
- Accountability (inclusion) raises in smaller teams
- With increasing length of company affiliation (diversity), trust in collaborating with colleagues (inclusion) decreases
- In some countries, affiliation years are negatively correlated to score in "prospects", "trust", and "values" (inclusion)
- Empowerment, sense of belonging, and "speak my mind" (inclusion) are negatively correlated with share of women (women)
- With increasing managers (diversity), accountability, the feeling of belonging, the feeling of empowerment, and being able to speak (inclusion) freely increases

In a next step, the D&I data was connected to performance indicators (sales and absenteeism). The impact on sales (value to business) perspective only led to descriptive results due to the limited sample size and was excluded in this article. For absenteeism, the average number of sick days at Novartis was aggregated and compared with the corresponding absenteeism figures for the countries of interest. For example, it was found that a Novartis country, with an average of 2.1 sick days per person per year in 2019, is significantly lower than the average sick days for the countries’ national workforce (which ranges from at least 4.4 to 8.6 sick days per person per year). Looking at the societal costs of sickness and absence, such as lost (national) gross value added, it can be argued that less absenteeism than the country average saves social costs. Similarly, a site or division that is above the country-specific average for sick days would make a comparatively high contribution to societal costs in the form of lost gross domestic product, costs for absence (sick days) or lost production.

As the desk research showed that the work environment and working conditions (inclusion) have a significant impact on the health and well-being of employees (Michelson, Mahony and Schifferes, 2012; Straume and Vittersø, 2015; Fletcher, 2018), the link between D&I and health was investigated further. It is also fundamental from a business perspective, since wellbeing has been linked to higher levels of employee engagement and lower levels of absenteeism and turnover (Straume and Vittersø, 2015; Isham, Mair and Jackson, 2019). However, since the data on diversity,
inclusion, and health status (measured by the number of sick days) of employees were only available on a limited scope, it was not possible to investigate a correlation between the data on diversity, inclusion and health status.

With more granular data, the impact to society in terms of health, productivity, and value creation could also be further examined. The starting point would be the effect of D&I interventions on the number of sick days. Based on this, the second step would be to calculate the productivity gains achieved through the intervention. This would include both paid hours and unpaid hours such as childcare or housework. The avoided loss or gained working time can then be monetized. Based on the premise that the gain in paid and unpaid working time is an indicator of the wealth of a society, the effects of the intervention can be interpreted as a wealth gain (Gross Value Added [GVA] per hour).

Finally, if the number of employees suffering from (work-related) depression or burnout could be estimated in the future, and this information can be extrapolated to the sickness-related absenteeism of employees, it will enable us to calculate a social impact based on life expectancy (years of life lost, years of disability lost, disability adjusted life years (DALYs)).

**Impact pathways**

Based on the literature's research, the data analysis and correlating diversity, inclusion, and performance indicators at Novartis, two distinct impact pathways were derived. One impact pathway measures the social impact resulting from reduced or increased absenteeism and the second one quantifies the social impact of turnover. Certainly, more research is needed to connect the dots between the D&I outputs and corporate outcome indicators. Both impact pathways are ready to use to quantify and monetize the social impact of absenteeism and turnover.

**Less absenteeism reduces social costs**

For several years, research has been conducted on how wellbeing impacts health – in addition to how a person’s health status impacts their wellbeing (Department of Health UK, 2014). Findings from studies show that the work environment and working conditions have a significant impact on the health and wellbeing of employees (Michaelson, Mahony and Schifferes, 2012; Straume and Vittersø, 2015; Fletcher, 2018).

Moreover, wellbeing has been linked to higher levels of employee engagement and lower levels of absenteeism and turnover (Straume and Vittersø, 2015; Isham, Mair and Jackson, 2019). This finding is important in business contexts because designing organizational initiatives to promote satisfaction can help reduce absenteeism at the workplace. This is because policies and activities in the areas of D&I are key factors in increasing job satisfaction and thus have a significant impact on sick leave.
Additionally, absenteeism is a social cost (The Lancet Global Health, 2020). Therefore, companies that take responsibility for a healthy workforce, in turn, reduce GDP loss. For example, in the UK one absence day per person has a cost of €95. This is the amount of GDP that is lost due to the employee not contributing to production for the sick day (calculation WiFOR, 2022). National absence days can be translated into potential GDP loss via a multiplier: In this case, we assume that one nationwide absence day has the same impact as one national holiday (Hansen and Meyer, 2018). When Novartis achieves lower absence days, this reduces the social cost of absenteeism. This impact path (see Figure 3) connects absenteeism with social costs in terms of GDP loss to approximate the social impact of a D&I policy. Absenteeism and average absence days per person are calculated to compare them to national absenteeism. In combination with the assumed cost of one absence day per year of 0.12% of GDP, the social cost of absenteeism becomes apparent. It is expressed in terms of potential GDP savings when corporate absenteeism is lower, and of potential GDP cost when absenteeism is higher than the country average.

Figure 3 shows the conceptual impact pathway. It should be noted that in addition to the basic path, other factors also influence the outcome of absenteeism. These potential extensions are highlighted in light red.

More concretely, this could be calculated as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Absence days per person</th>
<th>GDP loss due to higher absenteeism than country average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Novartis</td>
<td>Country average</td>
</tr>
<tr>
<td>2019</td>
<td>2.1</td>
<td>4.4</td>
</tr>
<tr>
<td>2020</td>
<td>1.8</td>
<td>4.4</td>
</tr>
<tr>
<td>2021</td>
<td>1.8</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Sources: * https://www.mirefinch.co.uk/blog/time-and-attendance/sick-leave-uk-vs-europe/
The impact pathway can be used as an innovative framework to analyze the social impact of sickness and absenteeism – connecting it with country-specific absence data to rule out the average days people are sick in a country. This allows business to quickly analyse the created externalities in terms of social cost of employee well-being and act on a regional, country, site, or team level. The relationship between inclusion, in the broader sense of wellbeing, and absenteeism, however, could only be theoretically deduced up to now. Further research is necessary.

**Sense of belonging reduces social cost**

A “sense of belonging” is a decisive factor for employee retention. The more connected an employee is to the company, the less likely he or she is to quit (Morgan, 2021). One who quits their job, and fails to find employment, is associated with reduced tax revenues and unemployment benefits (Hausner, Engelhard and Weber, 2014). Therefore, a higher sense of belonging in the workforce decreases the number of resignations and ultimately the social costs.

Of course, “sense of belonging” is only one of the factors that influence the likelihood of quitting. Ideally, the sense of belonging path could be supplemented by measuring other influencing factors to provide an even better overall picture of the relationship. An example of such a comprehensive framework is outlined in Figure 4. Numerous of others contextual factors are theoretically conceivable. Depending on the factor, there may be a direct connection to those who quit their jobs or an indirect one, for example, via mental health.

The social cost of turnover rates and associated reduced tax revenues and unemployment benefits could be monetized already now as an impact on society. But in order to calculate the impact pathway outlined above and monetize the social impact of “Sense of Belonging”, further research – including regular employee surveys – is necessary to fill existing research/data gaps.

**Conclusion and outlook**

The explorative case study proved how interdependent the topics of diversity, equity, and inclusion are. Furthermore, the study analyzed descriptively to what extent the inclusion of employees at Novartis influenced their absenteeism. Based on the learnings from the literature review, the correlation analysis of D&I and the considerations regarding absenteeism, the framework for two impact pathways was developed. Going forward, these can be applied to monetize the social impact of absenteeism or turnover. A direct connection (or allocation keys) between D&I initiatives and these outcome indicators would require more research and will be challenging to standardize across companies.

The study revealed new correlations between diversity and inclusion – and reveals, for example,
the share of employees with foreign nationality is generally positively correlated with all inclusion categories at Novartis. While affiliation years are mostly (slightly) negatively correlated with the various inclusion indicators. In addition, a descriptive analysis was used to investigate the extent to which a "pattern" can be identified in the joint observation of inclusion and absenteeism. The aim here was to gather insights into whether employees' sick days decrease as their level of perceived inclusion rises. However, the result of this descriptive analysis does not indicate this, contrary to current research findings of other studies.

Based on current literature and the findings from this study, a framework was developed that allows to measuring the social impact of D&I. On the one hand, "Absenteeism" could be used as a basis for this if future research shows a connection between inclusion and absenteeism. On the other hand, the social impact can be calculated directly based on inclusion scores like “sense of belonging” and turnover.

What’s next?
Due to the explorative character of the case study, it is to be considered as a starting point for further research around impact valuation for diversity, equity, and inclusion. A key challenge for scaling the approach for the social impact of D&I beyond Novartis, is the lack of harmonization in terms of D&I initiatives and measurement. Therefore, we recommend proceeding with only the second part of the pathway and comparing corporate absenteeism/sick days and turnover rates to country statistics and monetize the social cost of these. The connection to inclusion and diversity can be established on a global, country, or project level. Going forward, monetizing the social impact of absenteeism and turnover will give the impact valuation framework a new perspective, creating a proxy for employee well-being and a company’s impact on society through its D&I performance.
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