

Accounting for Organizational Employment Impact

Executive Summary

David Freiberg, Katie Panella, George Serafeim and T. Robert Zochowski

Overview

Organizations create significant positive and negative impacts through their employment practices. This paper builds on the substantial body of research regarding job quality and impact measurement to present a framework for monetized analysis of employment impact. We identify and propose a framework for measuring the four most salient dimensions of impact for employees, including wage quality, career advancement, opportunity, and health and wellbeing, as well as two principle impacts, diversity and employment location, for the broader labor community. The framework and methodology for calculating employment impact-weighted accounting figures is applied to several large corporations, resulting in positive impacts that range between 25 and 257% of their EBITDA suggesting significant heterogeneity in employment practices across organizations. These results demonstrate the feasibility of calculating employment impact in monetary terms, and provide a foundation for future application across additional geographies and contexts.

First, we propose a unifying framework of employment impact, identifying four fundamental dimensions of high importance to employee outcomes: *wage quality*, *career advancement*, *opportunity*, and *health and wellbeing*. We additionally recognize organizational employment dimensions that affect the broader labor community and identify two areas (*diversity* and *location*) that provide a non-exhaustive illustration of this category of impact. Second, we provide methodologies for measuring each one of the dimensions in monetary terms using outcome rather than input based metrics, allowing for comparability and relevance within the decision-making context of business and investments.

Third, we apply our framework and methodologies to a leading multinational corporation, Intel, showing the feasibility of impact-weighted accounting measurements and their decision usefulness for multiple stakeholders. We chose Intel because of the high-quality disclosures provided by the company on the data needed according to our framework. Our analysis reveals a net positive US employment impact of \$3.75 billion for Intel, or 26% of its US-based revenue and 57% of US EBITDA. The total impact on US employees is estimated at \$5.8 billion while the impact on the labor community dimensions is (\$1.9 billion).¹ Moreover, it identifies which dimensions generate or detract the most from employment impact, providing useful insights for business leaders that strive to make meaningful improvements to employment practices. To assess the framework's scalability, we calculate the total employment impact, excluding a few categories we could not source data, for three other leading corporations: Apple, Costco, and Merck. This analysis documents that employment impact varies significantly across firms reflecting the heterogeneity of human resource strategies.

We test our impact framework using Intel Corporation, a technology company based in the United States that is classified as part of the Semiconductor industry. The company's US-based revenue in 2018 was over \$14 billion, and it operated with 52,618 employees in the United States. Intel's stated purpose is to "create world-changing technology that enriches the lives of every person on earth."² Intel is widely recognized by ratings agencies focused on sustainability and corporate responsibility. The company also

¹ To calculate US EBITDA, we assume that the ratio of global EBITDA to US EBITDA is equal to the ratio of global revenue to US revenue (20%).

² For additional information on Intel, including their primary business units, financials, and company values, please visit www.intel.com.

publicly discloses significant detail regarding their employment practices. In 2018 Intel was the only company in the Russell 1000 Index (representing over 90% of U.S. market capitalization in the equity market) to disclose their wage data disaggregated by gender, race, and ethnicity.³ The employment impact for Intel in 2018 is summarized in Table 1 below. Our analysis reveals a net positive US employment impact of \$3.75 billion for Intel, or 26% of its US-based revenue and 57% of US EBITDA. The total impact on US employees is estimated at \$5.7 billion while the impact on the labor community dimensions is (\$1.9 billion).⁴ This substantial value was previously not measured or disclosed by Intel, and signals to peers, investors, and broader stakeholders that there is sizable social impact through positive employment practices. The analysis also illuminates potential to create additional value for employees through improved performance in many employment dimensions, which are demonstrated in monetary values that can be reflected in accounting statements for the first time.

Employment impact-weighted accounting statements are a powerful tool for managers, investors, and consumers. As with financial statements, the ability to compare outcomes between firms and across industries is of utmost importance. We present findings for three additional US-headquartered firms: Apple, Costco, and Merck. We choose these three firms because they represent a wide cross section of sectors (technology, consumer staples, and healthcare) and because they also provide relatively good disclosure on employment practices. The variation across firms begins to tell an interesting story. For example, note the significant value lost through poor diversity and opportunity across companies. Despite the company's leadership in public disclosure regarding diversity and inclusion, Intel has the highest diversity penalty as a percentage of total salaries (32%), with Apple following at (25%) and Costco with the lowest penalty of (8%). We see greater similarity regarding opportunity impact (the representation of minority groups at different levels within the organization), with Intel at 5.7% of total salaries, Merck at 5.6%, Costco at 5.2%, and Merck at 3.9%. Costco's wage quality impact is reflective of its reputation as an employer with better pay practices relative to the industry.

Other notable differences emerge from this cross-company analysis. At Merck, the total employee focused impact of (\$2.2 billion) results in a per-employee figure of \$93,251 (see Table 3 on the following pages). Excluding the value of *wage quality* impact results in a negative impact of (\$7,990) per employee (approximately 9% of total value created). At Apple, on the other hand, a per person employment impact of \$115,236 is reduced to (\$3,275) in non-wage impact (only 3% of total impact) when only *opportunity*, *career advancement*, and *health and wellbeing* are monetized. These figures provide insight regarding opportunities for firms to improve job quality for employees and consequently create additional social value.

Current accounting practices consider employees primarily as a cost-driver. The bulk of expenses are evident in a firm's Selling, General, & Administrative (SG&A) expenditures within the income statement, with the highest cost driver by far consisting of salaries and wages. Many companies also incur significant payroll expenses in Research and Development as well, while other activities such as employee training are also accounted for exclusively as costs. This approach to accounting for human capital is limited, and is disconnected from the adage touting employees as a company's greatest *asset* (Rouen, 2019). Further, when recognized within financial statements exclusively as an expense, employees are left vulnerable to under-investment, or even to elimination by managers seeking to improve the appearance of their bottom line.

We propose a recording of employment impact within the income statement and balance sheet of an organization. Careful attention is needed to determine the timing and classification of both income statement and balance sheet employment impacts. The income statement (here used to include the Statement of Other Comprehensive Income) will include same year effects of employment impact, recorded as either a positive amount for positive impacts or a negative amount for negative impacts. Each year, employment

³ Intel's 2017 and 2018 EEO-1 Pay Data disclosure is available here: <https://www.intel.com/content/dam/www/public/us/en/documents/corporate-information/2017-2018-eeo-1-pay-disclosure-report.pdf>

⁴ To calculate US EBITDA, we assume that the ratio of global EBITDA to US EBITDA is equal to the ratio of global revenue to US revenue (20%).

impact from the income statement will be carried over to the balance sheet and recognized as a form of equity (recorded as “accumulated other comprehensive income”). A corresponding entry would be either on the asset recognizing a human capital asset or a liability recognizing negative effects on employees. These balance sheet impacts would be carried over and amortized over time. The amortization schedule could be a function of employee turnover or based on how the impacts might manifest over time.

An illustration of the integration of employment impact in financial accounting is possible in the *health and wellbeing* dimension. Firms currently recognize expenditures related to employee health and wellbeing (HWB) programs within the income statement as a line item within SG&A, which results in reduced operating income. The IWAI employment framework, on the other hand, calculates a monetized value for health outcomes based on employee access to high quality HWB services, through the healthcare and lifestyle and chronic disease sub-dimensions. A company that pays more for a high quality HWB program may incur a larger expense within their income statement than a competitor who pays less for a lower-quality program. Under current accounting standards, with all else equal, the former company would report lower earnings than the latter. However, the IWAI employment impact framework presents a monetized value for improved employee health outcomes, which would be recognized as a positive impact in the income statement. Likewise, a company with poor participation and/or low quality HWB programming would demonstrate negative impact in this employment impact dimension, resulting in an expense recorded on the income statement. There is a clear connection between HWB and employee health outcomes, as well as between health outcomes and job satisfaction, turnover, and productivity (Bakotic, 2016; Gubler, et al., 2018; Halkos, 2010; Singh and Loncar, 2010). Properly and comprehensively accounting for HWB as more than a recurring cost, either through an adjustment to income or as a balance sheet entry, has significant potential to more accurately analyze both business and employee outcomes while incentivizing businesses to improve employee well-being.

Like financial accounting, the impact-weighted accounting methodology provides a framework for standardizing previously disparate measures of impact (Serafeim, Zochowski and Downing 2019). The development and adoption of GAAP created a common language for financial analysis and disclosure, and allowed managers, investors, regulators, and the public to make decisions based on consistent and transparent information. Today, those same stakeholders need now make decisions based on a growing set of material environmental, social, and governance (ESG) related information (Freiberg, Rogers, and Serafeim 2019). There is clear appetite for data, but the information reaching concerned stakeholders often adds complexity rather than clarity.

Impact-weighted accounts that capture employment impact are a critical tool to answer this call for credible, standardized insight into firm practices and performance. Our methodology and analysis of Intel, Apple, Costco, and Merck demonstrates the feasibility of measuring firm employment impact. Moreover, our analysis was produced using publicly available data, allowing for comparability and scalability. As such, we can produce employment impact-weighted accounts for a range of companies using this methodology.

As with financial statements, we expect that companies will include their own commentary (or Notes) to present additional detail regarding their measures. These Notes will provide valuable explanations to dimensions that may differ between IWAI’s analysis and a company’s internal analysis. For example, Intel conducts an analysis of their diversity and inclusion practices by measuring organizational demographics compared to the national “skilled labor” population.⁵ Intel, therefore, reports full representation based on their use of a significantly different denominator, and provides an example of a divergence from the IWAI *diversity* impact methodology which measures organizational representation compared to local demographics. While Intel’s analysis demonstrates progress towards diversity, the methodology inherently highlights existing inequalities that exist in access to education and opportunity that are required to be included in the skilled labor pool. We expect additional examples of divergence

⁵ Intel does not specify how the “skilled labor” population is defined. Intel’s Diversity Newsroom report: <https://newsroom.intel.com/news/intel-achieves-goal-full-us-workforce-representation-notes-just-beginning/?wapkw=full%20representation#gs.8zr12z>

between the IWAI methodology and company-specific reporting practices will be illuminated as we move towards the proliferation of impact-weighted accounting. These Notes will provide valuable discussion to encourage greater standardization, comparability, and rigor in measuring employee outcomes. It is also important to note that valuation is one of many tools used to evaluate impact, and may be corroborated with other sources; this is similar to the process of due diligence in financial markets in which an educated buyer will use multiple sources to supplement a firm's financial statements.

Future research will expand application of the impact-weighted accounting methodology across additional sectors, as well as non-US geographies. In partnership with companies and investors, this analysis will further prove feasibility, and allow for valuable comparisons between firms and industries. A deeper dataset will allow us to explore potential relationships between the employment impact dimensions presented in this paper. For example, we will examine relationships between dimensions such as family friendly workplace benefits (*health and wellbeing*) and female representation (*opportunity and diversity*), and preventative health and wellbeing (*lifestyle and chronic disease management*) programming and a firm's injury and illness rate (*safety*). We will also prioritize inclusion of part-time, contract, and outsourced employees in future analyses, recognizing that workers without full time employment are at greater risk for negative impacts. Finally, we will draw from publicly available data to produce insights on how firms are creating value through employment, using the framework and methodology presented in this paper. Over time, the use of impact-weighted accounting for environmental, product, and employment impact will demonstrate the feasibility and necessity of standard Generally Accepted Impact Principles. Much like Generally Accepted Accounting Principles (GAAP), they will evolve, while providing a stable foundation for transparency and communication for a broad range of stakeholders.

Overall, the main contributions of our work is threefold: provide a framework for employment impact, design methodologies for calculating each dimension of employment impact and showcase their feasibility by applying those methodologies to four significant corporations. We note that we do not view our methodologies and analyses as final. Rather we view them through an evolutionary perspective: these methodologies and analyses will keep evolving much like accounting measurements have been evolving over centuries.

Selected Tables and Exhibits

Exhibit 1: Descriptions of Employment Impact

Stakeholder	Impact Dimension	Description
<i>Employee</i>	Wage Quality	<i>Quality of wages provided, including living wage, marginal utility, and equity</i>
	Career Advancement	<i>Internal mobility resulting in increased earnings</i>
	Opportunity	<i>Employee demographics across job categories</i>
	Health and Wellbeing	<i>Impact of organization on employee health and wellbeing (including injuries and incidents, workplace culture, workplace wellbeing programs, and access to healthcare, paid sick leave, and family friendly workplace benefits). An analysis of employee subjective wellbeing is recommended in parallel.</i>
<i>Labor Community</i>	Diversity	<i>Employee demographics as compared to local population</i>
	Location	<i>Relative impact of employment based on local employment levels</i>

Table 1: Intel Employment Impact 2018

Dimension	Impact	% Revenue	% EBITDA	% Salaries
Employee Impact				
Wage Quality	\$ 6,377,358,856	44.59%	97.05%	87.20%
Career Advancement	\$ (48,980,821)	-0.34%	-0.75%	-0.67%
Opportunity	\$ (415,218,670)	-2.90%	-6.32%	-5.68%
Health and Wellbeing	\$ (263,223,199)	-1.84%	-4.01%	-3.60%
Subtotal	\$ 5,669,771,850	39.64%	86.28%	77.53%
Labor Community Impact				
Diversity	\$ (2,319,192,138)	-16.21%	-35.29%	-31.71%
Location	\$ 401,391,204	2.81%	6.11%	5.49%
Subtotal	\$ (1,917,800,935)	-13.41%	-29.19%	-26.22%
Total Impact	\$ 3,751,970,915	26.23%	57.10%	51.30%

Table 2: Employment Impact-Weighted Accounts: Intel, Merck, Apple, Costco 2018⁶

	INTEL	MERCK	APPLE	COSTCO
Number of Employees	52,618	23,426	89,072	162,861
Revenue	\$ 14,303,000,000	\$ 18,212,000,000	\$ 98,061,000,000	\$ 102,286,000,000
EBITDA	\$ 6,571,097,189	\$ 5,885,506,597	\$ 32,138,473,262	\$ 3,865,000,000
Total Salaries Paid	\$ 7,313,439,500	\$ 2,412,642,901	\$ 10,659,008,099	\$ 11,570,732,081
Employee Impact				
Wage Quality (ex wage equity)	\$ 6,842,847,180	\$ 2,371,674,146	\$ 10,556,059,837	\$ 11,139,537,386
Career Advancement	\$ (48,980,821)	\$ (27,045,746)	\$ 103,542,779	\$ 11,261,483
Opportunity	\$ (415,218,670)	\$ (134,145,314)	\$ (416,006,634)	\$ (599,777,780)
Health +Wellbeing (partial FFW practices)	\$ (21,308,522)	\$ (25,992,473)	\$ 20,738,712	\$ (57,653,431)
Subtotal	\$ 6,357,339,167	\$ 2,184,490,613	\$ 10,264,334,694	\$ 10,493,367,658
Labor Community Impact				
Diversity	\$ (2,319,192,138)	\$ (351,452,127)	\$ (2,709,616,423)	\$ (940,026,964)
Location	\$ 401,391,204	\$ 105,763,520	\$ 348,062,104	\$ 390,159,336
Subtotal	\$ (1,917,800,935)	\$ (245,688,607)	\$ (2,361,554,319)	\$ (549,867,629)
Total Impact	\$ 4,439,538,232	\$ 1,938,802,006	\$ 7,902,780,375	\$ 9,943,500,029

⁶ Notes:

1. Figures for Intel in Table 2 differ from those presented earlier in the paper, due to sub-dimensions that were omitted for the sake of comparability across companies (e.g. data on Wage Equity was unavailable for Apple, Costco, and Merck and therefore not included in the analysis above).
2. To calculate US EBITDA for Apple and Merck, we assume the same % of total EBITDA as US revenue/Total revenue.
3. Wage Quality does not include the Equity sub-dimension.
4. Apple and Costco disclosed limited data regarding turnover rates and new hires. Additional detail on methodology used for these calculations is available upon request.
5. Health and Wellbeing includes one out of six sub-dimensions (Family Friendly Workplace practices), and does not include childcare or backup care.
6. Location analysis is based on data for 87% of Apple employees, 87% of Merck employees and 96% of Intel employees. Locations for Costco employees are calculated based on company office and store data.
7. Due to poor data availability, location analyses for Apple and Costco were conducted at the State (rather than County) level. This may impact the values for Location, Wage Quality (living wage), and Health and Wellbeing impact.
8. Salary data for Merck, Apple, and Costco is from publicly available crowdsourced data. The approximate percentage of employees represented in the salary data is 34% for Merck, 70% for Apple, and 8.5% for Costco.

Table 3: Wage and Non-Wage Impacts of Employment: Intel, Merck, Apple, Costco

	INTEL	MERCK	APPLE	COSTCO
Total Employees	52,618	23,426	89,072	162,861
Total Employee Impact	\$6,357,339,167	\$2,184,490,613	\$10,264,334,694	\$10,493,367,658
Impact per Employee	\$120,821	\$93,251	\$115,236	\$64,431
Wage Quality Impact	\$6,842,847,180	\$2,371,674,146	\$10,556,059,837	\$11,139,537,386
Non-Wage Impact	-\$485,508,013	-\$187,183,533	-\$291,725,143	-\$646,169,728
Non-Wage Impact per Employee	-\$9,227	-\$7,990	-\$3,275	-\$3,968
Non-Wage as % of Employee Impact	-7.6%	-8.6%	-2.8%	-6.2%

References

- Bakotić, D., 2016. Relationship between job satisfaction and organisational performance. *Economic research-Ekonomska istraživanja*, 29(1), pp.118-130
- Freiberg, D., Rogers, J. and Serafeim, G., 2019. Pathways to materiality: How sustainability issues become financially material to corporations and their investors. *Harvard Business School Accounting & Management Unit Working Paper*, (20-056).
- Gubler, T., Larkin, I. and Pierce, L., 2018. Doing well by making well: The impact of corporate wellness programs on employee productivity. *Management Science*, 64(11), pp.4967-4987.
- Halkos, G. and Bousinakis, D., 2010. The effect of stress and satisfaction on productivity. *International Journal of Productivity and Performance Management*.
- Serafeim, G., Zochowski, R., and Downing, J., 2019. Impact Weighted Financial Accounts: The Missing Piece for an Impact Economy. Harvard Business School, Impact Weighted Accounts Project.
- Rouen, E., 2020. Rethinking Measurement of Pay Disparity and Its Relation to Firm Performance. *Accounting Review* 95, no. 1 (January 2020): 343–378.
- Singh, P. and Loncar, N., 2010. Pay satisfaction, job satisfaction and turnover intent. *Relations industrielles/industrial relations*, 65(3), pp.470-490.