EBITDA Part 1 - What EBITDA Is and How to Calculate It

EBITDA stands for earnings before interest, taxes, depreciation and amortization. It is a way of measuring how much profit a business makes from its everyday operations, before financing choices, tax bills and accounting charges for wear and age are taken out. Banks, buyers and analysts use it all the time, so anyone who reads financial reports should be able to calculate it and question it. This first part follows three steps: define it, calculate it, and work through a full example. Part Two shows how to use it, and when it is not enough.

1. Define it

Start with the four items that are removed. Interest is the cost of borrowing. Taxes are paid to the government. Depreciation spreads the cost of a physical asset, such as a machine, over its useful life. Amortization does the same for an intangible asset, such as a software licence or a patent. Interest and taxes depend on how a company is funded and where it operates. Depreciation and amortization are accounting charges, not payments made this year. Removing all four shows how well the core business performs. EBITDA is not a measure defined by GAAP or IFRS, so each company must explain how it calculates it.

Example: Two neighbours each bake cakes at home and sell the same amount. The first baker bought a big oven with a bank loan, so interest is paid every month, and the oven's price is spread over several years. The second baker uses an old oven and owes nothing. Remove the loan interest, the tax and the oven charge, and both kitchens earn exactly the same from baking. That is exactly what EBITDA means: operating profit before funding, tax and accounting charges.

At work: This week the bank asks Nadine for the EBITDA of Cedar Print Works before it reviews the company's loan. She does not simply send one number. First she writes the definition: profit from printing, before loan interest, tax, and the yearly charges for the presses and software licences. She also states how she calculated it, because no accounting standard fixes the method. That is exactly why we define EBITDA first: it is operating profit before funding, tax and accounting charges.

2. Calculate it

There are two routes, and they give the same answer. From net income, add back interest, then taxes, then depreciation, then amortization. From operating income, which is also called EBIT, add back only depreciation and amortization, because operating income already sits above interest and tax. The second route is shorter. The first route is a useful check. Always use the figures from the income statement and make sure depreciation and amortization are taken from the same period. One common mistake is to miss depreciation that is hidden inside cost of goods sold or operating expenses, so check the notes to the accounts for the full amount.

Example: A family wants to know how far the mountain hut is from the village. Route one starts in the village and adds four stretches: road, bridge, forest and ridge. Route two starts at the car park, beyond the road and the bridge, so it adds only the last two. Both routes reach the same hut, or else a stretch was missed or counted twice. That is exactly what the two EBITDA routes mean: start further along, add back fewer items, reach the same answer.

At work: Nadine calculates EBITDA twice for the bank. Route one starts at net income and adds back four items. Route two starts at operating income and adds back two. She takes every figure from the

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same year's income statement, and she checks the notes to the accounts for depreciation hidden inside cost of goods sold. When both routes agree, no line was missed or counted twice. That is exactly why EBITDA has two routes: the shorter one calculates, and the longer one checks.

3. Work through an example

Here is the income statement of Cedar Print Works for one year. Revenue is two million five hundred thousand dollars. Cost of goods sold is one million five hundred thousand, so gross profit is one million. Operating expenses, such as wages, rent and electricity, are five hundred thousand. Depreciation on the printing presses is one hundred and fifty thousand, and amortization of the software licences is fifty thousand. That leaves operating income of three hundred thousand dollars. Interest on the bank loan is sixty thousand, so profit before tax is two hundred and forty thousand. Tax at twenty-five percent is sixty thousand, so net income is one hundred and eighty thousand dollars. Now the first route: net income of one hundred and eighty thousand, plus interest of sixty thousand, plus tax of sixty thousand, plus depreciation of one hundred and fifty thousand, plus amortization of fifty thousand, gives five hundred thousand dollars. The second route: operating income of three hundred thousand, plus depreciation of one hundred and fifty thousand, plus amortization of fifty thousand, also gives five hundred thousand dollars. The EBITDA margin is EBITDA divided by revenue. Five hundred thousand divided by two million five hundred thousand is twenty percent.

Example: On a summer weekend, a family lemonade stall takes one hundred dollars in total. After paying for lemons, sugar, cups and the rent of the table, twenty dollars is left. Twenty dollars divided by one hundred dollars is twenty percent, so every dollar of sales leaves twenty cents. That is exactly what an EBITDA margin means: the share of every dollar of sales that remains as operating profit, before interest, tax and accounting charges.

At work: Nadine sends the bank her results for Cedar Print Works: EBITDA of five hundred thousand dollars from both routes, and a margin of twenty percent. Because the routes agree, the bank trusts the number. As a last check, she subtracts depreciation of one hundred and fifty thousand and amortization of fifty thousand, and returns to operating income of three hundred thousand dollars. That is exactly what the worked example shows: two routes, one EBITDA, and a margin that traces back to the income statement.

Conclusion

In summary, EBITDA is earnings before interest, taxes, depreciation and amortization. We calculate it from net income by adding back all four items, or from operating income by adding back depreciation and amortization. In our example both routes gave five hundred thousand dollars and a margin of twenty percent. So Nadine can now send the bank a number that is clearly defined, calculated and checked twice. In Part Two, we see how to use it for comparison, valuation and lending, and when it is not enough.

Sources

- Corporate Finance Institute: EBITDA (definition, both formulas, uses, EV/EBITDA, limitations) – https://corporatefinanceinstitute.com/resources/valuation/what-is-ebitda/
- Wall Street Prep: EBITDA (non-GAAP definition, EBITDA margin, uses, limits on capital expenditure and working capital) – https://www.wallstreetprep.com/knowledge/ebitda/
- Cedar Print Works is an invented example company and all its figures are illustrations, not real data.

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