

Module 05 : Planning finances

cewas



Week 02:
Project cash flow



Resource Recovery and Reuse
(RRR) Entrepreneurship

Week 2 module 5: Project cash flow

“Welcome to module 5 week 2: project cash flow.

This week we are going to look at your cash flow statement. The cash flow statement forecasts how much cash is coming in and going out of your bank account during a particular time period – so during a month or year. It shows you how well you generate cash to cover your operating costs like salaries and raw material, any debt repayments, or investments into machinery and the like. I am going to show you how to forecast your cash flows for the next 12 months.

Knowing your cash in and out flow is crucial to avoid bankruptcy. If more cash is coming in during a month than going out, you’re all covered. If however more cash is going out than coming in, you will go bankrupt sooner rather than later.

You might say – hang on – we’ve already looked at revenues coming in and costs going out last week. That is true. But revenues and costs are not the same thing as cash. The profit & loss statement and the cash flow statement serve two very different purposes:

The profit & loss statement forecasts if your business will be profitable over time – that is if the investments you make, pay off after some years – either by generating a profit or by allowing you to break-even.

The cash flow statement forecasts your liquidity – so how much cash you have available every month to pay your current bills.

Here are the distinct differences between the two statements:

- In the profit & loss statements you record the revenues in the month you make the sale (even if you haven’t been paid yet – this can happen when customers pay per bill and you give them 30 days to pay the bill). In the cash flow statement you record the revenues in the month you receive the actual cash in your bank account.
- The same goes for costs: in the profit & loss statement you record the costs in the month when you incur them (even if you haven’t paid any cash). In the cash flow statement you record the costs in the month you pay the actual cash.
- A third difference relates to investment costs – the ones you calculated at the beginning of last week. In the profit & loss statement you neither record investment costs (you record depreciation instead) nor once-off payments that you receive from donors, impact investors, banks or other financing partners. In the cash flow statement you do record them.

Let's have a look at the calculation of the cash flow statement now to make things clearer. Head to the worksheet of week 1 and open the tab "Cash flow statement" to do your calculations. Again, there is a pdf and an excel version – for you to decide which one you want to use.

I will go through the example of the composting plant again to explain the calculation.

First, you need to estimate the **monthly cash and credit sales** for the first year. Last week we calculated that the composting plant sells 2400 tons of compost in the first year of operation. For simplicity reasons, let's assume that they sell the same amount every month, so 200 tons. Let's also assume that they sell 80% of their sales for cash and 20% on credit. As you calculate the monthly share of cash and credit sales, you will get this table.

Then head down to the line that indicates the **cash at the beginning of the month**. Since the business is just opening on January 1st, the balance is 0. Under **cash in** list all of the cash that is coming in during the first month. The cash coming in from sales is 8'800 for the composting plant. Since credit sales are payable in 30 days, the cash will only come in during the following month, that is why in January credit sales are 0. Finally cash transfers are investments, bank loans or any other cash being paid to your business' account by financing partners (or from your private bank account).

Let's skip them for now though and go directly to **cash out**. For reasons of simplicity, let's assume that all of the operating costs listed here are incurred and paid in the same month and that the annual costs estimated last week are equally distributed over the 12 months. So simply take the annual cost – so 28'800 for the salaries of the composting plant's fixed workforce and divide by 12 to get a cash outflow of 2'400 in January. Do the same for all of the operating costs (fixed and variable).

Then have a look at amortization of the bank loan. As calculated in the tab "Investment cost", the composting plant has to pay an annual amortization of 7'000 to the bank and an interest of 8% on the remaining loan. As calculated in the amortization schedule, the interest in the first year is 5'600. However the amortization and interest are only due at the end of the year, so they are recorded only in December.

Now come the investments. The total investments required to start the business are 436'000. However, since operating capacity is only 20% in the first year, management has decided to only purchase one waste collection truck, one excavator and one delivery truck for now. The total investment needed in year 1 is thus only 396'000.

Total cash outflows for the composting plant in the first month is 401'075. Now, let's go back to the cash transfers to see how these large investments into infrastructure and machinery can be covered. The composting plant has found 3 financing partners. Head back to the tab "Investment cost" to have a look at them. Under **Start-up financing** you will see that the composting plant has secured a grant of 300'000 from the Central Environmental Authority, another grant of 66'000 from the Provincial Council as well as a bank loan of 70'000 that is to be paid back within 10 years at an annual interest

rate of 8%. These three financing sources match the total investment required. Unfortunately, due to bureaucratic processes at the province level, the cash transfer from the Provincial Council is delayed by a few months and is only expected in August. As a consequence the cash transfers for January only amount to 370'000, which means that the composting plant would be **short in cash by 22'275 at the end of the first month of operation**. This lack in cash remains a problem up until May when total cash flow becomes positive.

This is problematic because no bank would let you go over your limit this much, and if so, the interest would be exorbitantly high. So the composting plant has to find another source of financing to fill this financing gap of 53'550.

We will give you an overview of financing options in the next module. But before that, go to week 3 to learn more about financial analysis.”

List of Reference:

Graph sources:

- Unless otherwise noted, all graphics and case studies from OTOO, M. (Editor), DRECHSEL, P. (Editor) (2018): *Resource Recovery from Waste. Business Models for Energy, Nutrient and Water Reuse in Low- and Middle-Income Countries*. International Water Management Institute (IWMI). Routledge
- Cash Flow Statement: Business Insights Group AG <https://www.101businessinsights.com/staying-cash-positive/>

Image sources:

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