USAID/WASHPaLS

Sanitation Enterprise Recruitment Toolkit

Returns on Capital Employed Analysis Guide

USAID
FROM THE AMERICAN PEOPLE

Table of Contents

Objective of this document

Intended outcomes

This document is intended to help MBS programs:

- Understand the concept of Return on Capital Employed (ROCE)
- Learn the steps to compute an entrepreneur's projected ROCE for the sanitation enterprise
- Compare projected ROCE of the sanitation enterprise with that of the entrepreneur's existing business or with relevant benchmarks (for a standalone enterprise)

Value for MBS programs

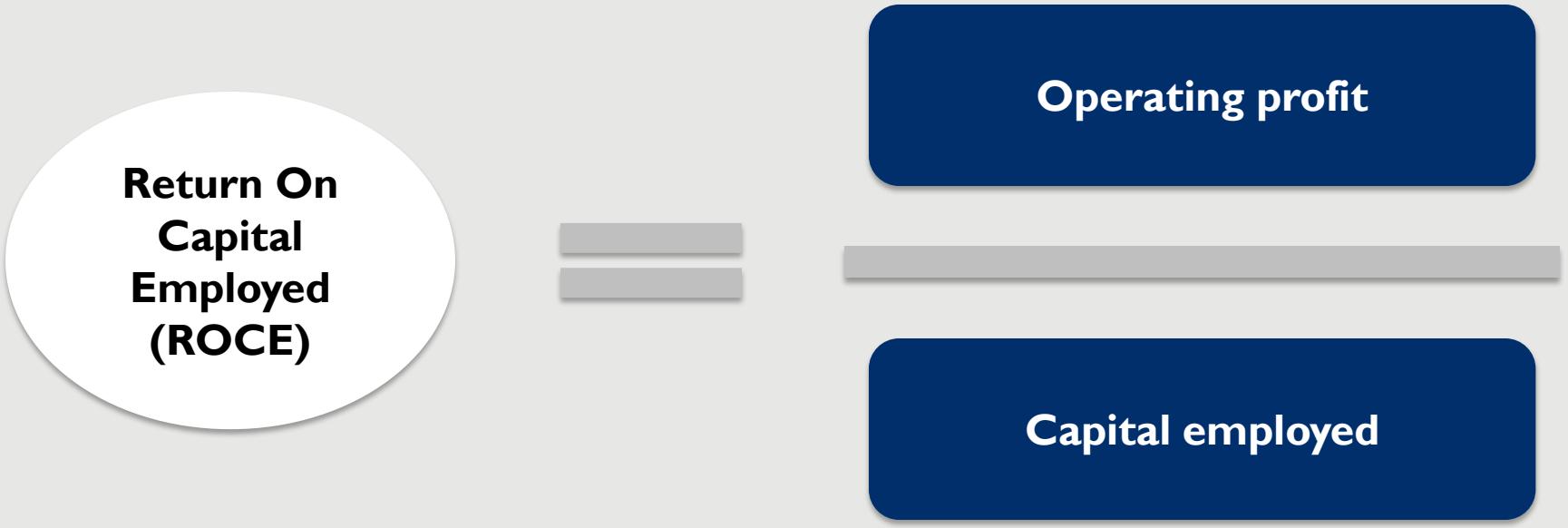
- **Indicates an entrepreneur's opportunity cost** of starting the sanitation enterprise compared to the entrepreneur's existing business or other appropriate benchmark(s)
- **Provides a measure of the relative attractiveness of the sanitation enterprise** compared to the entrepreneur's existing business or other appropriate benchmark(s)

Additional reference material

This document is meant to be used along side the Microsoft Excel document *Returns on Capital Employed Analysis Template*, which is also part of this toolkit.

Return On Capital Employed (ROCE) – Formula

ROCE is one among a class of financial metrics called long-term profitability ratios that are used to assess a business's ability to generate profits relative to alternate opportunities (such as other business lines). ROCE shows the unit(s) of profits generated by each unit of capital employed (such as cash or equipment) in the business.



Operating profit

Operating profit represents the profit a business will earn after accounting for all costs directly related to manufacturing as well as overheads or indirect costs that will be incurred in the day-to-day operation of the business.

In this document, we exclude depreciation (a non-cash expense), since entrepreneurs will typically focus on cash income when considering opportunity costs of a business. We also exclude taxes assuming enterprises are informal and excluded from formal taxes.

P&L LINE ITEM FOR SANITATION ENTERPRISE	DESCRIPTION
REVENUE	Revenue generated by selling toilets or related services
(-) COST OF GOODS SOLD	Costs directly linked to the manufacture of toilets and only incurred when a toilet is sold
Raw materials	
Direct labor	
Transport of raw materials	
(=) GROSS PROFIT	
(-) OPERATIONAL EXPENSES	Costs towards overheads that are linked to the day-to-day operations of the enterprise
Transport for delivery	
Land rent	
Utilities	
Marketing (commissions)	
Marketing (non-commission)	
Repairs	
(=) OPERATING PROFIT	
(-) Interest Expense	Costs towards payment of loans taken by the enterprise
(=) CASH NET PROFIT	

Capital employed

Capital employed is total capital that is used in a business for generating profits. It is equal to the sum of the fixed assets that are employed in the business and the inventory that is maintained for running the business.

Capital Employed = **Fixed Assets** + **Inventory**

Fixed assets are purchased for long-term use, and are considered difficult to liquidate into cash quickly, such as land, buildings, and equipment.

Molds to make cement rings and pit covers

Transportation vehicles to deliver toilets to customers

Inventory is the value of the finished products or raw materials held by a business before they are converted to sales.

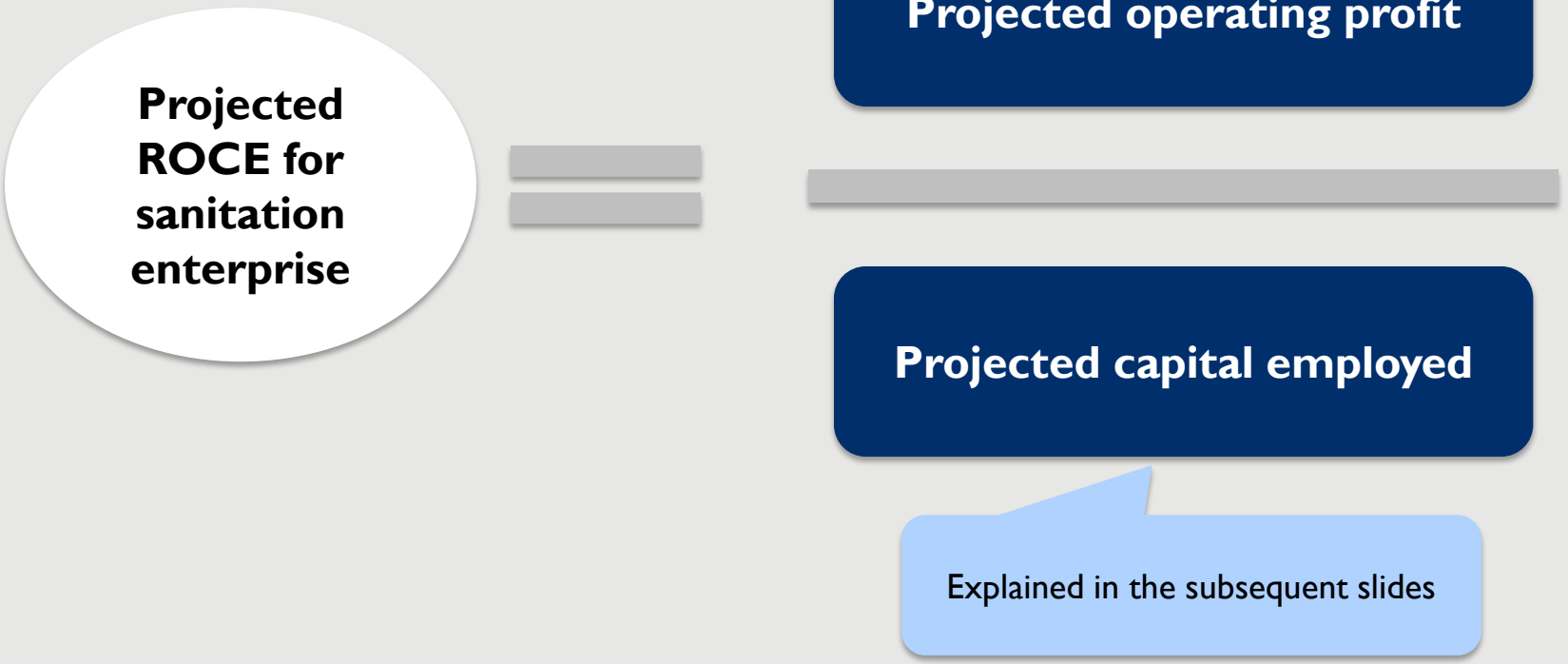
Tip Sanitation enterprises typically have negligible credit sales and trade credit, which have been excluded from the calculation of capital employed. Further, a related business is unlikely to need significant investment in inventory if it has a ready stock of raw materials (e.g., cement) used to construct toilets.

Table of Contents

Calculating projected ROCE for the sanitation enterprise

To calculate projected ROCE for the sanitation enterprise, we divide the projected operating profit of the sanitation enterprise by the projected capital that will be employed for the sanitation enterprise.

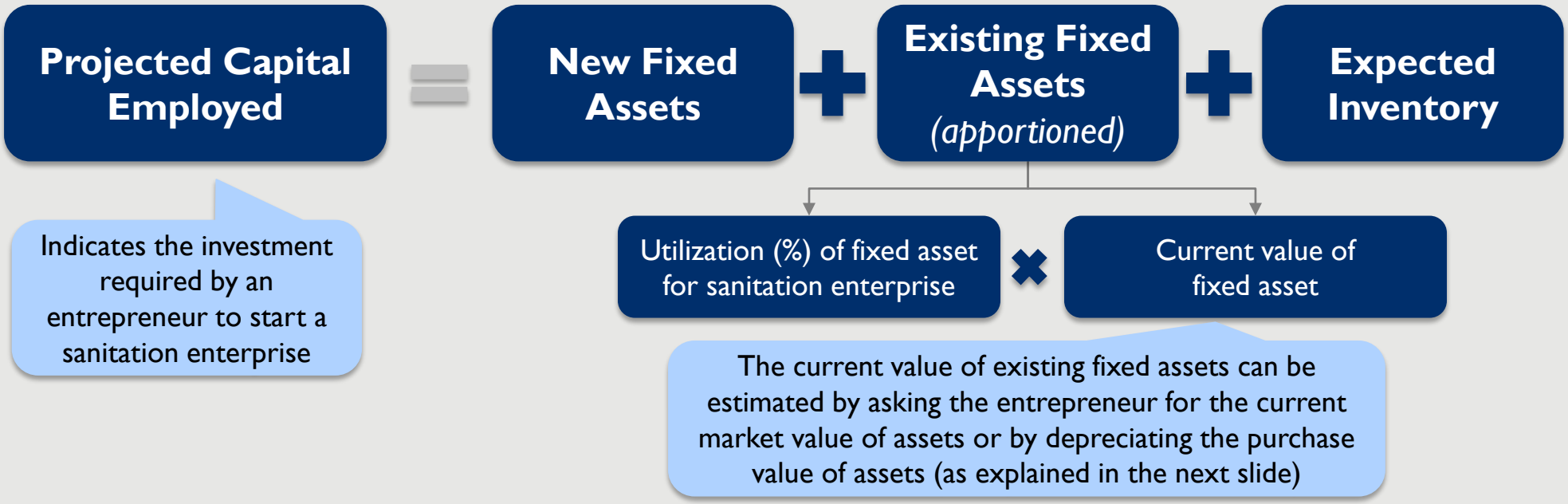
The projected operating profit of the sanitation enterprise can be calculated **as per the guidelines in the *Projected Profit & Loss Statement Preparation*** document of this toolkit.



Calculating projected capital employed

The projected capital employed will include the following:

- **Value of any new fixed assets that will need to be purchased for the sanitation enterprise**
- **The current value of the entrepreneur's existing fixed assets (used in the other business), that is apportioned for use by the sanitation enterprise**
- **The value of the expected average inventory that the entrepreneur will need to maintain for running the sanitation enterprise**



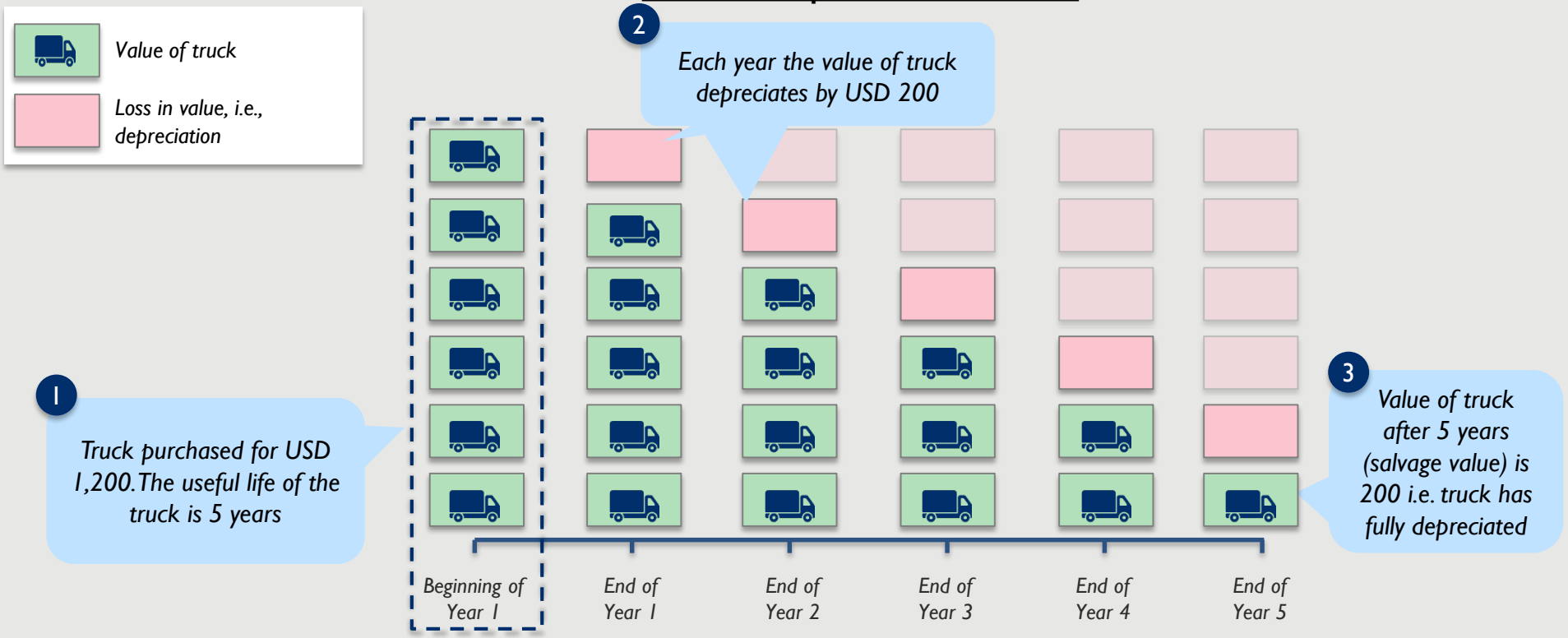
Tip

Precise estimates of the current value of existing fixed assets are not required for the purpose of this document. Since the current value of existing fixed assets will be applied to ROCE calculations for both the sanitation enterprise and the existing business, the relative difference between the ROCEs will not change significantly if the current value of existing fixed assets changes.

Depreciating existing fixed assets

The current value of existing fixed assets is estimated by depreciating their purchase value. Depreciation is the annual decline in an asset's value. Assets have a limited useful life, i.e., the number of years they are expected to contribute to the business. Thereafter, assets have salvage value, i.e., the price at which they are bought by a scrap/ junk dealer.

Illustrative depreciation on an asset



Tip In the above example, the current value of the truck will be USD 1,000 at the end of year 1, USD 800 at the end of year 2 and so on. The current value of any asset (except land) can be estimated using a similar approach. Land is typically estimated at its purchase value or market value.

Calculating projected ROCE using the template

Screenshot of "ROCE Analysis" template

ROCE Calculations	
Projected ROCE of sanitation enterprise	45%
ROCE of existing business line	54%
Operating profits	
Projected operating profit from sanitation enterprise	2,000.0
Operating profit from existing business line	3,000.0
Fixed assets	
New fixed assets required for sanitation enterprise	
Name of new fixed asset 1	Molds
Value of new fixed asset 1	1,000.0
Name of new fixed asset 2	
Value of new fixed asset 2	
Name of new fixed asset 3	
Value of new fixed asset 3	
Existing fixed assets for existing business line	
Name of existing fixed asset 1	Truck
Current value of existing fixed asset 1	500.0
Will be used for sanitation enterprise?	Yes
Utilization (%) for sanitation enterprise	30%
Apportioned value for existing business line	350.0
Apportioned value for sanitation enterprise	150.0
Name of existing fixed asset 2	Land
Current value of existing fixed asset 2	8,000.0
Will be used for sanitation enterprise?	Yes
Utilization (%) for sanitation enterprise	40%
Apportioned value for existing business line	4,800.0
Apportioned value for sanitation enterprise	3200.0
Name of existing fixed asset 3	Drill
Current value of existing fixed asset 3	100.0
Will be used for sanitation enterprise?	No
Utilization (%) for sanitation enterprise	
Apportioned value for existing business line	100.0
Apportioned value for sanitation enterprise	0.0
Inventory	
Typical average inventory for existing business line	300.0
Expected average inventory for sanitation enterprise	100.0

4 ROCE calculated based on information entered below

1 Enter details of new fixed assets that are required for the sanitation enterprise

2 Enter details of existing fixed assets used for existing business line

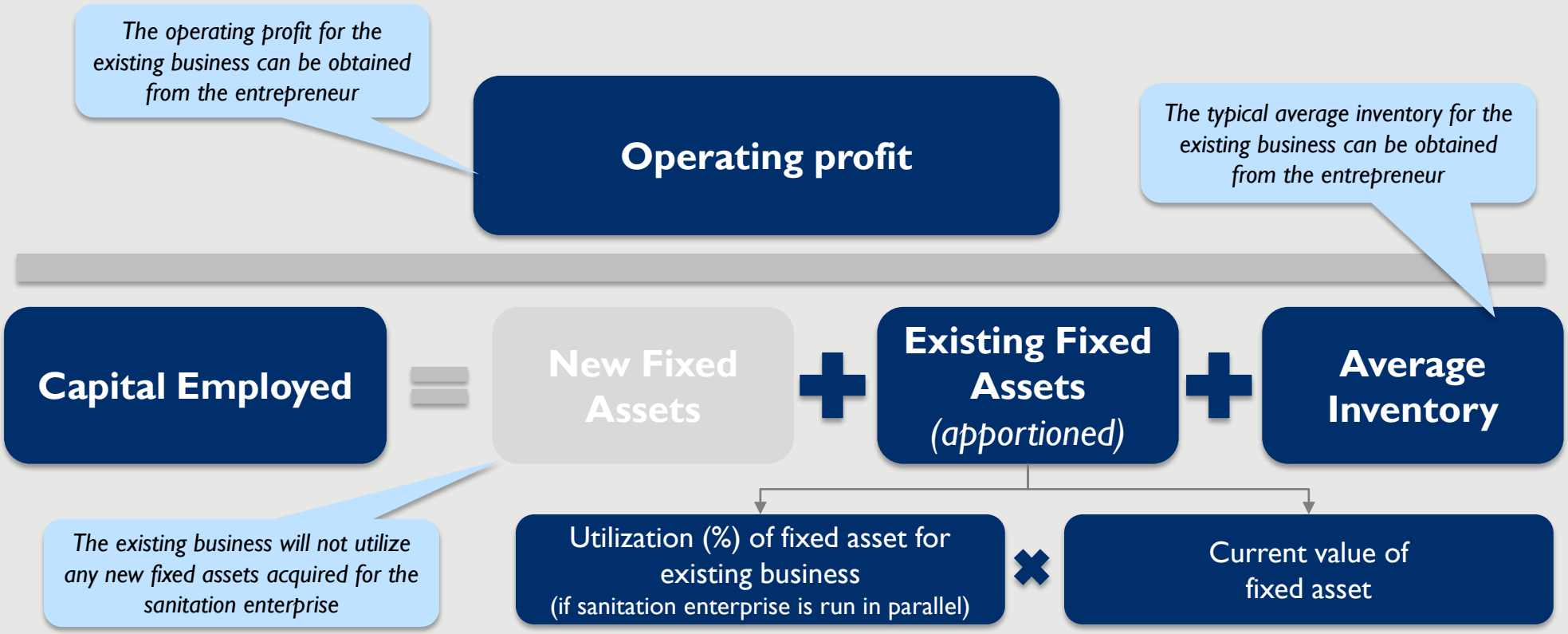
Rows greyed out when asset will not be shared with sanitation enterprise

3 Enter details of inventory for sanitation enterprise and existing business line

Table of Contents

Calculating ROCE of existing business

The ROCE of the entrepreneur's existing business can be calculated using a similar approach to calculating the projected ROCE of sanitation enterprises (as per the previous section).



Tip

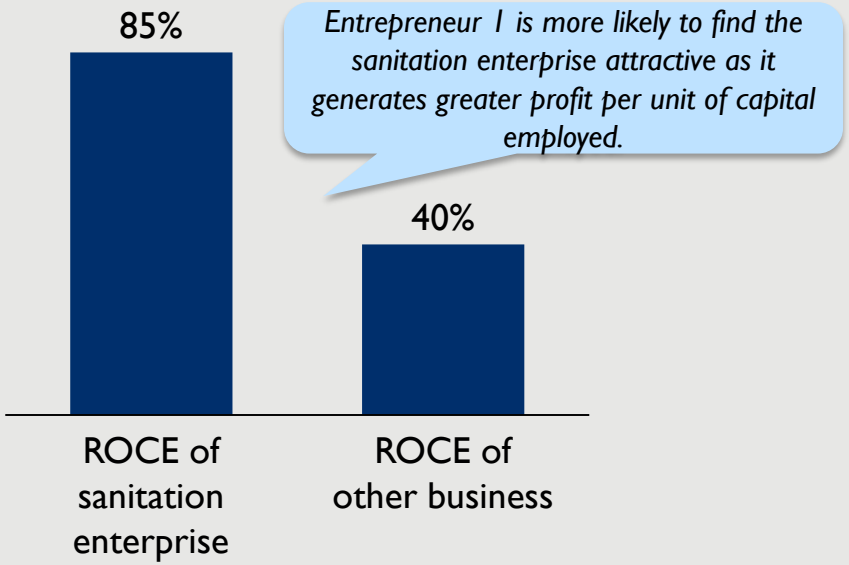
- The accompanying template allows users to calculate the ROCE for the existing business, as per the example on slide 10
- The utilization (%) of existing fixed assets for the existing business can be calculated using the following equation: *1 – expected utilization % of existing fixed assets for the sanitation enterprise*

Table of Contents

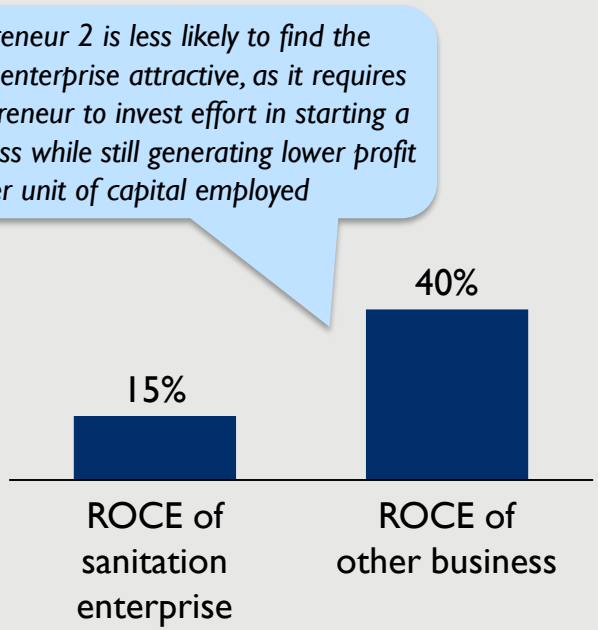
Comparing ROCEs (1/2)

A higher projected ROCE in sanitation compared to the ROCE of the other business indicates that the entrepreneur can generate a higher operating profit per unit capital in the sanitation enterprise. This improves the attractiveness of the sanitation enterprise.

Sample entrepreneur 1



Sample entrepreneur 2



Tip

While entrepreneurs typically do not calculate ROCE, they often qualitatively compare business lines in terms of the profit generated per unit capital and effort invested. ROCE is used here to quantify this intuition. ROCE calculations often involve subjective estimates/ assumptions and, therefore, analysts should generate a range of values by altering estimates/ assumptions to inform decisions.

Comparing ROCEs (2/2)

A higher projected ROCE in sanitation can be driven by either a significantly higher projected operating profit, or a significantly lower capital employed, relative to the existing business. Either of the two scenarios are likely to make the sanitation enterprise attractive from the entrepreneur's perspective.

Higher projected ROCE in sanitation can be driven by...

Projected operating profit of sanitation **>** **Operating profit of existing business**

OR

Project capital employed for sanitation **<** **Capital employed for existing business**

Indicating that…

*Sanitation enterprise can become the **primary source of income** for the entrepreneur*

OR

Sanitation enterprise will have:

- ***Low investment** in new fixed assets; and/or*
- ***Low utilization** of existing fixed assets; and/or*
- ***Low investment** to maintain inventory*

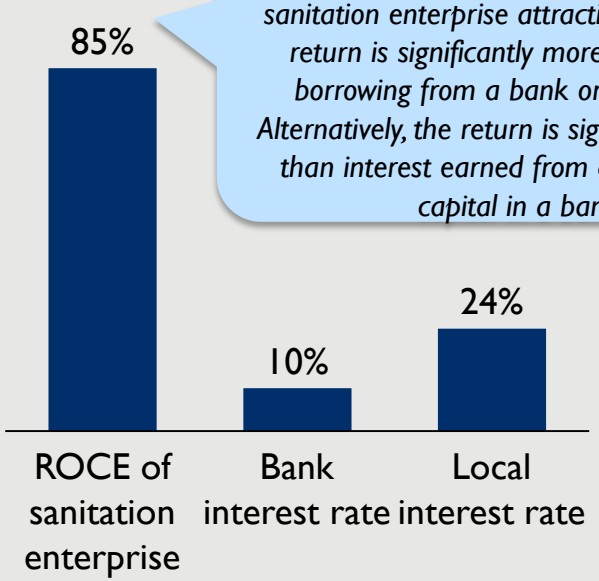
Tip The ROCE analysis should be complemented with other decision-making factors (such as the relative frequency of sales of the two businesses) when comparing the sanitation enterprise with the entrepreneur's existing business.

Modification: Comparing ROCE of a standalone sanitation enterprise

In absence of an existing business, the ROCE of a new, standalone sanitation enterprise can be compared to other benchmark(s). ROCE is often compared to the cost of borrowing and ideally should be significantly higher to compensate for the risk and effort of managing an enterprise. Potential entrepreneurs may also consider other locally available opportunities as appropriate for comparison.

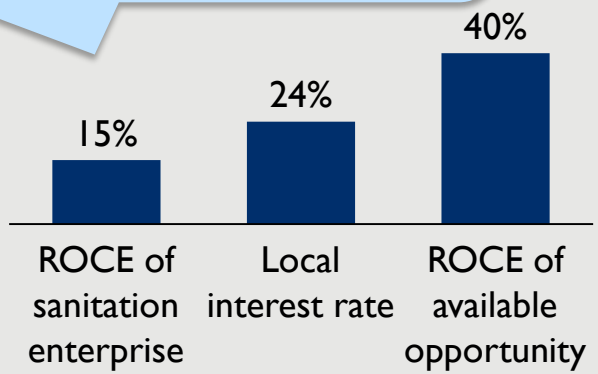
Sample entrepreneur 1

Entrepreneur 1 is more likely to find the sanitation enterprise attractive because the return is significantly more than cost of borrowing from a bank or local lender. Alternatively, the return is significantly higher than interest earned from depositing the capital in a bank.



Sample entrepreneur 2

Entrepreneur 2 is less likely to find the sanitation enterprise attractive because the return is lower than the cost of borrowing, if it uses debt, thereby losing money. It is also unattractive compared to an alternative opportunity that the entrepreneur considers as a benchmark



Tip

Potential entrepreneurs are likely to consider other factors such as the return in absolute terms (i.e., $ amount), desire for employment, level of effort, seasonality of the sanitation business, among others, to evaluate its relative attractiveness. Implementers should inquire and discuss these qualitative factors with entrepreneurs.