

# Finance Masterclass by Colin Crooks MBE

## A Practical Calculation Guide

### 1. Key Investment Calculations (How to Do Them)

#### Customer Lifetime Value (LTV)

What it tells you: Total gross profit from one customer over time.

Formula:

$LTV = \text{Margin per sale} \times \text{Number of repeat purchases (in 1, 3 or 5 year period)}$

Example:

$\pounds 300 \text{ margin} \times 2 \text{ purchases} = \pounds 600 \text{ LTV per customer}$

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#### Investment Viability

What it tells you: Whether the idea is financially worth doing.

Formula:

$\text{Investment capacity} = \text{Expected total value} - \text{One-off investment cost}$

Where  $\text{Expected total value} = \text{No of customers} \times \text{LTV}$

Example:

$\text{Expected total value} = \pounds 2,400$  &  $\text{One-off investment cost} = \pounds 2,000$

$\pounds 2,400 - \pounds 2,000 = \pounds 400$

Decision rule:

- Positive & comfortable: Proceed
  - Small positive: Test / Pilot
  - Negative: Reject or redesign
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### 2. Why Cash $\neq$ Profit

A business can be profitable and still fail if:

- Customers pay late
- Costs are paid upfront
- Stock or work-in-progress absorbs cash

That's why we use cashflow forecasts, not just profit.

## 3. Simple 13-Week Cashflow Example

Starting cash balance: £80,000

| Week         | Cash In       | Cash Out (Operating) | Capital Spend | Net Movement | Closing Cash |
|--------------|---------------|----------------------|---------------|--------------|--------------|
| Opening Cash | 80000         |                      |               |              |              |
| 1            | 6,500         | 6,000                | -             | 500          | 80,500       |
| 2            | 6,400         | 6,000                | -             | 400          | 80,900       |
| 3            | 6,600         | 6,000                | -             | 600          | 81,500       |
| 4            | 6,500         | 6,000                | -             | 500          | 82,000       |
| 5            | 6,700         | 6,000                | -             | 700          | 82,700       |
| 6            | 6,600         | 6,000                | -             | 600          | 83,300       |
| 7            | 6,800         | 6,000                | -             | 800          | 84,100       |
| 8            | 6,950         | 6,000                | -             | 950          | 85,050       |
| 9            | 6,900         | 6,000                | -             | 900          | 85,950       |
| 10           | 6,800         | 6,000                | 50,000        | -49,200      | 36,750       |
| 11           | 6,800         | 4,500                | -             | 2,300        | 39,050       |
| 12           | 7,000         | 4,500                | -             | 2,500        | 41,550       |
| 13           | 7,200         | 4,500                | -             | 2,700        | 44,250       |
|              | <b>87,750</b> | <b>73,500</b>        | <b>50,000</b> |              |              |

13 week run rate before investment = 13 x 6,000 £78,000  
 13 week run rate after investment = 13 x 4,500 £58,500

Total Cash In = 87,750  
 Total Cash Out = 123,500

Total Cash Movement = Opening balance MINUS Closing Balance -35,750  
 Projected weeks to restore 13 week buffer 58,500 / 2500 23.4

### How to Use This

- Focus on lowest cash point, not final balance
- Check overall cash movement in period

- Test “what if” scenarios (late payments, higher costs)
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## 4. Working Capital & Cash Conversion Calculations

### Debtor Days (Days Outstanding Payments)

**What it tells you:** How long customers take to pay.

**Formula:**

Debtor days = (Trade debtors ÷ Annual total credit sales) × 365

**Example:**

£60,000 debtors ÷ £600,000 sales × 365 = **36.5 days**

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### Creditor Days (Days Payable Outstanding)

**What it tells you:** How long you take to pay suppliers.

**Formula:**

Creditor days = (Trade creditors ÷ Annual credit purchases) × 365

**Example:**

£40,000 creditors ÷ £400,000 purchases × 365 = **36.5 days**

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### Inventory Days (Days Inventory Held)

**What it tells you:** How long stock is held before sale.

**Formula:**

Inventory days = (Average inventory ÷ Cost of Sales) × 365

[Average inventory = Opening Inventory + Closing Inventory / 2]

**Example:**

£50,000 inventory ÷ £500,000 COS × 365 = **36.5 days**

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### Cash Conversion Cycle (CCC)

**What it tells you:** How long cash is tied up in the business.

**Formula:**

CCC = Debtor days + Inventory days – Creditor days

**Example:**

36.5 + 36.5 – 36.5 = **36.5 days**

**Interpretation:**

Lower is better. A negative CCC means customers fund your business.

## 5. Margins & How Discounts Destroy Profit

### Gross Margin

**What it tells you:** Profit after direct costs.

**Formula:**

Gross margin = (Revenue – Cost of Sales) ÷ Revenue

**Example:**

Revenue = £100 Cost of Sales = £60

$(£100 - £60) \div £100 = 40\%$

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### Operating Margin

**What it tells you:** Profit after operating costs.

**Formula:**

Operating margin = Operating profit ÷ Revenue

**Example:**

Revenue = £100 Total operating costs = £85 Operating Profit = £15

$£15 \div £100 = 15\%$

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### How Discounting Destroys Profit (Simple Demo)

Assume:

- Selling price: £100
- Cost: £60
- Gross profit: £40

**10% discount → New price £90**

New gross profit = £90 – £60 = **£30**

**Impact:**

- Price down 10%
- Profit down **25%**

**Key rule:**

Discounts hit profit *far harder* than they hit revenue.

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## 6. Liquidity & Efficiency Ratios

### Quick Ratio (Acid Test)

**What it tells you:** Ability to pay short-term bills *without selling stock*.

**Formula:**

Quick ratio = (Current assets – Inventory) ÷ Current liabilities

**Example:**

(£120,000 – £50,000) ÷ £70,000 = **1.0**

**Rule of thumb:**

≥ 1 is healthy.

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### Inventory Turnover

**What it tells you:** How efficiently stock is used.

**Formula:**

Inventory turnover = Cost of sales ÷ Average inventory

**Example:**

£500,000 ÷ £50,000 = **10 times per year**

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## 7. Profitability Ratios

### Return on Assets (ROA)

**What it tells you:** How well assets generate profit.

**Formula:**

ROA = Net profit ÷ Total assets

**Example:**

£50,000 ÷ £500,000 = **10%**

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### Return on Capital Employed (ROCE)

**What it tells you:** Profit generated from long-term funding.

**Formula:**

ROCE = Operating profit ÷ (Total assets – Current liabilities)

**Example:**

£80,000 ÷ £400,000 = **20%**

