



B.Com Honours

Semester 3

Calicut University

FINANCIAL STRATEGY FOR START-UPS

Course Code: COM3MN201 • Module III Notes

MODULE III: WORKING CAPITAL MANAGEMENT FOR ENTREPRENEURS

Liquidity Management & Short-Term Financial Operations

While long-term capital investment decisions determine the earning capacity and strategic orientation of an entrepreneurial venture, short-term financial management determines whether the enterprise survives from day to day. A high percentage of early-stage start-ups collapse not because their business concept is flawed or demand is absent, but because they suffer from acute **working capital starvation** and liquidity mismanagement. Working capital management involves the dynamic coordination of current assets (cash, inventories, accounts receivable) and current liabilities (accounts payable, short-term bank borrowings) to balance profitability against technical insolvency risk.

1. Working Capital: Meaning, Concepts & Operational Dimensions

In financial economics, working capital is analyzed through two distinct theoretical perspectives:

A. Gross Working Capital (Quantitative Concept)

Represents the total capital invested in **Current Assets** of the business (Cash & Bank Balances + Marketable Securities + Accounts Receivable + Inventories + Prepaid Expenses). Focuses on the total quantum of short-term liquid resources deployed to generate sales.

B. Net Working Capital (Qualitative Concept)

Represents the excess of Current Assets over **Current Liabilities**:

Net Working Capital (NWC) = Total Current Assets – Total Current Liabilities

Indicates the liquidity margin and safety cushion available to short-term creditors. A positive NWC signifies that current assets funded by long-term funds exceed short-term obligations.

PERMANENT VS. TEMPORARY WORKING CAPITAL

Time Dimension

Permanent (Fixed / Core) Working Capital

The irreducible minimum quantum of current assets (core inventory, minimum safety cash balance, standard customer credit) required at all times to maintain continuous, uninterrupted operations throughout the year regardless of seasonal fluctuations. Must be financed through **long-term capital sources** (equity, venture funds, long-term debt).

Temporary (Variable / Seasonal) Working Capital

The fluctuating tranche of working capital required over and above permanent working capital to support seasonal sales surges, festive demand peaks, or temporary marketing pushes. Ideally financed through **short-term sources** (trade credit, bank cash credit, commercial paper) to avoid paying interest when surplus funds unwind.

2. Working Capital Financing Strategies

How a start-up finances its permanent and temporary current assets dictates its financial risk profile and profitability:

Financing Strategy	Financing Mix & Mechanics	Risk vs. Return Trade-Off
1. Hedging (Matching) Strategy	Fixed assets and permanent current assets financed with long-term debt & equity ; temporary seasonal current assets financed with short-term debt .	Moderate Risk, Moderate Return. Matures financial liabilities exactly in tandem with asset liquidation cycles. Zero excess interest cost.
2. Conservative Strategy	All fixed assets, permanent working capital, and even a portion of temporary working capital financed with long-term funds . Short-term debt used only during extraordinary seasonal spikes.	Low Risk, Low Profitability. Eliminates refinancing risk and liquidity panics, but carries idle cash and high interest/cost of capital during lean periods.
3. Aggressive Strategy	All temporary working capital and a significant part of permanent working capital financed with cheap short-term borrowings .	High Risk, High Return. Minimizes interest expense, boosting equity returns; but subjects the start-up to acute refinancing risk and insolvency during credit squeezes.

3. The Operating Cycle (Cash Conversion Cycle) Concept

The **Operating Cycle** is the duration of time required for an entrepreneurial enterprise to convert cash invested in raw materials and operations back into realized cash through sales collections.

[CASH] → Purchase Raw Materials → [RAW MATERIAL STORAGE (R)]



Gross Operating Cycle (GOC) = R + W + F + D

$$\text{Net Operating Cycle (NOC / Cash Conversion Cycle)} = \text{GOC} - \text{C} = (\text{R} + \text{W} + \text{F} + \text{D}) - \text{C}$$

- **Raw Material Storage Period (R)** = (Average Raw Material Inventory ÷ Total Annual Raw Material Consumption) × 365
- **Work-in-Progress Period (W)** = (Average WIP Inventory ÷ Total Annual Cost of Production) × 365
- **Finished Goods Storage Period (F)** = (Average Finished Goods Inventory ÷ Total Cost of Goods Sold) × 365
- **Debtors / Receivables Collection Period (D)** = (Average Trade Receivables ÷ Total Annual Gross Credit Sales) × 365
- **Creditors / Payables Deferral Period (C)** = (Average Trade Payables ÷ Total Annual Gross Credit Purchases) × 365

4. Estimation of Working Capital Requirements: Practical Model

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Forecasting Working Capital Formula

Number of Operating Cycles per Year (N) = 365 Days ÷ Net Operating Cycle (NOC in days)

Working Capital Requirement = Total Annual Operating Cost ÷ Number of Operating Cycles (N)

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COMPREHENSIVE PRACTICAL PROBLEM: WORKING CAPITAL ESTIMATION

Examination
Model

Fact Situation: Alpha Bio-Tech Ltd. plans to produce 60,000 units in the upcoming year. The estimated cost elements per unit are: Raw materials = INR 80; Direct labour = INR 30; Overheads = INR 50; Profit margin = INR 40; Selling price = INR 200 per unit.

Operating Parameters: Raw materials remain in store for 1 month; WIP conversion takes 0.5 months (assume 100% materials, 50% wages & overheads); Finished goods stay in warehouse for 1.5 months; Credit allowed to customers is 2 months; Credit received from suppliers of raw material is 1 month; Wages and overheads are paid 1 month in arrears; Minimum cash balance desired is INR 1,00,000. All sales and purchases are on credit.

STEP-BY-STEP ESTIMATION OF NET WORKING CAPITAL REQUIREMENT:

1. ANNUAL COST COMPUTATION (60,000 units):

* Raw Materials:	60,000 × INR 80	= INR 48,00,000 (INR 4,00,000 / month)
* Direct Labour:	60,000 × INR 30	= INR 18,00,000 (INR 1,50,000 / month)
* Overheads:	60,000 × INR 50	= INR 30,00,000 (INR 2,50,000 / month)
* Total Cost of Sales:	60,000 × INR 160	= INR 96,00,000 (INR 8,00,000 / month)
* Total Sales Value:	60,000 × INR 200	= INR 1,20,00,000

2. CURRENT ASSETS REQUIREMENT:

* Raw Material Inventory (1 month):	INR 48,00,000 × (1 / 12)	= INR 4,00,000
* Work-in-Progress Inventory (0.5 month):		
- Raw materials (100%):	INR 48,00,000 × (0.5 / 12)	= INR 2,00,000
- Direct labour (50%):	INR 18,00,000 × 0.5 × (0.5 / 12)	= INR 37,500
- Overheads (50%):	INR 30,00,000 × 0.5 × (0.5 / 12)	= INR 62,500
Total WIP Inventory		= INR 3,00,000
* Finished Goods Inventory (1.5 months at Cost of Sales INR 160):	INR 96,00,000 × (1.5 / 12)	= INR 12,00,000
* Debtors / Receivables (2 months at Cost of Sales INR 160):	INR 96,00,000 × (2 / 12)	= INR 16,00,000
* Minimum Desired Cash Balance:		= INR 1,00,000

TOTAL ESTIMATED CURRENT ASSETS (A): = INR 36,00,000

3. CURRENT LIABILITIES AVAILABLE:

* Creditors for Raw Materials (1 month):	INR 48,00,000 × (1 / 12)	= INR 4,00,000
* Lag in Payment of Wages (1 month):	INR 18,00,000 × (1 / 12)	= INR 1,50,000
* Lag in Payment of Overheads (1 month):	INR 30,00,000 × (1 / 12)	= INR 2,50,000

TOTAL ESTIMATED CURRENT LIABILITIES (B): = INR 8,00,000

NET WORKING CAPITAL REQUIRED = (A) - (B) = INR 36,00,000 - INR 8,00,000 = INR 28,00,000

5. Cash Management for Entrepreneurs: Models & Motives

Cash is the most liquid and unremunerative asset. An entrepreneur holds cash for three fundamental Keynesian motives: (1) **Transaction Motive**: Meeting day-to-day payroll, rent, and trade payables; (2) **Precautionary Motive**: Shielding against unexpected contingencies and supplier delays; (3) **Speculative Motive**: Exploiting sudden bargaining opportunities, raw material discounts, or distressed competitor buyouts.

THEORETICAL CASH MANAGEMENT MODELS

Optimization Systems

1. Baumol's Economic Order Quantity Cash Model

Assumes cash disbursements are completely predictable and steady over time. Balances

Transaction Costs (brokerage fees of liquidating securities) against **Opportunity Holding Costs** (interest forgone):

Optimal Cash Transfer (C^*) = $\sqrt{[(2 \times A \times F) \div O]}$

Where: A = Total annual cash required; F = Fixed transaction cost per sale/transfer of securities; O = Opportunity cost of holding cash (interest rate).

2. Miller-Orr Cash Management Model

Accommodates realistic start-up scenarios where daily net cash flows fluctuate unpredictably following a random walk.

Operates with two boundary control limits:

- **Lower Limit (L)**: Minimum safety cash buffer determined by management.
- **Return Point (Z)**: $Z = L + [3 \times F \times \sigma^2 \div (4 \times O)]^{(1/3)}$.
- **Upper Limit (H)**: $H = 3Z - 2L$.

When cash reaches H , securities are bought to return to Z . When cash drops to L , securities are sold to return to Z .

6. Inventory Management Techniques

Inventory ties up expensive founder capital and entails carrying costs (storage, insurance, obsolescence, spoilage) of 15% to 30% per annum. Founders apply proven control techniques:

Economic Order Quantity (EOQ) Formula & Reorder Levels

$$EOQ = \sqrt{[(2 \times D \times S) \div H]}$$

Where: D = Annual demand in units; S = Ordering cost per order; H = Annual carrying / holding cost per unit.

Critical Inventory Level Formulas:

- **Re-order Level (ROL)** = Maximum Consumption $\times$ Maximum Lead Time.
- **Minimum Stock Level** = ROL – (Average Consumption $\times$ Average Lead Time).
- **Maximum Stock Level** = ROL + EOQ – (Minimum Consumption $\times$ Minimum Lead Time).
- **Danger Level** = Average Consumption $\times$ Emergency Lead Time.

ABC Analysis (Always Better Control)

Categorizes inventory by annual monetary consumption value based on Pareto's 80/20 Law:

- **Category A Items:** 10% of items accounting for **70% of total inventory value**. Subject to strict perpetual control and lowest safety stock.
- **Category B Items:** 20% of items accounting for **20% of inventory value**. Moderate control.
- **Category C Items:** 70% of items accounting for only **10% of total value**. Simple, periodic bulk review.

VED & Just-In-Time (JIT) Techniques

- **VED Analysis (Vital, Essential, Desirable):** Classifies parts by production criticality. Vital items must never stock out as they stop production entirely.
- **Just-In-Time (JIT):** Pioneered by Toyota; materials arrive exactly when required in production, driving carrying costs to zero. Demands reliable local vendor partnerships.

8. Practical Problem: Evaluation of Credit Policy Relaxation

STEP-BY-STEP DECISION MODEL: EXTENDING CREDIT PERIOD

Receivables Appraisal

Fact Situation: Nova SaaS Solutions currently has annual credit sales of INR 60,00,000 with an average collection period of 30 days. The variable cost ratio is 70% of sales, and the pre-tax required return on investment in receivables is 15%. Bad debt losses are 1% of sales.

The marketing team proposes extending the credit period to 60 days. This relaxation is expected to increase sales by 20% (to INR 72,00,000). However, bad debts will increase to 2% of total sales, and collection costs will rise by INR 20,000. Should Nova adopt the proposed credit policy? (Assume 360 days a year).

INCREMENTAL ANALYSIS OF CREDIT POLICY PROPOSAL:

1. INCREMENTAL CONTRIBUTION FROM EXPANDED SALES:

* Current Sales = INR 60,00,000 | Proposed Sales = INR 72,00,000
* Incremental Sales = INR 12,00,000
* Contribution Margin = 100% - 70% = 30%
* **Incremental Contribution = INR 12,00,000 × 30%** = +
INR 3,60,000

2. ADDITIONAL OPPORTUNITY COST OF INVESTMENT IN RECEIVABLES:

* Current Average Debtors (at cost):
Cost of Sales = 70% × INR 60,00,000 = INR 42,00,000.
Debtors Turnover = 360 ÷ 30 = 12 times.
Average Investment in Debtors = INR 42,00,000 ÷ 12 =
INR 3,50,000
* Proposed Average Debtors (at cost):
Cost of Sales = 70% × INR 72,00,000 = INR 50,40,000.
Debtors Turnover = 360 ÷ 60 = 6 times.
Average Investment in Debtors = INR 50,40,000 ÷ 6 =
INR 8,40,000
* Incremental Investment in Debtors = INR 8,40,000 - INR 3,50,000 =
INR 4,90,000
* **Opportunity Cost of Additional Funds (15% on INR 4,90,000)** = -
INR 73,500

3. ADDITIONAL BAD DEBT LOSSES:

* Current Bad Debts: 1% of INR 60,00,000 =
INR 60,000
* Proposed Bad Debts: 2% of INR 72,00,000 =
INR 1,44,000
* **Incremental Bad Debt Loss** =
- INR 84,000

4. ADDITIONAL COLLECTION COSTS:

- INR 20,000

NET INCREMENTAL BENEFIT / (LOSS) = 3,60,000 - (73,500 + 84,000 + 20,000) = +
INR 1,82,500

DECISION: The proposed credit policy should be ACCEPTED because it yields a net incremental profit of INR 1,82,500 per annum after absorbing additional financing and default costs.

9. Modern Invoice Factoring & The TReDS Platform for Start-Ups

Early-stage enterprises often encounter severe liquidity strain when selling to corporate conglomerates or government agencies with 60 to 90-day payment cycles. To eliminate working capital blockages, start-ups

utilize invoice financing:

Commercial Factoring Architecture

A financial transaction whereby a business sells its accounts receivable (invoices) to a specialized financial company (a **Factor**) at a discount.

- **Recourse Factoring:** The client venture bears the credit risk; if the customer defaults, the factor recovers the money from the venture.
- **Non-Recourse Factoring:** The factor absorbs the entire bad debt risk and charges a higher commission.

The TReDS Platform (RBI Initiative)

The **Trade Receivables Discounting System (TReDS)** is an institutional electronic platform set up under RBI guidelines to facilitate the financing and discounting of trade receivables of MSMEs and start-ups from corporate buyers and PSUs through multiple financiers (banks/NBFCs) via an open bidding mechanism. Eliminates invoice payment delays without requiring collateral.

10. Monthly Cash Budgeting: Structure & Operational Mechanics

A **Cash Budget** is a dynamic forecast of cash receipts and cash disbursements over a specified planning horizon. It serves as an early-warning radar for upcoming cash deficits, allowing founders to secure overdraft limits or equity infusions well in advance:

STANDARDIZED MONTHLY CASH BUDGET STRUCTURE:

Particulars	Month 1	Month 2
Month 3		
-		
OPENING CASH BALANCE	XXX	XXX
XXX		
ADD: ESTIMATED CASH RECEIPTS:		
* Cash Sales	XXX	XXX
XXX		
* Collections from Debtors (Past credit sales)	XXX	XXX
XXX		
* Venture Capital Infusions / Term Loans	XXX	XXX
XXX		
* Asset Sales / Subsidies	XXX	XXX
XXX		
TOTAL CASH AVAILABLE (A)	XXX	XXX
XXX		
-		
LESS: ESTIMATED CASH DISBURSEMENTS:		
* Cash Purchases of Materials	XXX	XXX
XXX		
* Payments to Creditors for Credit Purchases	XXX	XXX
XXX		
* Salaries, Payroll, and Statutory Dues	XXX	XXX
XXX		
* Operating Expenses (Rent, AWS Cloud Hosting, Utilities)	XXX	XXX
XXX		
* Capital Expenditures (Machinery, Software licenses)	XXX	XXX
XXX		
* Loan Interest and Principal Amortization	XXX	XXX
XXX		
TOTAL CASH DISBURSEMENTS (B)	XXX	XXX
XXX		
-		
NET CASH BALANCE (SURPLUS / DEFICIT) = (A) - (B)	XXX	XXX
XXX		
Less: Desired Minimum Cash Buffer	(XX)	(XX)
(XX)		
SURPLUS AVAILABLE FOR INVESTMENT / (FINANCING REQUIRED)	XXX	XXX
XXX		

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