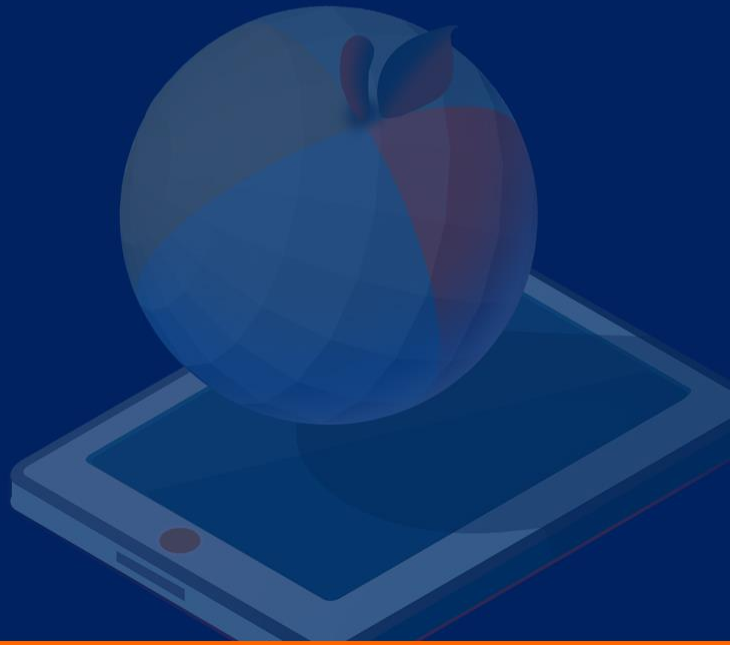
FINANCIAL EVALUATION AND STRATEGY:

CORPORATE FINANCE

with Heitor Almeida

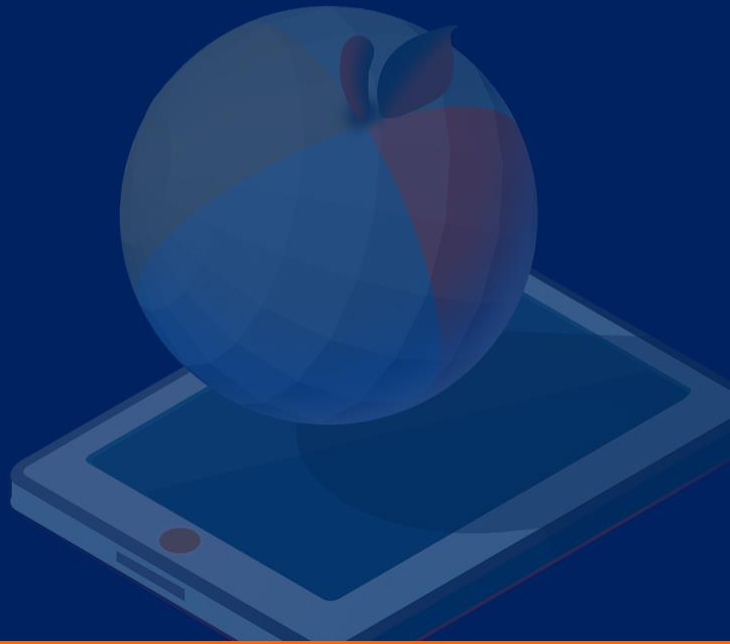


MODULE 2

Financial Planning

VIDEO LESSON 2-1

Objectives and Overview



OBJECTIVES OF THIS MODULE

Companies require both long-term and short-term investments to survive and grow.

LONG-TERM INVESTMENTS

Capital expenditures, R&D (research and development), acquisitions

(flickr.com/backofthenapkin, 2009)

SHORT-TERM INVESTMENTS

Inventory, accounts receivable

(Sepp, 2007)

FINANCING INVESTMENTS

In this module, we will learn how to forecast financing needs and how to manage a company's liquidity.

Long-term financial planning: funding long-term investments such as capital expenditures

Short-term financial planning: working capital management and cash generation

NEXT STEPS (1 OF 2)

In this module, we will not discuss whether an investment should be made or not.

NEXT STEPS (2 OF 2)

Module 3: Will a new investment in the company increase shareholder value?

Module 4: Will an acquisition of another company increase shareholder value?

MODULE 2 OBJECTIVES

(1 OF 3)

You will learn:

How to forecast financial statements

How to use financial forecasting to estimate long-term financing needs

The basics of working capital management: receivables, payables, inventory

The implications of working capital management for cash generation

MODULE 2 OBJECTIVES

(2 OF 3)

You will learn:

To calculate and analyze working capital ratios and measure cash conversion cycles

How to manage short-term cash needs

The impact of high growth rates on cash generation when inventory needs are high

MODULE 2 OBJECTIVES

(3 OF 3)

You will learn:

- Why seasonality in sales and receivables generates a need for short-term cash management

- How to manage liquidity risk arising from accounts payable

REFERENCE

Buck. (2009). *the-future-next-exit* [Online image]. Retrieved July 20, 2015, from https://www.flickr.com/photos/buckaroobay/3721809183

S Sepp. (2007). *Hourglass in a three-legged stand* [Online image]. Retrieved July 20, 2015, from https://en.wikipedia.org/wiki/Hourglass#/media/File:Wooden_hourglass_3.jpg

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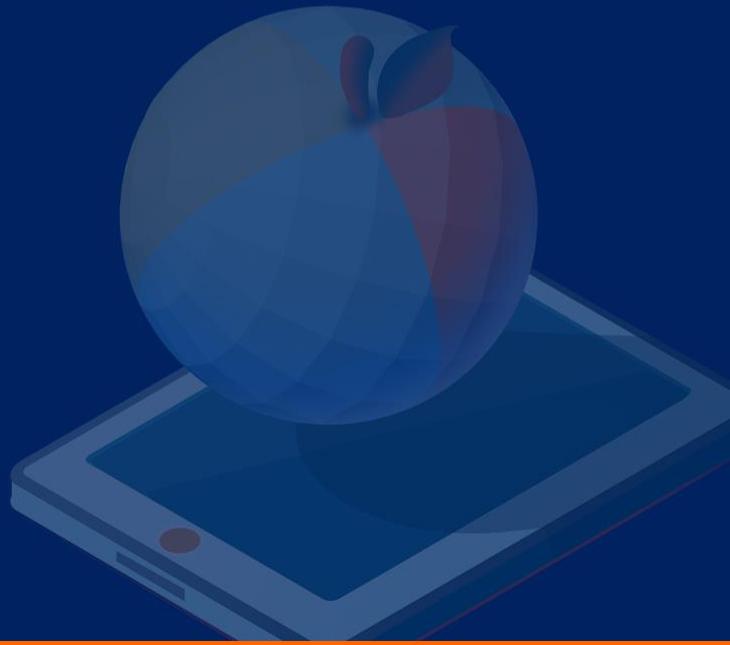
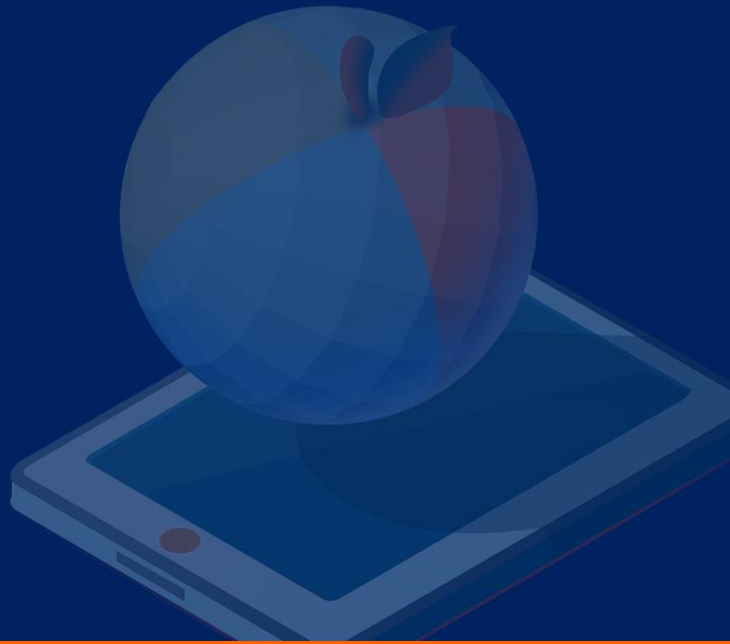


MODULE 2

Financial Planning

VIDEO LESSON 2-2

Long-term Financial Planning



FINANCIAL FORECASTING

Looking into the future: forecasting financial statements

(Dugdale, 2010)

WHY FORECAST?

Forecast future financing needs

Forecast cash flows for valuation

Estimate the impact of new projects and acquisitions

EXAMPLE OF FINANCIAL FORECASTING

A company has an aggressive expansion plan and wants to figure out whether and when it will need to raise long-term financing to support the expansion.

Long-term financing = new debt or equity issuance

Will the company generate sufficient cash internally or will it need additional funds?

REAL WORLD EXAMPLE: PEPSICO

We will work with the actual financial statements from Pepsico and consider the impact of an investment program.

(Hawlisch, 2006)

ASSUMPTIONS

Start from 2014 year-end financial statements

Pepsico's revenues are forecast to grow at - 4.4% in 2015, and 4.05% in 2016 (actual forecasts from Capital IQ).

To sustain this growth, Pepsico needs to invest 3.5B in 2015, and 6.5B in 2016 (our assumption).

Investment in net working capital is equal to 2% of revenues

Interest payments are 4% of 2014 total debt

Same dividend policy (payout ratio = constant fraction of net income)

QUESTION

Can the firm finance this expansion without issuing new debt or equity?

(flickr.com/401(K) 2013, 2011)

REFERENCE

Dugdare, D. (2010). *Analyzing Financial Data* [Online image]. Retrieved July 20, 2015, from https://www.flickr.com/photos/davedugdale/5099605109

Hawlisch, M. (2006). *Ein Mercedes-Benz Atego-Laster mit Pepsi-Werbung in Mannheim* [Online image]. Retrieved July 20, 2015, from https://commons.wikimedia.org/wiki/File:Mercedes-Benz_Atego_Pepsi-Laster_100_7715.jpg

401(K) 2012. (2011). *Bank* [Online image]. Retrieved July 20, 2015, from https://www.flickr.com/photos/68751915@N05/6629034769

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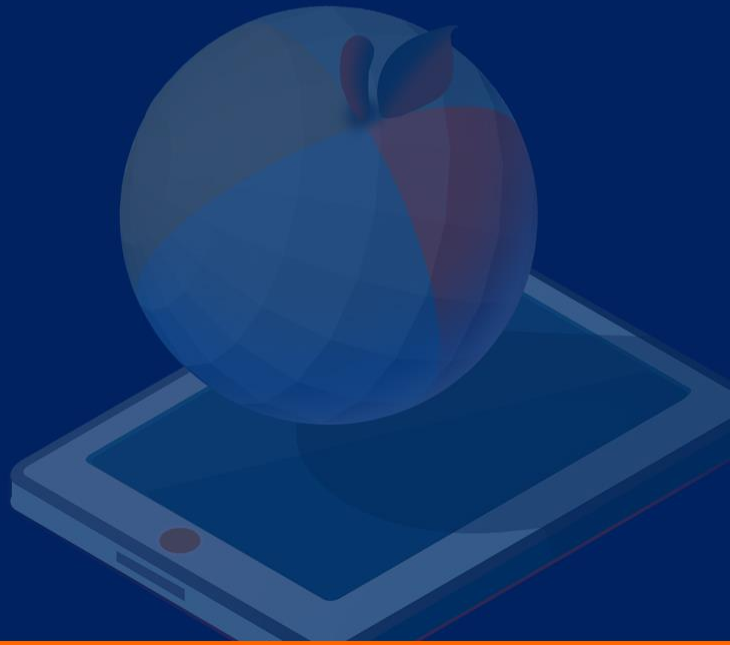
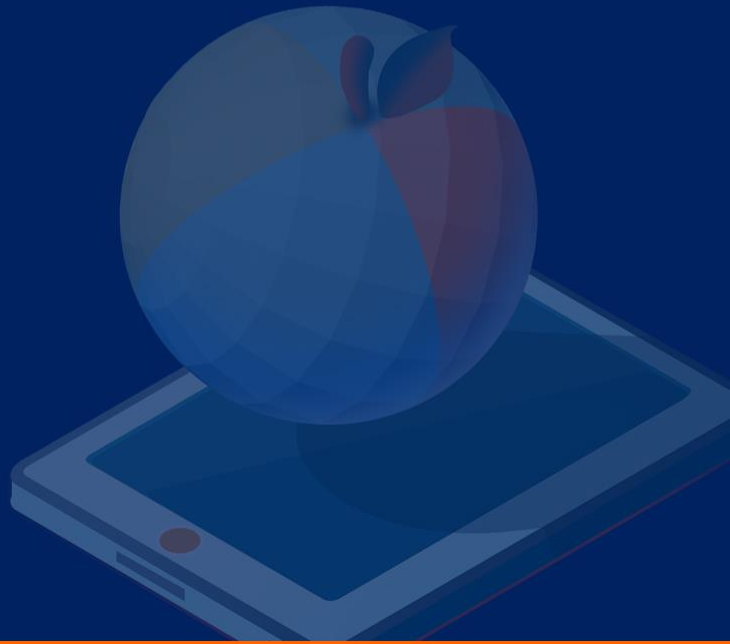


MODULE 2

Financial Planning

VIDEO LESSON 2-3

Forecasting Income Statements



PERCENTAGE-OF-SALES MODEL

Key variables are assumed to remain at a constant proportion of revenues (that is, they grow at the same rates).

INCOME STATEMENT

	Dec, 2014	Dec, 2015	Dec, 2016
Revenue	66683		
COGS	30884		
SG&A	25708		
Others	-92		
EBIT	9999		
Interest expense	-824		
Other non-operating income	-418		
Income before tax	8757		
Income taxes	2199		
Earnings	6558		

Simplified income statement for Dec 2014 and revenue forecasts (Capital IQ)

USING THE PERCENTAGE-OF-SALES MODEL (1 OF 2)

For example

Revenues 2015 = 66,683* (1- 4.4%) = 63,752

COGS 2015 =

(Maxwell, 2007)

USING THE PERCENTAGE-OF-SALES MODEL (2 OF 2)

For example

Revenues 2015 = 66,683* (1- 4.4%)
= 63,752

COGS 2015 = 30,884* (1- 4.4%) =

= (30,884/66,683)*63,752 = 29,526

WHAT ABOUT “OTHERS”?

Other non-operating income

Are they recurring items or one-time?

Here we assume they are one-time items and set them to zero in future years.

INTEREST AND TAXES

Interest expense is 4% of total debt in 2014 (28.9 B, see balance sheet in slide 39)

4% * 28,900 = 1,156

Assume a constant tax rate

ANSWER – INCOME STATEMENT

	Dec, 2014	Dec, 2015	Dec, 2016
Revenue	66683	63752	66331
COGS	30884	29526	30721
SG&A	25708	24578	25572
Others	-92	0	0
EBIT	9999	9647	10038
Interest expense	-824	-1156	-1156
Other non-operating income	-418	0	0
Income before tax	8757	8492	8882
Income taxes	2199	2132	2230
Earnings	6558	6359	6651

(S&P Capital IQ, 2014)

REFERENCE

S&P Capital IQ. [Data file]. Retrieved from http://www.spcapitaliq.com/

Maxwell, S. (2007). *LuMaxArt FS Collection Orange0059* [Online image]. Retrieved July 16, 2015, from https://www.flickr.com/photos/lumaxart/2364667079

FINANCIAL EVALUATION AND STRATEGY:

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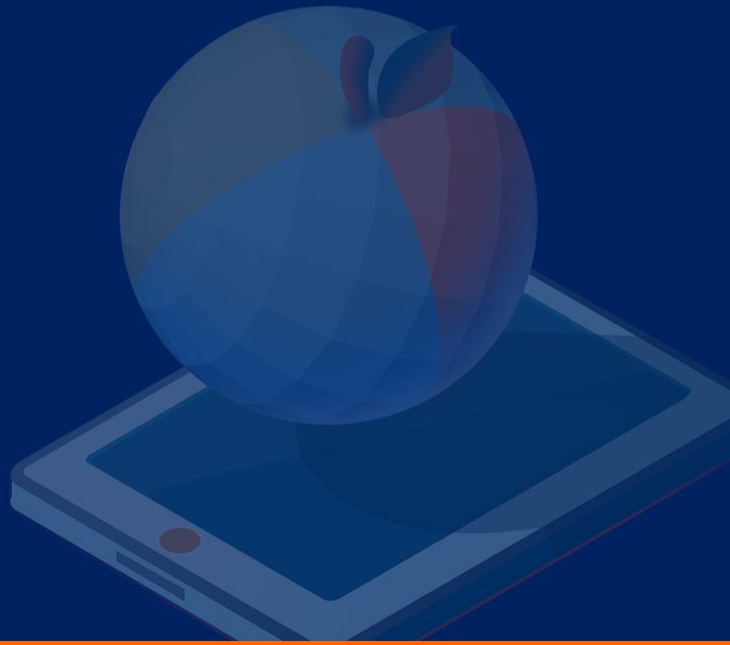
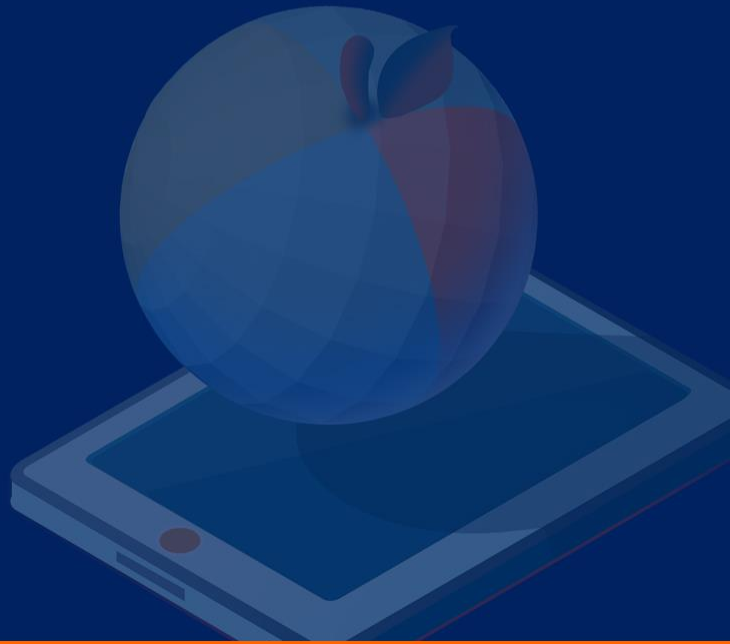


MODULE 2

Financial Planning

VIDEO LESSON 2-4

Forecasting Cash Flow Statements



CASH FLOW STATEMENT

	Dec, 2014	Dec, 2015	Dec, 2016
Earnings	6558		
Depreciation & Amortization	2325		
Increase in net working capital	1033		
Other adjustments	590		
Cash flow from operations	10506		
Capital expenditures	-2859		
Other cash from investing	-2078		
Cash flow from investing	-4397		
Dividends paid	-3730		
Net issuance of stock	-4267		
Net borrowing	-331		
Other cash from financing	64		
Cash flow from financing	-8264		
Foreign exchange rate adj.	-546		
Net change in cash	-3241		

(S&P Capital IQ, 2014)

USING THE PERCENTAGE-OF-SALES MODEL

Depreciation 2015 = (1 – 4.4%) * 2,325

Increase in net working capital = 2% of revenues

This is an investment (negative cash flow).

Increase in net working capital in 2015 = 2%* 63,752

FORECASTING FINANCING ITEMS

Dividends are a constant fraction of earnings .

So dividends in 2015 = (Dividends 2014 / Earnings 2014) * Earnings 2015

Which values should we input for net debt and net equity issuance?

(Maxwell, 2007)

WHICH VALUES FOR DEBT AND EQUITY ISSUANCE

We want to verify whether Pepsico can finance expansion without issuing new debt or equity.

No new net issuance means

CASH FLOW STATEMENT — ANSWER

	Dec, 2014	Dec, 2015	Dec, 2016
Earnings	6558	6359	6651
Depreciation & Amortization	2325	2223	2313
Increase in net working capital	1033	-1275	-1327
Other adjustments	590	0	0
Cash flow from operations	10506	7307	7638
Capital expenditures	-2859	-3500	-6500
Other cash from investing	-2078	0	0
Cash flow from investing	-4937	-3500	-6500
Dividends paid	-3730	-3617	-3783
Net issuance of stock	-4267	0	0
Net borrowing	-331	0	0
Other cash from financing	64	0	0
Cash flow from financing	-8264	-3617	-3783
Foreign exchange rate adj.	-546	0	0
Net change in cash	-3241	190	-2646

(S&P Capital IQ, 2014)

CAN THE FIRM FINANCE THIS EXPANSION PLAN?

Net change in cash of -2.6 B in 2016

Does this require Pepsico to issue new debt?

Need to check balance sheet (cash)!

REFERENCE

S&P Capital IQ. [Data file]. Retrieved from http://www.spcapitaliq.com/

Maxwell, S. (2007). *LuMaxArt FS Collection Orange0059* [Online image]. Retrieved July 16, 2015, from https://www.flickr.com/photos/lumaxart/2364667079

FINANCIAL EVALUATION AND STRATEGY:

CORPORATE FINANCE

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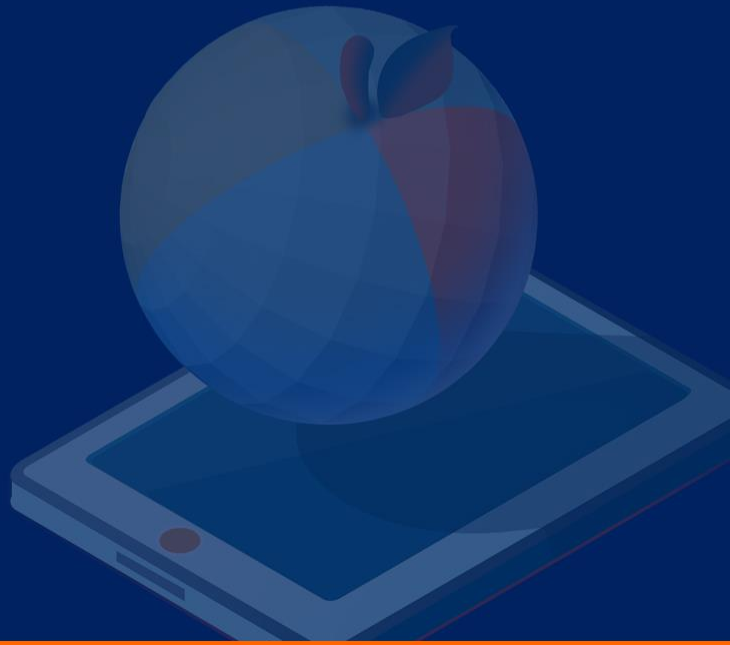
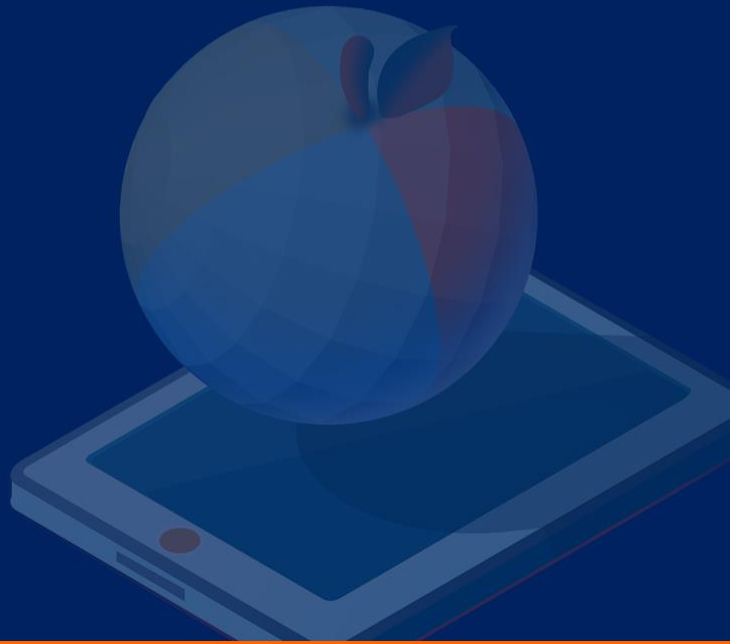


MODULE 2

Financial Planning

VIDEO LESSON 2-5

Forecasting Balance Sheets



BALANCE SHEET

	Dec, 2014	Dec, 2015	Dec, 2016
Cash and ST Investments	8726		
Receivables and Inventory	9794		
Other current assets	2143		
Current Assets	20663		
Net Property, Plant and Equipment	17244		
Goodwill	14965		
Other intangibles	14088		
Other non-current assets	3549		
Non-current assets	49846		
Total assets	70509		
Short-term debt	5076		
Accounts payable	5127		
Other current liabilities	7889		
Total current liabilities	18092		
Long-term debt	23821		
Other non-current liabilities	11048		
Total non-current liabilities	34869		
Total liabilities	52961		
Total equity	17548		

(S&P Capital IQ, 2014)

KEY ITEM – CASH

What will happen to cash in 2015 and 2016?

(commons.wikimedia.org/Jericho, 2009)

FORECASTING CASH

Cash in 2015 = Cash in 2014 +
Change in cash during 2015

Cash in 2016 = Cash in 2015 +
Change in cash during 2016

So cash goes down by
approximately 2.5 B between 2014
and 2016

OTHER BALANCE SHEET ITEMS

Changes must be consistent with income and cash flow statements

Increase in net PPE in 2015 = Capital expenditure in 2015 – Depreciation in 2015

Receivables and Inventory in 2015 must reflect increase that happened during 2015

BALANCE SHEET – ANSWER

	Dec, 2014	Dec, 2015	Dec, 2016
Cash and ST Investments	8726	8916	6270
Receivables and Inventory	9794	11069	12396
Other current assets	2143	2143	2143
Current assets	20663	22128	20809
Net property, plant and equipment	17244	18521	22708
Goodwill	14965	14965	14965
Other intangibles	14088	14088	14088
Other non-current assets	3549	3549	3549
Non-current assets	49846	51123	55310
Total assets	70509	73251	76120
Short-term debt	5076	5076	5076
Accounts payable	5127	5127	5127
Other current liabilities	7889	7889	7889
Total current liabilities	18092	18092	18092
Long-term debt	23821	23821	23821
Other non-current liabilities	34869	34869	34869
Total liabilities	52961	52961	52961
Total equity	17548	20290	23159

(S&P Capital IQ, 2014)

CAN THE FIRM FINANCE THIS EXPANSION PLAN?

(Maxwell, 2007)

CAN THE FIRM FINANCE THIS EXPANSION PLAN?

Apparently yes, since Pepsico has about 8.7B dollars in cash in 2014 and can use these cash reserves.

Cash goes down to about 6.3 B in 2016

TWO ISSUES TO CONSIDER

1. Pepsico may have a target level of liquidity

Cash ratio is decreasing from 50% to 30% approximately

2. Some of the cash is likely “trapped” outside the US. Why?

TWO ISSUES TO CONSIDER

1. Pepsico may have a target level of liquidity

Cash ratio is decreasing from 50% to 30% approximately

2. Some of the cash is likely “trapped” outside the US. Why?

Repatriation tax – Pepsico is a multinational

REFERENCE

S&P Capital IQ. [Data file]. Retrieved from http://www.spcapitaliq.com/

Jericho. 2009. *Money Cash* [Online image]. Retrieved July 20, 2015, from https://commons.wikimedia.org/wiki/File:Money_Cash.jpg

Maxwell, S. (2007). *LuMaxArt FS Collection Orange0059* [Online image]. Retrieved July 16, 2015, from https://www.flickr.com/photos/lumaxart/2364667079

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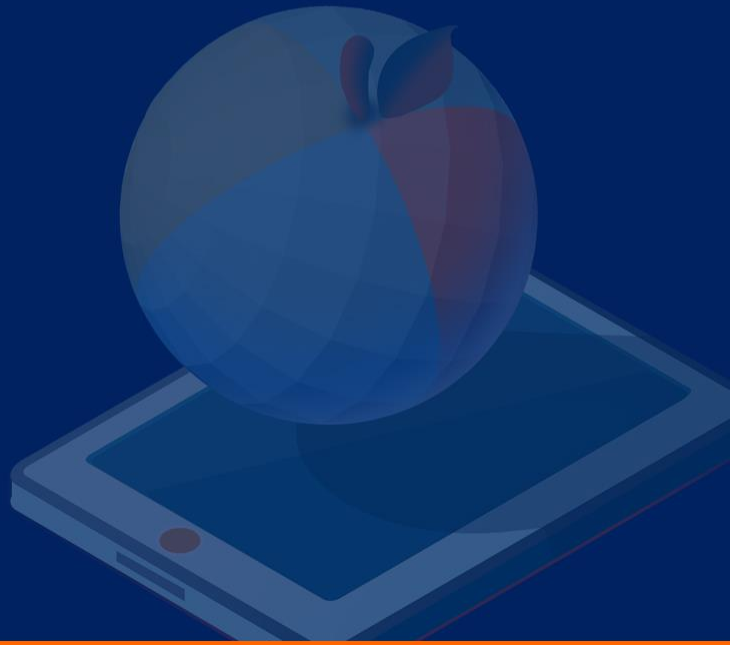
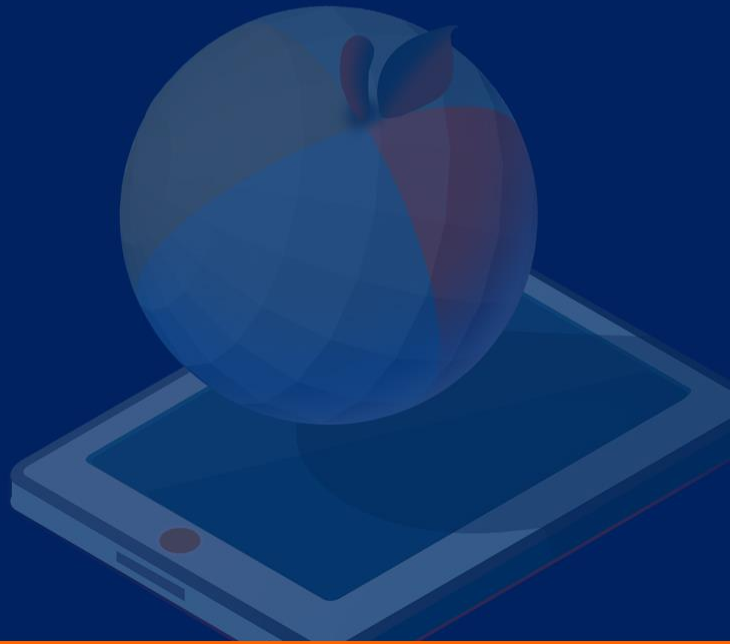


MODULE 2

Financial Planning

VIDEO LESSON 2-6

Raising Long-term Financing: Discussion



ISSUING LONG-TERM FINANCING

Suppose Pepsico decides that it will need new long-term financing. How should the company do it?

Capital structure decision – beyond the scope of this module

Let us briefly discuss some of the key issues that the company would need to consider.

HOW?

Which source of financing to use?

New stock, bonds, borrowing from a bank

Factors to consider

Taxes, liquidity, existing leverage, market conditions, risk, among others

Suppose Pepsico decides to issue a bond.

WHEN?

Should Pepsico sit and wait to issue the new bond until 2016?

Potential advantage: Pepsico won’t pay interest until 2017

(Surname, Year)

MARKET TIMING AND MARKET RISK (1 OF 2)

Pepsico cannot be sure about market conditions in 2016.

What if we have a new financial crisis?

Almeida, Campello, Laranjeira and Weisbenner (2012). Corporate Debt Maturity and the Real Effects of the 2007 Credit Crisis. Critical Finance Review, 1, p. 3-58.

MARKET TIMING AND MARKET RISK (2 OF 2)

Companies that were forced to issue new debt at the height of the recent financial crisis (in 2008) cut investment and had worse performance than companies that were in a stronger financial position.

Example: Avis and Budget

HOW MUCH?

Suppose Pepsico decides it is likely to need 2B in new funding to finance expansion.

Should it borrow exactly 2B?

Advantage is to minimize interest payments

What is the risk?

PRECAUTIONARY BORROWING

It may be safer to borrow more than 2B, despite the cost.

Cash flows may be lower than Pepsico expects.

What should the company do with the excess funding?

(Maxwell, 2007)

PRECAUTIONARY BORROWING

What does the company do with the excess funding?

Hold cash

Holding cash is economically equivalent to “precautionary borrowing.”

Acharya, Almeida, and Campello (2007). Is Cash Negative Debt? Journal of Financial Intermediation, 2007, 16: 515-554.

REFERENCE

Maxwell, S. (2007). *LuMaxArt FS Collection Orange0059* [Online image]. Retrieved July 16, 2015, from https://www.flickr.com/photos/lumaxart/2364667079

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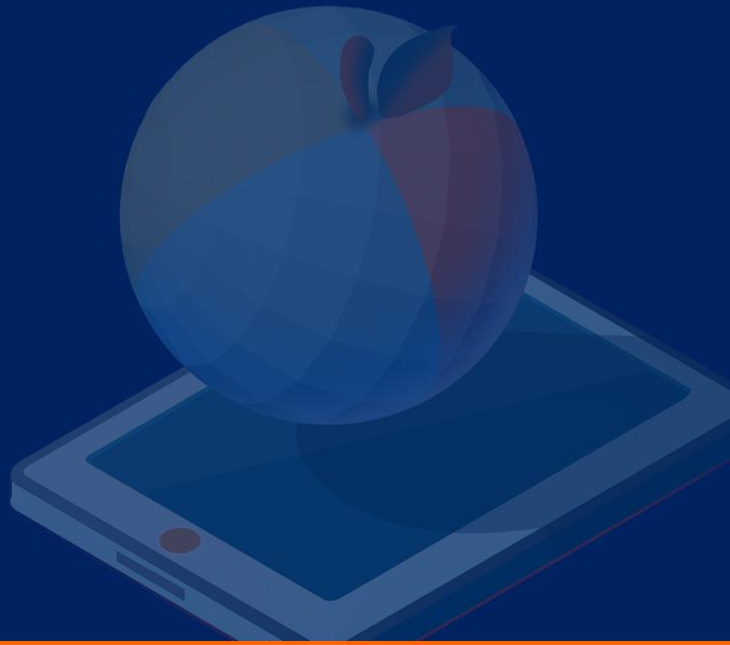
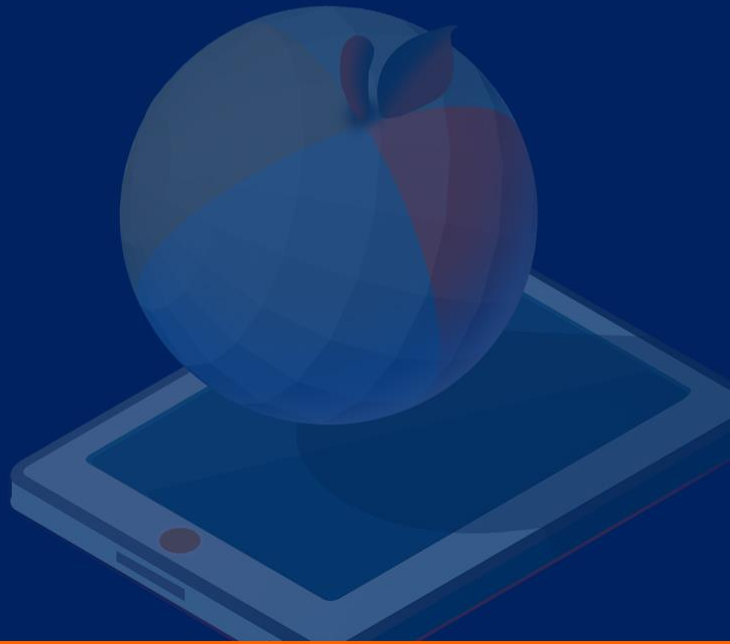


MODULE 2

Financial Planning

VIDEO LESSON 2-7

Investments in Working Capital



SHORT-TERM INVESTMENTS

Inventory

(commons.wikimedia.org/Axisadman, 2007)

RECEIVABLES

Trade credit and consumer credit

(commons.wikimedia.org/Maggiebug 21, 2012)

MANAGING RECEIVABLES

Increase in receivables can increase demand for products – better terms for costumers

But receivables tie up cash – it takes longer for cash to come in

HOW CAN COMPANIES REDUCE RECEIVABLES?

Give discounts so costumers pay early.

But discounts will reduce revenues.

The alternative is to “factor” receivables.

Let us see how that works.

FACTORING RECEIVABLES

Suppose company A has 300 million dollars in receivables, due in a year.

Rather than waiting a year to get paid, they can sell the receivable to a bank or factoring company.

Bank/factoring company will pay less than 300 million – say it is 280 million – Should company A do it?

FACTORING RECEIVABLES – CONT'D

It will depend on how bad company A needs the cash today

Implied interest rate = 7.14%

280*(1 + 7.14%) = 300

Notice how selling is similar to borrowing against the receivable

INVENTORY MANAGEMENT (1 OF 2)

Types of inventory

- Raw materials
- Work in progress
- Finished goods

Why do companies need to retain inventory?

INVENTORY MANAGEMENT (2 OF 2)

Inventory may be required for the business to run properly (e.g., retailer)

But inventory ties up cash – must pay for materials and goods before cash comes in

ACCOUNTS PAYABLE

The liability side

Exactly like receivables, with a reverse sign!

Increase in payables frees up cash – borrowing from suppliers

But it can affect supply and result in higher prices being charged by suppliers.

NET WORKING CAPITAL

Receivables + Inventory – Payables

Increase in net working capital (e.g., more inventory) ties up cash

It is an investment in the business.

REFERENCE

Axisadman. (2007). *Modern warehouse with pallet rack storage system* [Online image]. Retrieved July 20, 2015, from https://commons.wikimedia.org/wiki/File:Modern_warehouse_with_pallet_rack_storage_system.jpg

Maggiebug 21. (2012). *Past Due Bills* [Online image]. Retrieved July 20, 2015, from https://commons.wikimedia.org/wiki/File:Past_Due_Bills.jpg

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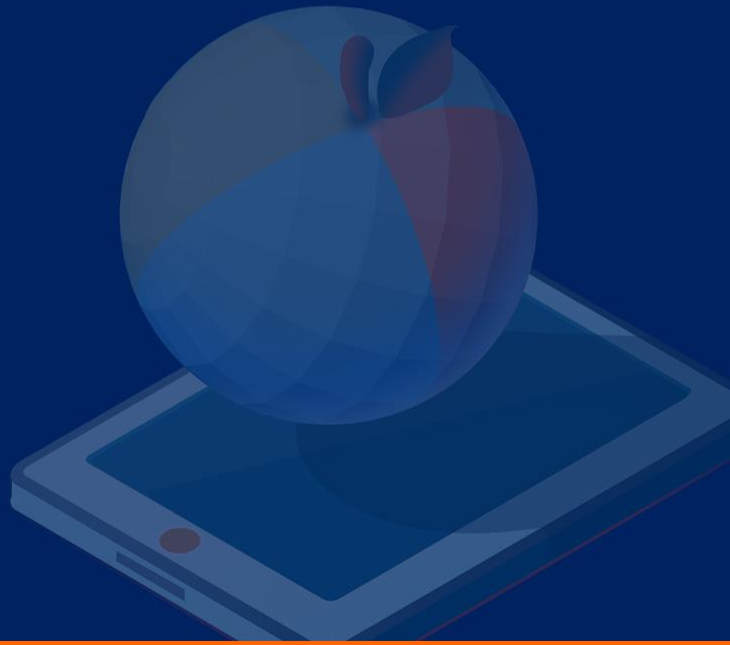
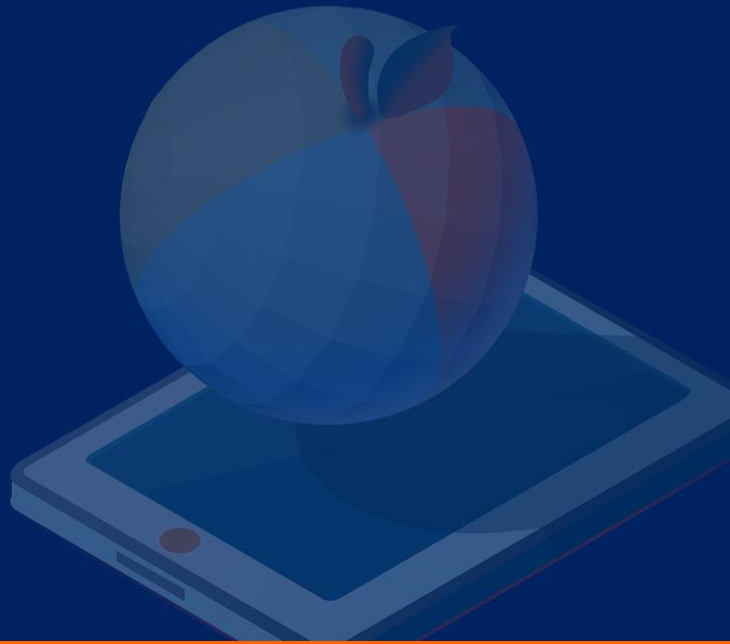


MODULE 2

Financial Planning

VIDEO LESSON 2-8

Working Capital Ratios



COLLECTION PERIOD

Average Collection Period in Days = Receivables/(Daily Revenue)

Suppose company has 100M in receivables, and total annual revenue of 2B

Daily revenue = 2B/365 = 5.5M

Average collection period = 18 days

It takes 18 days on average for company to collect its receivables

OTHER WORKING CAPITAL RATIOS

Average Days in Inventory = Inventory/(Operating Cost/365)

Average Payable Period = Accounts Payable/(Operating Cost/365)

Operating Cost = COGS + SGA

Cash Conversion Cycle = Collection Period + Days in Inventory - Payable Period

CASH CONVERSION CYCLE

What does the cash conversion cycle measure?

(Maxwell, 2007)

CASH CONVERSION CYCLE

What does the cash conversion cycle measure?

How much time it takes for a company to generate cash from its working capital investments

CASH CONVERSION CYCLES – REAL WORLD EXAMPLES

Cash conversion cycles will depend on the nature of the business.

Power Solutions International and Toromont International are two companies that distribute heavy equipment produced by companies like Caterpillar, such as diesel engines.

POWER SOLUTIONS INTERNATIONAL

Power Solutions International (PSI) manufactures and distributes cleantech engines and power systems for the industrial and on-road sectors.

(Power Solutions International, n.d.)

WORKING CAPITAL RATIOS

Power Solutions International

	2010	2011	2012	2013	2014
Avg. Days Sales Out.	81.4	53.9	60.6	61.5	64.6
Avg. Days Inventory Out.	137.8	93.1	79.7	90.6	98.0
Avg. Days Payable Out.	92.0	63.0	56.6	44.5	45.7
Avg. Cash Conversion Cycle	127.2	84.0	83.7	107.6	116.8

Toromont

	2010	2011	2012	2013	2014
Avg. Days Sales Out.	65.2	50.3	49.9	49.4	54.4
Avg. Days Inventory Out.	119.4	93.0	102.6	99.5	110.9
Avg. Days Payable Out.	108.5	80.5	71.2	61.9	58.4
Avg. Cash Conversion Cycle	76.1	62.8	81.3	87.0	106.9

(S&P Capital IQ, 2014)

CASH CONVERSION CYCLES – COMPARISON

Compare these conversion cycles with Walmart:

Walmart

	2010	2011	2012	2013	2014
Avg. Days Sales Out.	3.6	4.0	4.5	5.0	5.2
Avg. Days Inventory Out.	40.3	40.1	42.0	43.9	45.2
Avg. Days Payable Out.	35.8	36.7	37.8	38.5	38.4
Avg. Cash Conversion Cycle	8.1	7.3	8.7	10.4	12.0

(S&P Capital IQ, 2014)

ANALYSIS

Why do Toromont and PSI have long cash conversion cycles?

It is the nature of the business – distributing engines requires them to keep a lot of inventory!

REFERENCE

Maxwell, S. (2007). *LuMaxArt FS Collection Orange0059* [Online image]. Retrieved July 16, 2015, from https://www.flickr.com/photos/lumaxart/2364667079

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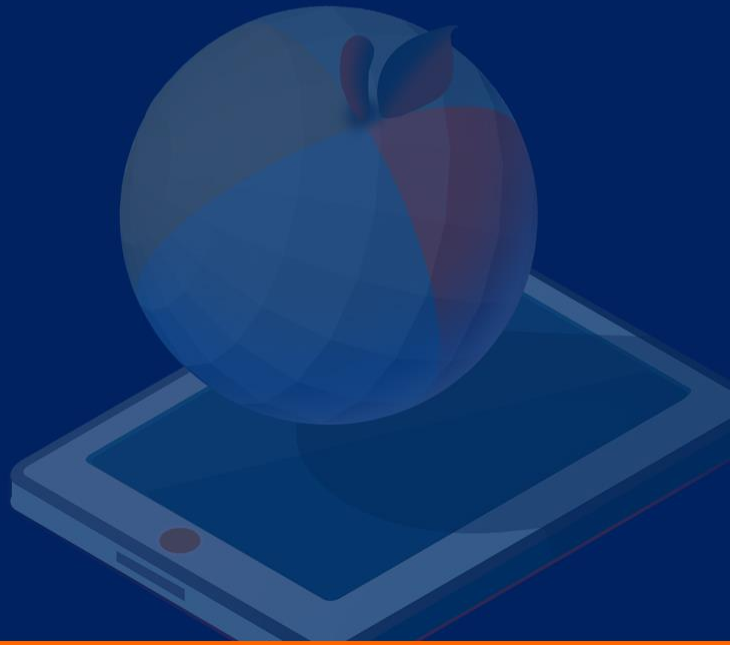
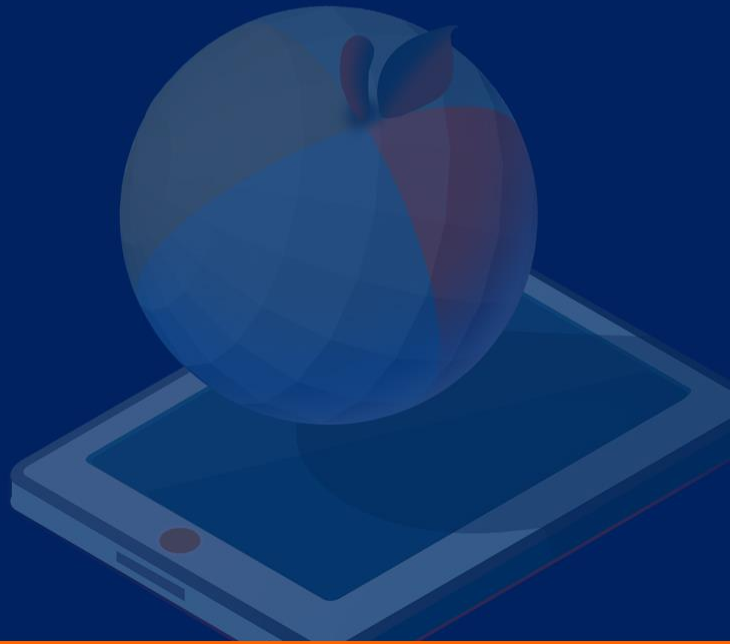


MODULE 2

Financial Planning

VIDEO LESSON 2-9

Short-term Financial Planning – Inventory



SHORT-TERM FINANCIAL PLANNING EXAMPLES

Working capital management is a key determinant of cash generation and liquidity management for companies.

Three examples

1. Inventory management in a high growth environment

2. Seasonality and receivables

3. Liquidity risk arising from accounts payable

INVENTORY MANAGEMENT AND GROWTH

A company must purchase inventory on average 90 days ahead of the time when the goods are actually sold.

Sales are initially 300 million a year, growing at a rate of 10% per quarter.

All sales are cash (no receivables). The profit margin is 8%.

These figures closely match the current situation at Power Solutions International (huge growth, long cash conversion cycle).

POWER SOLUTIONS INTERNATIONAL KEY FINANCIALS

For the Fiscal Period Ending	12 months Dec-31-2010A	12 months Dec-31-2011A	12 months Dec-31-2012A	12 months Dec-31-2012A	LTM 12 months Sep-30-2014A	12 months Dec-31-2014E
Total Revenue	**100.5**	**155.0**	**202.3**	**237.8**	**305.6**	**346.95**
Growth Over Prior Year	*21.3%*	*54.2%*	*30.6%*	*17.5%*	*33.6%*	*45.88%*
Gross Profit	**16.6**	**26.4**	**33.9**	**44.5**	**58.2**	**-**
Margin %	*16.5%*	*17.2%*	*16.8%*	*18.7%*	*19.1%*	-
EBITDA	**5.1**	**106**	**13.9**	**16.5**	**25.7**	**29.91**
Margin %	*5.0%*	*6.9%*	*6.9%*	*7.0%*	*8.4%*	*8.62%*
EBIT	***4.1***	***9.8***	***12.8***	***15.0***	***22.2***	**-**
Margin %	*4.0%*	*6.3%*	*6.3%*	*6.3%*	*7.2%*	-

(S&P Capital IQ, 2014)

HIGH GROWTH AND HIGH INVENTORY NEEDS

Year 1 Sales, COGS and Inventory

	Q1 begin	Q1 end	Q2 begin	Q2 end	Q3 begin	Q3 end	Q4 begin	Q4 end
Sales		75.0		82.5		90.8		99.8
COGS		69.0		75.9		83.5		91.8
Inventory	69.0	75.9	75.9	83.5	83.5	91.8	91.8	101.0

Inventory must be in place a quarter earlier (90 days)
Quarterly profit = 8%*Sales

HIGH GROWTH AND HIGH INVENTORY NEEDS

Year 1 Sales, COGS and Inventory

	Q1 begin	Q1 end	Q2 begin	Q2 end	Q3 begin	Q3 end	Q4 begin	Q4 end
Sales		75.0		82.5		90.8		99.8
COGS		69.0		75.9		83.5		91.8
Inventory	69.0	75.9	75.9	83.5	83.5	91.8	91.8	101.0

What is the cash flow each quarter?

(Maxwell, 2007)

HIGH GROWTH AND HIGH INVENTORY NEEDS

Year 1 Sales, COGS and Inventory

	Q1 begin	Q1 end	Q2 begin	Q2 end	Q3 begin	Q3 end	Q4 begin	Q4 end
Sales		75.0		82.5		90.8		99.8
COGS		69.0		75.9		83.5		91.8
Inventory	69.0	75.9	75.9	83.5	83.5	91.8	91.8	101.0
Cash flow in the quarter		-0.9		-1.0		-1.1		-1.2

Negative cash flow!

DISCUSSION

PSI is a profitable company that is growing very fast.

But it is generating a growing negative cash flow.

Investment in inventory is always larger than sales.

PSI CASH FLOW STATEMENT

For the Fiscal Period Ending	LTM 12 months Sep-30-2014
Net Income	**11.2**
Depreciation & Amort.	3.1
Amort. of Goodwill and Intangibles	0.5
Depreciation & Amort., Total	3.6
(Gain) Loss From Sale Of Assets	0.1
(Income) Loss on Equity Invest.	0.2
Stock-Based Compensation	1.3
Provision & Write-off of Bad debts	(0.2)
Other Operating Activities	1.2
Change in Acc. Receivable	(25.4)
Change In Inventories	**(29.0)**
Change in Acc. Payable	19.6
Change in Inc. Taxes	1.7
Change in Other Net Operating Assets	(3.9)
Cash from Ops.	**(19.9)**

(S&P Capital IQ, 2014)

INVENTORY MANAGEMENT AT PSI

If a company generates negative cash flow forever, its stock price should be

How will PSI become cash positive going forward?

- Slow down in sales growth
- Improved inventory management
- Higher profit margin

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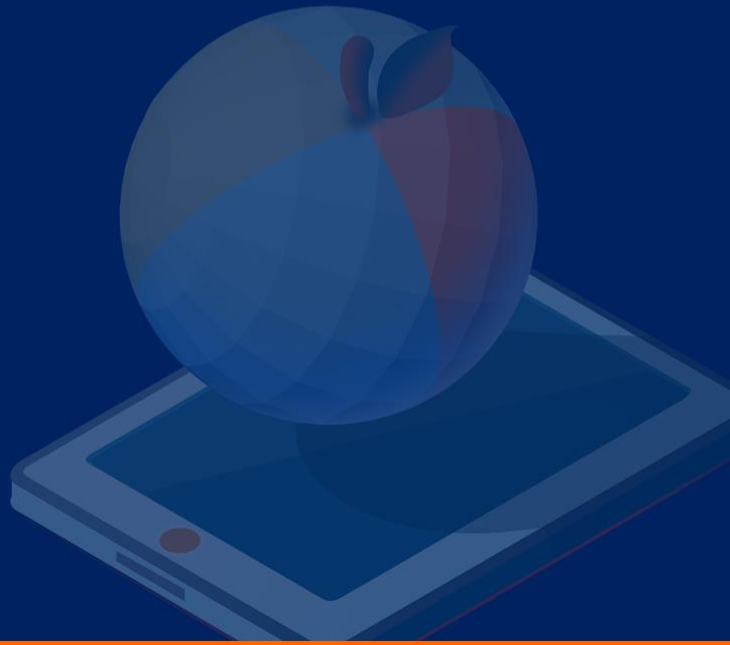
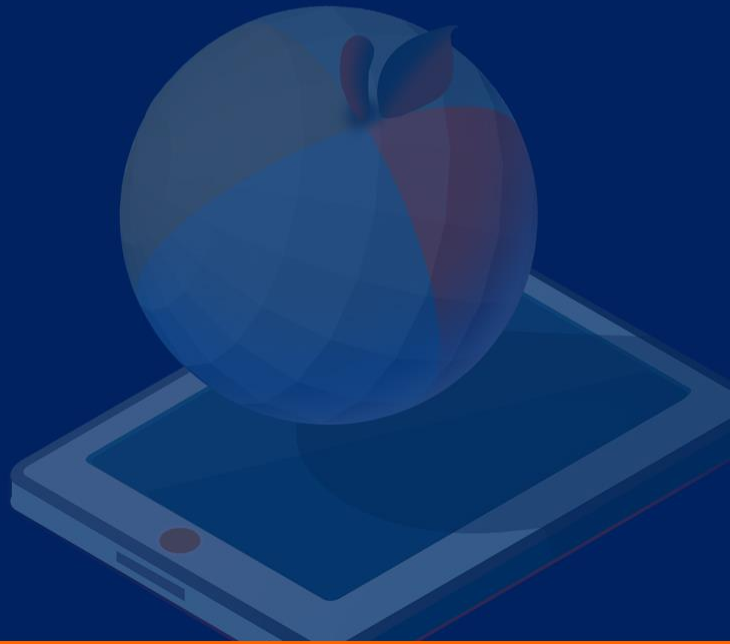


MODULE 2

Financial Planning

VIDEO LESSON 2-10

Seasonality and Receivables



SEASONALITY AND SHORT-TERM FINANCING NEEDS

Sales tend to be higher in the fourth quarter.

But expenses can come at any time in the year.

Seasonality patterns coupled with receivables generate a need for short-term financial planning.

EXAMPLE – SEASONALITY & CASH COLLECTION (1 OF 2)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Receivables at start of period	15			
Forecast sales	87.5	78.5	116	131
Collections:				
Sales in current period (80%)	70			
Sales from last period (20%)	15			
Total collections	85			
Receivables at end of period				
Percentage sales collected this period	80%			

EXAMPLE – SEASONALITY & CASH COLLECTION (2 OF 2)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Receivables at start of period	15	17.5	15.7	23.2
Forecast sales	87.5	78.5	116	131
Collections:				
Sales in current period (80%)	70	62.8	92.8	104.8
Sales from last period (20%)	15	17.5	15.7	23.2
Total collections	85	80.3	108.5	128
Receivables at end of period	17.5	15.7	23.2	26.2
Percentage sales collected this period	80%			

Cash collection is seasonal

EXAMPLE – SOURCES AND USES OF CASH

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Sources of cash:				
Collections on accounts receivable	**85**	**80.3**	**108.5**	**128**
Other	0	0	12.5	0
Total sources	85	80.3	121	128
Uses of cash:				
Payments on accounts payable	65	60	55	50
Labor and other expenses	30	30	30	30
Capital expenditures	32.5	1.3	5.5	8
Taxes, interest, and dividends	4	4	4.5	5
Total uses	131.5	95.3	95	93
Sources minus uses	**-46.5**	**-15**	**26**	**35**

Negative cash flow in quarters 1 and 2, then positive in quarters 3 and 4

EXAMPLE – SHORT TERM BORROWING REQUIREMENT

Suppose company has 5 million in cash, but no excess cash (5 million is the minimum amount of cash that the company can have)

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Sources minus uses	-46.5	-15	26	35
Calculation of short-term borrowing requirement:				
Cash at start of period	5			
Minimum operating balance	5	5	5	5
Borrowing requirement				

How much does the company need to borrow at the end of each quarter?

(Maxwell, 2007)

ANSWER – SHORT TERM BORROWING REQUIREMENT

	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Sources minus uses	-46.5	-15	26	35
Calculation of short-term borrowing requirement:				
Cash at start of period	5			
Minimum operating balance	5	5	5	5
Borrowing requirement	-46.5	-15	26	35
Cumulative financing required	46.5	61.5	35.5	0.5

Company needs to borrow 61.5 by the end of quarter 2, but can repay virtually everything by the end of quarter 4

ANALYSIS

How can the company manage this short-term financing need?

POSSIBLE OPTIONS

1. Make a short-term loan or open a credit line with a bank

2. Hold additional cash
   - Raise long-term financing
   - Save cash from operations

3. Change operations
   - Delay the capital expenditure
   - Extend accounts payable
   - Sell receivables

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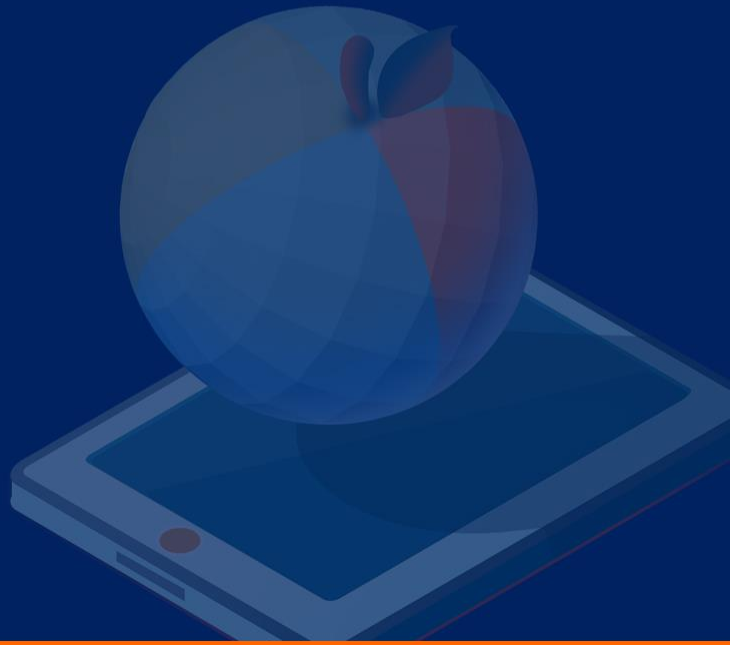
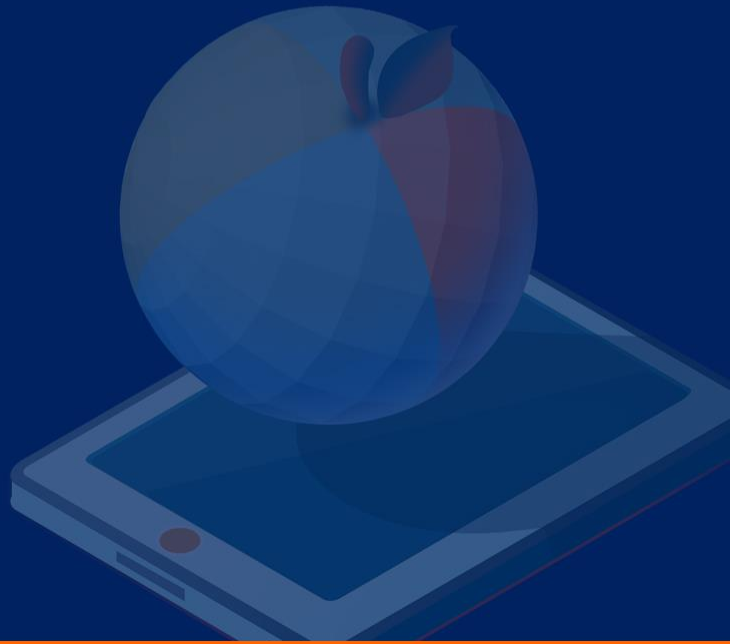


MODULE 2

Financial Planning

VIDEO LESSON 2-11

Accounts Payable and Liquidity Risk



POWER SOLUTIONS INTERNATIONAL

	2014	2013	2012
Current ratio	2.8	3.4	2.5
Quick ratio	1.4	1.7	1.3
Cash ratio	0.1	0.2	0.0

(S&P Capital IQ, 2014)

Source: own calculations, data from Capital IQ

These are the liquidity ratios we discussed in Module 1

RECAP OF LIQUIDITY RATIOS

(Dallten, 2012.)

LIQUIDITY RATIOS FOR PSI

Is the current ratio a good measure of liquidity for PSI?

No – large inventory, required for the business

Is the low cash ratio a problem for PSI?

PSI CASH MANAGEMENT

PSI holds virtually no cash.

PSI's operating cash flow is negative (slide 90).

So how will PSI be able to pay for its current liabilities when they come due?

WHAT ARE THESE CURRENT LIABILITIES?

PSI, data from September, 2014 (Capital IQ)

Accounts Payable	46.4
Accrued Exp.	11.7
Short-term Borrowings	-
Curr. Port. of LT Debt	1.7
Curr. Port. of Cap. Leases	-
Curr. Income Taxes Payable	-
Other Current Liabilities	0.1
Total Current Liabilities	**59.9**

Mostly accounts payable

ACCOUNTS PAYABLE AND LIQUIDITY RISK

What happens when PSI's accounts payable come due?

(Maxwell, 2007)

REFINANCING ACCOUNTS PAYABLE

PSI is refinancing accounts payable as they come due.

(flickr.com/GotCredit, 2015)

REFINANCING ACCOUNTS PAYABLE

What do I mean by refinancing?

Pay 46.4 M liability

Generate a new one (borrow 46.4M or more from suppliers)

So there is no cash outflow to worry about unless …

LIQUIDITY RISK

The risk that PSI faces is that suppliers may demand payment and not agree to extend new financing.

If this happens, PSI may face a liquidity crisis.

LIQUIDITY RISK

When could this happen?

Financial crisis

Financial health of PSI deteriorates

Financial health of suppliers deteriorates

MANAGING LIQUIDITY RISK

Since PSI does not have cash, how are they managing this risk?

Perhaps they are counting on their receivables.

PSI has 68.9 million dollars in receivables (quick ratio above 1).

MANAGING LIQUIDITY RISK

How can they use receivables to honor payables?

Factor receivables (slide 64)

Raise a short-term loan using receivables as collateral (similar to factoring).

MANAGING LIQUIDITY RISK USING CREDIT LINES

Having a bank credit line can be an even better option.

PSI has plenty of collateral (receivables and inventory).

Credit line terms are negotiated ahead of the time when the loan is actually needed.

MORE DETAILS ON BANK CREDIT LINES

Interest rate and credit limit on credit line drawdown are negotiated ahead of time.

Typically a spread over Libor or other baseline interest rate

In exchange, PSI pays a commitment fee to the bank (typically 0.1% to 0.3% a year).

Just like insurance!

PSI'S CREDIT LINE

Debt Summary Data

	For the Fiscal Period Ending 12 months Dec-31-2012		For the Fiscal Period Ending 12 months Dec-31-2013	
Units	**Millions**	**% of total**	**Millions**	**% of total**
Total revolving credit	30.9	*99.9%*	17.9	*99.8%*
Total Term Loans	-	-	-	-
Total principal due	**30.9**	***99.9%***	**17.9**	***99.8%***
Total adjustments	0.0	*0.1%*	0.0	*0.2%*
Total debt outstanding	**30.9**	***100.0 %***	**17.9**	***100.0 %***
Available credit				
Undrawn revolving credit	19.1	-	47.9	-
Total undrawn credit	**19.1**	**-**	**47.9**	**-**

(S&P Capital IQ, 2014)

PSI'S CREDIT LINE

Undrawn credit line = 48 million dollars (data from 2013)

PSI has the right to use this line (just like a credit card) if the need arises.

(Taylor, 2015)

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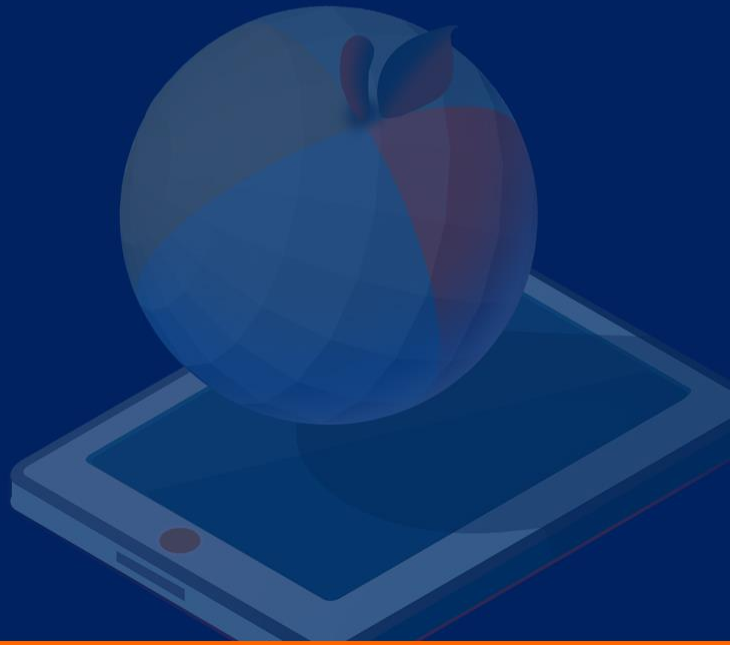
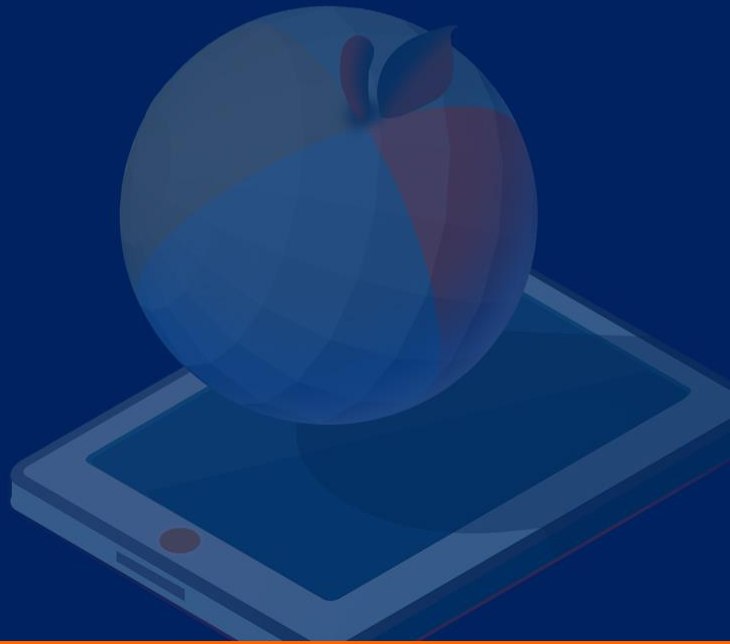


MODULE 2

Financial Planning

VIDEO LESSON 2-12

Module 2 Review



WHAT WE'VE LEARNED IN MODULE 2 (1 OF 3)

How to forecast financial statements

How to use financial forecasting to estimate long-term financing needs

The basics of working capital management: receivables, payables, inventory

WHAT WE'VE LEARNED IN MODULE 2 (2 OF 3)

The implications of working capital management for cash generation

To calculate and analyze working capital ratios and measure cash conversion cycles

How to manage short-term cash needs

WHAT WE'VE LEARNED IN MODULE 2 (3 OF 3)

The impact of high growth rates on cash generation when inventory needs are high

Why seasonality in sales and receivables generates a need for short-term cash management

How to manage liquidity risk arising from accounts payable