

Financial Simulation

Based on materials provided by Harvard Business Publishing

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Login at <http://cb.hbsp.harvard.edu>

The screenshot shows the Harvard Business Publishing website for educators. The top navigation bar includes links for Harvard Business School, Corporate Learning, Harvard Business Review, and Careers @ HBP. The main header features the Harvard Business Publishing logo, a search bar, and user information (Welcome, Jarrod Student, Logout). Below the header is a secondary navigation bar with tabs for My Library, Coursepacks 1, Disciplines, Content, and Case Method, along with an Account Settings link. A system message banner at the top of the main content area states: "Please note that our web site, including access to educational content (simulations, Online Courses, tutorials, Core Curriculum, etc.), will be unavailable on Friday March 25, from 11:00 pm - 1:00 am ET, due to scheduled system maintenance." The main content area displays a breadcrumb trail: Home > My Library > Coursepacks > 2016 March. Under the "My Library" section, there is a list of coursepacks, including "YYYY CourseName" and "Expired Coursepack". A blue callout bubble points to the "Coursepacks" tab in the secondary navigation bar with the text "Click 'Coursepacks'". Another blue callout bubble points to the "YYYY CourseName" entry in the list with the text "Click your course name". Below the coursepack list, a simulation card is visible for "Working Capital Simulation: Managing Growth V2" by Sandeep Dahiya, added on Mar 11, 2016, and purchased on Feb 29, 2016. A blue callout bubble points to the "RUN SIMULATION" button on the simulation card with the text "Scroll down and click 'Run Simulation'". At the bottom left, there is a "Chat with Customer Service" button, and at the bottom right, the name "Jarrod Goentzel" is displayed.

HARVARD BUSINESS
WORKING CAPITAL SIMULATION: MANAGING GROWTH

PREPARE
ANALYZE
Dashboard
Balance Sheet
Income Statement
Cash Flow
Cash Cycle
Synopsis
DECIDE

Welcome to the Working Capital Simulation

SUNFLOWER NUTRACEUTICALS

Sunflower Nutraceuticals (SNC) is a privately held nutraceuticals distributor based in Miami, Florida, and founded in 2006. SNC started as an internet-based, direct-to-consumer distributor and retailer of dietary supplements, including vitamins, minerals, and herbs for women, with product offerings for all age groups. Through its website and catalog, SNC offers customers a large selection of stock keeping units (SKUs) from more than 50 third-party brands. Since its founding, the company ambitiously expanded into new retail outlets and launched several private-label brands, including a line of women's electrolyte sports drinks, metabolism-boosting powders, and a vitamin line for teenage girls.

SNC is breaking even, with relatively flat annual sales growth on total revenues of \$10 million. The business is working-capital-intensive, and margins are generally thin. Several times during the past few years, the company struggled to finance the payroll, given the firm's constrained cash position, and more than once the company's line of credit was overdrawn. SNC keeps a minimum amount of cash on hand to meet operational needs and this level of required cash is \$300,000. The company also accesses a line of credit, with a fairly restrictive set of governing covenants, issued by a national bank. The credit limit on the facility of \$3,200,000 is priced as a spread over the 1-year LIBOR. It is currently set at a rate of 8%. SNC uses a cost of capital of 12% to evaluate investment opportunities.

Health food companies have sold vitamins for decades, but the nutraceuticals industry is relatively new. Although regulatory bodies apply stricter definitions, the term nutraceuticals generally means "a fortified food or dietary supplement that provides health benefits." Examples include omega-3 fatty acids, probiotics, and soy and energy drinks. By 2010, the global nutraceuticals market was worth approximately \$128.6 billion; it is forecasted to grow at a compound annual growth rate (CAGR) of 4.9% and reach \$180.1 billion by 2017. The key driving factors for industry growth are the increase in the elderly population, the rate of growth in chronic diseases, the relative affluence of the working population, and increasing societal awareness of preventive medicine.

HOW TO PLAY

Step 1: Prepare
Read the Prepare tab to familiarize yourself with the basic background of Sunflower Nutraceuticals. Download the [Terminology Primer](#) to review key terms before beginning the simulation.

Step 2: Analyze Reports
The financial statements report the company's historical and current financial picture and how the financial condition of Sunflower Nutraceuticals is changing over time.

Step 3: Enter Decisions
Click on the Decide tab to enter investment decisions for the next phase. You can choose to invest in or reject any or all of the opportunities available to you in that 3-year phase. When you have finished entering your investment decisions, click the Submit Decision button to advance to the next phase.

Step 4: Review Results
Look at the Synopsis page and your financial statements to see how each opportunity you selected impacted Sunflower Nutraceutical's performance. Continue until you have completed all phases of the simulation.
[More Details](#)

Non-binding Credit Limit
You will have unlimited attempt(s) to complete this scenario.

Play Now

ONLINE SIMULATIONS

HARVARD BUSINESS PUBLISHING

TERMINOLOGY PRIMER

Working Capital Simulation: Managing Growth

How to Play

USER VIDEO

Income Statement

(data in thousands of dollars)

	2010	2011	2012
Sales	\$10,000	\$10,000	\$10,000
Cost of Sales	\$9,560	\$9,630	\$9,350
EBIT	\$440	\$370	\$650
Interest Expense	\$180	\$267	\$256
Pre-Tax Income	\$260	\$103	\$394
Income Taxes	\$104	\$41	\$157
Net Income	\$156	\$62	\$236

Copy to Clipboard

Sales

Year	Sales
'10	10,000
'11	10,000
'12	10,000

EBIT

Year	EBIT
'10	440
'11	370
'12	650

Net Income

Year	Net Income
'10	156
'11	62
'12	236

2010

2011

2012

2013

2014

2015

2016

2017

2018

2019

2020

2021

2022

Complete

History

Phase 1

Phase 2

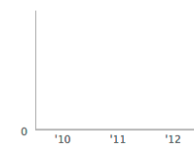
Phase 3

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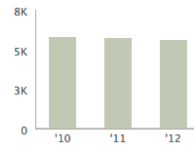
Balance Sheet

(data in thousands of dollars)	2010	2011	2012
Minimum Cash Requirement	\$300	\$300	\$300
Cash & Equivalents (Shortfall)*	\$0	\$0	\$0
Accounts Receivable	\$3,123	\$3,096	\$3,014
Inventories	\$2,357	\$2,348	\$2,305
Other CA	\$0	\$0	\$0
Total Current Assets	\$5,781	\$5,744	\$5,619
Net PP&E	\$40	\$40	\$40
Other FA	\$0	\$0	\$0
Total Assets	\$5,821	\$5,784	\$5,659
Accounts Payable	\$1,021	\$1,055	\$1,050
Accrued Expenses	\$0	\$0	\$0
Total Current Liabilities	\$1,021	\$1,055	\$1,050
Amount Borrowed from Credit Line	\$3,332	\$3,200	\$2,844
Total Liabilities	\$4,353	\$4,255	\$3,894
Common Stock	\$200	\$200	\$200
Retained Earnings	\$1,267	\$1,329	\$1,565
Total Stockholder's Equity	\$1,467	\$1,529	\$1,765
Total Liabilities & Equity	\$5,821	\$5,784	\$5,659

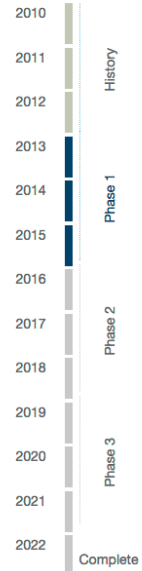
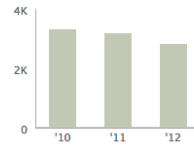
Cash and Cash Equivalents



Total Current Assets



Credit Line Utilization



The SNC simulation

- As CEO, you simply make YES/NO decisions about business opportunities
- There are 10 opportunities over the next 8 years (1024 solutions if you want to completely enumerate them)

Decisions Phase 1: 2013 - 2015

Acquire a New Customer

Leverage Supplier Discount

Tighten Accounts Receivable

Drop Poorly Selling Products

Opportunities Selected

No opportunities selected yet.

Submit Decisions

SNC is considering an opportunity to add Atlantic Wellness, a large, successful health food chain as a new corporate customer for its herbal nutraceutical product line. Taking on this customer would immediately increase SNC's sales by \$4 million per year (a one-time increase of 40%) and EBIT by \$260,000. The profit margins and net working capital terms would remain the same as for SNC's existing business.

What would you like to do about this opportunity?

	2013	2014	2015	Post 2015
Incremental Summary Income Statement (\$ in thousands)				
Sales	\$4,000	\$4,000	\$4,000	\$4,000
Cost of Sales	\$3,740	\$3,740	\$3,740	\$3,740
EBIT	\$260	\$260	\$260	\$260
Incremental Balance Sheet (\$ in thousands)				
Accounts Receivable	\$1,205	\$1,205	\$1,205	\$1,205
Inventories	\$922	\$922	\$922	\$922
Accounts Payable	\$420	\$420	\$420	\$420

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The SNC simulation

- Roles: You are the CEO, I am the shareholder
- Goal: Make me happy
- Constraint: Your credit line cannot exceed \$3.2 million.

- Resources available
 - Video (6 minutes) to describe the game
 - Copy to clipboard option (may need to refresh the browser)
 - Terminology Primer

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Questions for your briefing to the investor

- What were your objectives in making decisions (in rank order)?
- What approach did you use to evaluate options?

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