



APLIA CORPORATE BACKGROUND

I. Aplia, the Company

Aplia is an educational technology company focused on providing online pedagogical tools that encourage more effort by students on a regular basis and save time for instructors.

Aplia was born out of the desire to get more effort from students outside of class. Paul Romer, Aplia's founder and Stanford instructor, found that today's busy, distracted students don't prepare adequately for class, hampering their learning and hindering the classroom experience.

Aplia's solution? A collection of web-based tools that enables instructors to incorporate two key teaching elements: assigning frequent online homework that is automatically tracked and graded; and easily incorporating active-learning activities such as experiments and current events into the classroom. The result? Better-prepared students, more effective use of class time, enhanced discussions, and more in-depth learning. Aplia provides the tools that encourage student effort – the most important determinant of their success.

II. Aplia's History

Just as Bill Lear invented the Lear Jet and the 8-track tape as a result of trying to build the things he wanted but couldn't find elsewhere, Paul Romer created the first iteration of what would later become Aplia, because he saw a need for his own students to learn more effectively. In his teaching in the 1990s at Stanford, Romer wanted to assign more homework, but he could not manage the paper flow and grading. He wanted to use experiments to get students involved but could not spare time from lectures. To solve these problems, he hired graduate students at Stanford to help develop the software and teaching materials that dramatically changed the course. Because he could require assignments before every class and run online experiments that made abstract concepts real, his students gained confidence. Everyone came to class better prepared. Classroom discussions were more productive. Ultimately, students learned more and felt a stronger sense of accomplishment.

Word spread about how these tools had improved Romer's courses, and soon other instructors at Stanford's business school asked how they could access these materials for their own courses. Romer realized there was an opportunity to spread his offering to other instructors nationwide who faced similar challenges, but he knew that he alone could not provide the high production values and quality standards that instructors have come to expect from professionally published materials. To fully develop these tools – and other tools that fellow economists were developing to address the same frustrations – Romer and his cofounder, Scott McCrae, formed the company, Aplia, in 2000 with the mission to change how people teach by requiring from students the effort necessary for them to succeed.

The cofounders worked on the product in stealth mode until 2002, when they secured an \$11.2 million funding round from Skandia Life Insurance Company, Ltd., providing the fuel for Aplia to continue rapid development of its innovative course content and course management system for colleges and universities.

In January of 2002, Aplia began full-fledged commercialization of its initial product, *Principles of Microeconomics*. Since then, Aplia has increased its product line to include *Principles of Finance*; *Principles of Macroeconomics*; *Principles of Economics*; *Survey of Economics*; *Intermediate Microeconomics*; *Advanced Intermediate Microeconomics*; *Money, Banking, and Financial Institutions*; and *International Trade*. Aplia is also poised to expand into new disciplines.

Aplia is always looking for more ways to make education more effective and more efficient for both the student and the instructor. Starting in 2004, Aplia has teamed up with various leading educational publishers, such as Worth Publishers, Cengage Higher Education, John Wiley & Sons, McGraw-Hill, and Houghton Mifflin to change the model in which educational materials are delivered. The new offering, called Aplia's *Integrated Textbook Solution*, ensures that every student has access to a low-cost textbook while getting the benefits of Aplia's traditional solution.

This new product provides students a low-cost digital edition of their textbook along with, or as a substitute for, the traditional physical edition. Aplia is providing instructors complete choice and flexibility in terms of how to use Aplia – as standalone material that complements the book, or even as a substitute for the book. As a result, Aplia has again lowered the cost of education for students, while providing them with an even better learning experience.

As of fall 2007, Aplia has been used by more than 650,000 students at more than 750 higher education institutions, including use in countries such as Canada, France, Australia, and Ireland.

In 2007, Cengage Learning acquired Aplia Inc. The move reflects Cengage Learning's commitment to continue growth in the digital teaching and learning solutions that higher education students and faculty demand.

III. Aplia's Philosophy

In higher education, instructors and students have had a lot of disappointment with technology in teaching because it has not delivered on its promises, in large part because the companies did not understand the educational process. Generally, people have thought that technology could help teach the more challenging aspects of a discipline through the use of multimedia effects and so on. However, the opposite is true. Technology is best used to cover the more basic topics outside the classroom (e.g., basic math tutorials), which then frees up the instructor's time to cover the higher-level, abstract concepts during the lecture. Technology also allows instructors to delegate the administrative piece of managing a course to the computer, which in turn gives them the ability to assign more frequent homework and verify that students have prepared adequately for class.

Aplia is unique in that it leverages technology in this way, giving instructors the tools to grab the attention and time of students outside the classroom. Aplia uses technology as a way for instructors to measure the effort of the students and reward them accordingly – in short, motivating their effort by grading what they're doing.

Succeeding in this allows instructors to use the classroom in much more exciting ways, transforming the teaching *and* learning experience. Challenging, stretching, and provoking learning experiences still take place with the human interaction in the classroom. Aplia simply helps get the basics out of the way so that this exciting classroom learning environment is possible.

Additionally, Aplia's philosophy is to transform the business of supplying educational materials to college instructors. Many of the existing suppliers start with the assumption that their core product is made up of ink and paper, which shapes a lot of the decisions in their business that are in many ways counterproductive. For example, textbook publishers derive most of their income from selling printed textbooks; however, students who purchase textbooks place more "value" on used textbooks while publishers continue the practice of revising textbooks every three years as a way to force students into buying new books, a practice that students are rejecting. According to the Chronicle of Higher Education, 55% of students enrolled in undergraduate courses elect to buy used books over new books or elect not to buy any textbook even though it is required by their instructor.

Publishers also foster a business model that ensures their materials are often severely out of date. Because of the longer cycle it takes to update traditional print books, time-sensitive content that affects the way the economy runs may take years to get into a textbook. Take, for example, the events of September 11, 2001, which are now an essential piece of economic history. Five major economics textbooks were revised in August of 2001, essentially rendering them out of date until the next revision cycle. Textbook publishers simply can't respond quickly enough.

Aplia's position is that this business model of academic publishing is out of sync with market needs. Aplia, in contrast, offers educational solutions that can be constantly current because changes can be made online without the cost and hurdles associated with traditional publishing. Aplia builds its core content with many instructors exposing a lot of ideas in order to provide lower-cost, more effective educational solutions and materials, transforming publishing as it's currently known.

IV. Aplia's Target Markets and Market Growth

Industry analysts predict explosive growth in the use of technology in education. According to SIMBA, the \$12 billion higher education publishing market is up 12% over last year with the greatest increases coming from ancillary and supplemental materials.

According to the Chronicle of Higher Education, the "blended" classroom model, or "technology-enhanced" model, will increase from 5% in 2002 to 17% in 2005. The other two models, traditional lecture classes and distance learning classes, will make up 65% and 18% respectively in 2005.

Aplia initially targeted the economics market and now offers a finance product, as well. The company will continue to expand into additional markets in the future.

V. Aplia's Products

Aplia's first product supports the college-level course *Principles of Microeconomics* and, as of early 2007, has been used at more than 650 schools with more than 500,000 students. Additionally, Aplia has developed products for other college-level economics courses – *Principles of Finance; Principles of Macroeconomics; Principles of Economics; Survey of Economics; Intermediate Microeconomics; Advanced Intermediate Microeconomics; Money, Banking, and Financial Institutions; and International Trade* – and plans to expand into other disciplines as well.

For Economics and Finance courses, Aplia's traditional product provides the following:

Problem Sets: A database of thousands of high-quality, auto-graded problems to assign as graded homework or make available to students for practice with immediate feedback. Aplia also provides unique online tools for calculating answers, manipulating data and graphs, and visualizing outcomes.

News Analyses: Regularly updated news features that include article summaries, connections to course concepts, discussion questions, and problems that can be assigned as homework. This feature helps students see clear connections between economic principles and real life.

Experiments (economics only): Online market interactions that allow instructors and students to experience market dynamics. Problem sets containing questions and informational pages follow to clarify the key economic concepts behind each experiment.

Tutorials: Interactive tutorials that identify student weaknesses in course prerequisites and require them to address any deficiency before it becomes a problem. The Tutorial Package also includes a pretest and posttest, enabling instructors to gauge the knowledge base of their students.

Reports: Instant, online reports that allow instructors to target student trouble areas more efficiently, see trends, and focus more time on teaching.

In 2004, Aplia began offering its *Integrated Textbook Solutions*, which provide the following:

Digital Edition: A complete online version of the physical textbook. Aplia has made alliances with five major publishers – Cengage Learning, Worth Publishers, John Wiley & Sons, McGraw-Hill, and Houghton Mifflin – to provide a digital edition of their major textbooks.

Traditional Aplia Solution: Consists of highly correlated content in the form of problem sets, news analyses, experiments, tutorials, and online assessment tools.

Physical Edition Upgrade: A direct-fulfillment physical-upgrade option for students. Aplia gives students the option to "upgrade" to a physical textbook at an extremely discounted price. This allows students who are more comfortable with a traditional paper text and are not as bound by financial constraints to meet their learning styles and preferences. For McGraw-Hill products, students will receive a black and white physical edition automatically, with an option to also get the digital edition.

Aplia's economics and finance materials are created in conjunction with a robust advisory board made up of leaders in the teaching of economics and finance and the use of technology in teaching and learning. The board includes worldwide luminaries in these fields, aiding Aplia in

providing a unique solution that truly meets the needs of students and those teaching economics.

VI. Aplia's Management Team

PAUL ROMER | Founder and Chief Learning Advisor

Paul Romer, one of the nation's leading economists, is the primary developer of New Growth Theory, a body of work that provides a fresh foundation for business and government thinking about wealth creation.

In 2002, Paul was recognized for his work in this field when he was awarded the prestigious Horst Claus Recktenwald Prize in Economics for outstanding achievement and contributions to the field of economics. The honor is among the world's highest accolades honoring academic economists and is conferred once every two years. Paul is the fourth recipient of the award; previous recipients include Joseph E. Stiglitz from Columbia University, French economist Edmond C. Malinvaud, and Princeton economist Paul Krugman.

Paul was awarded the Distinguished Teaching Award at Stanford University's Graduate School of Business (1999), named one of America's 25 most influential people by TIME magazine (1997), and elected a fellow of the American Academy of Arts and Sciences (2000). He is a fellow of the Econometric Society and a research associate with the National Bureau of Economic Research. He was a member of the National Research Council Panel on Criteria for Federal Support of Research and Development, a member of the Executive Council of the American Economics Association, and a fellow of the Center for Advanced Study in the Behavioral Sciences. Before coming to Stanford, he taught economics at the University of California at Berkeley, the University of Chicago, and the University of Rochester.

In addition to his work building Aplia, Paul is an instructor at the Stanford Graduate School of Business.

NICHOLAS SMITH | President

Nicholas Smith brings to Aplia 15 years of experience in education and instructional technology. Nicholas joined Aplia in 2001, and has since helped to build or lead a number of key teams, including content production, customer support, and sales. Before joining Aplia, Nicholas developed and produced online courses for Pensare, Inc., a web-based professional training and development company. Prior experiences include establishing and managing employee computer training programs throughout Europe and the United States for SRI Consulting; providing consulting services for the Alliance for Lifelong Learning, an online educational partnership of Oxford, Stanford, and Yale; and helping to found and grow the middle school program at Keys School in Palo Alto, CA.

Nicholas holds a master's degree from Brandeis University.

RICK MEYERS | Chief Technical Officer

Rick Meyers is an expert in using multimedia technology in education. His skills in Flash, ActionScript, XML, and a host of authoring, graphic arts, and sound editing tools are backed by more than 30 years of training and experience in physics, mathematics, engineering, computer

science, human factors, and multimedia. Prior to joining Aplia, Rick owned and operated Meyers Labs, a contract engineering house specializing in CD-ROM and Internet-based multimedia for education. Past clients include Summit Performance Group, Zeeks.com, Alfy.com, Pensare, LightSurf, ThinkBox, and Pierian Spring Software, as well as Aplia. Rick created and continues to operate the educational kids site Zoopz.com. Rick has served as a systems software engineer and engineering manager at Hewlett-Packard, Apple Computer, and Taligent. His many credits at these firms include Lisa Smalltalk, Apple's MPW 1.0 for Macintosh, and Taligent's acclaimed CompTech C++ compiler.

Rick holds a B.A. in physics and mathematics from Hope College and an M.S. in IEEE/computer science from the University of California at Berkeley.

TIM NUFIRE | VP Engineering

Tim Nufire is a dynamic leader with experience managing teams in fast-paced, competitive markets. Tim is also a very strong hands-on engineer who, as Director of Engineering at SearchFox, created an AJAX-based RSS reader, which sorts articles based on what users like most.

Before joining SearchFox, he was the Director of Engineering at MailFrontier, where he led the technical staff and increased its size from 5 to 30 employees. He was also responsible for delivering three major releases of their Anti-Spam Gateway and four major releases of the Desktop product in just over two years. During the height of the dot-com days, Tim managed Excite Inbox, which had over five million active webmail users. In his 15+ years doing software engineering, Tim has also worked for Apple and Adobe as well as other companies in the San Francisco Bay Area.

Tim graduated with Highest Distinction from the University of Kansas with a BS in mathematics and an emphasis in physics.

SHELBY MACKAY WELSCH | Director of Sales

Shelby MacKay Welsch brings more than 11 years of direct sales and management experience to Aplia, where she is responsible for directing the sales team. Prior to joining Aplia, Shelby was instrumental in steering the growth of MailFrontier, Inc., the leader in e-mail security, until its profitable acquisition by SonicWall in 2006. As the first sales representative at MailFrontier, she was responsible for acquiring customers as well as building and leading a strong sales team. Shelby has worked extensively throughout the Bay Area with companies such as Calico, Inc., and Enviz, Inc., and brings an energetic spirit to Aplia.

VII. Aplia Press Contact

For more information on Aplia, please contact:

Susan Prager
Marketing Specialist
650-413-6678
sprager@aplia.com