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Volume

1

INTERNET ENTREPRENEURSHIP

VCommerce Simulation

Entrepreneur User Guide

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Overview of VCommerce

Growing entrepreneurial skills in Internet Time

VCommerce is intended to provide you with an educational and stimulating introduction to the initial, “startup” phases of entrepreneurial activity in the online, Internet-enabled economy. VCommerce is designed to reward those who can innovate, explore market niches, design viable businesses within the context of the VCommerce world, exploit the information resources of the Internet for business planning, react appropriately to VCommerce market data, and develop effective partnerships with other people with complementary skills. This chapter provides an overview of the VCommerce process. Subsequent chapters provide details on specific aspects of the game, or examples of various components.

VCommerce in a nutshell

In VCommerce, a small group of entrepreneurs design and implement a dozen or so companies that use an online web presence to market (virtual) goods and services online to a larger group of 200-300 users. In Spring of 2000, this consumer population will be drawn from the Hawaii college-age student population.¹ Users are provided with (virtual) cash, with which they visit the companies online and “buy” the goods and services that appeal to them. (No actual goods or services are provided in reality.) Users are also provided with the opportunity to invest in one or more of these companies after having made their purchases. Following consumer and investor evaluation, the companies are virtually “valued” based upon such factors as the accuracy of the business plan in predicting sales and revenue, site traffic, and investor interest. The design, implementation, user evaluation, and postmortem valuation of the companies constitutes a single VCommerce “business cycle”. Three to four business cycles occur during the semester, each using new consumers, which allow entrepreneurs to learn from initial mistakes, improve an existing business design for the next cycle, or bail out and start a new business.

¹ The set of consumers will be self-selected and thus not guaranteed to represent a statistically accurate sampling of the larger population.

OVERVIEW OF VCOMMERCE

For an entrepreneur, the goal of each business cycle is to design and implement companies that consumers will both buy from and invest in, and accurately predict their behavior in the business plan. This results in high valuations for the companies and thus wealth for the entrepreneur. For a user, the goal of the game is to (virtually) purchase goods and services that would appeal to them in the real world, and then make investment choices in companies that are later determined to have a high valuation, and thus a high stock value. Published rankings of the relative wealth of both entrepreneurs and users provide a game-like feel to this aspect of VCommerce.

VCommerce differs from other business simulations by its blending of the real and virtual business worlds. In most enterprise or market simulations, the participant enters a fully virtual world with its own economic “physics”, and using the simulation basically involves simple manipulation of numeric values that guide the rise and fall of the market and/or enterprises. VCommerce also has a certain amount of virtual physics, but successful entrepreneurs must also engage in several real-world activities:

- Real-world primary and secondary market research, using online and offline sources, to determine products and services that appeal to the Hawaii college age student market.
- Development of one or more VCommerce business plans. The format of these business plans includes many of the topics that must be covered in real-world business plans.
- Development of an online web presence. Although students will not be required to implement a fully functional e-commerce site, entrepreneurs will be required to implement web pages to market their product, and the more professional their pages, the more likely they are to acquire investors from the consumer community.
- Multiple business cycles, and incremental discovery of market information. In VCommerce, entrepreneurs get the chance to dissolve unprofitable companies and start new ones as they become more experienced with the market and obtain better quality information.
- Use of business plans for planning as well as investor attraction. In VCommerce, generating accurate predictions of consumer behavior in the business plan is a key component of success. This helps entrepreneurs to learn how the business planning process can continue to be useful even after the money has arrived.

As with any simulation, VCommerce provides an abstraction of the entrepreneurial process. Many issues confronted by real entrepreneurs, from the legal structure of the company, to tax issues, order fulfillment, and exit strategies for investors are absent in VCommerce. Other issues, such as the business planning process, are partially abstracted—a VCommerce business plan resembles a real-world business plan but does not require the same level of detail.

What VCommerce is designed to provide is a “taste” of the fundamental components of new online venture creation: the creation of an effective team, the search for profitable products and services, the design of a viable and predictive business plan, the creation of an Internet presence, the interpretation of data gathered from the Internet about the consumer population, and finally, the chance to iterate—to improve any or all of the above components and test the improvements in the next business cycle. If VCommerce is successful, the entrepreneurs will graduate from the course with new entrepreneurial ideas and experiences that can be applied directly to their future ventures.

Business cycle components

VCommerce involves a series of *business cycles*. The number of business cycles is arbitrary, but three or four is reasonable for a semester. Each cycle consists of the following phases: *team formation*, *business planning*, *web site development*, *user test*, and *postmortem*. Following the business cycle series, there is a final phase called *vcommerce postmortem*. The next several sections overview the activities in each of these phases.

TEAM
FORMATION

During team formation, entrepreneurs meet each other and form partnerships. An effective partnership results from complementary skills and complementary working styles. During the first business cycle of VCommerce, it is essential for entrepreneurs to form teams since they may not have enough capital to fund the operation of a company on their own. Depending upon their fortunes during the initial cycles, some entrepreneurs might acquire enough capital to go it alone in later rounds.

BUSINESS
PLANNING

Once a team has formed, the next step is to design the business, and record the results of this design process in a VCommerce business plan. A VCommerce business plan is a stylized version of a real-world business plan, and is discussed in detail in the next chapter. In general terms, business planning involves four major activities: market research, determination of product/service cost, development of a revenue model, and ownership description.

During market research, the team attempts to determine one or more products or services that they can market to the VCommerce population, which is defined as the 60,000 college-age students currently residing in Hawaii. Both primary and second market research activities should be pursued to identify products or services that appeal to this consumer population. Market research should result in estimates for the size of the market segment within the VCommerce population, and their anticipated buying behavior.

The next step for the company is to establish a cost for these products and services. This involves additional research. For example, if a company decides to sell skydiving trips, they will need to call skydiving companies at Dillingham field on the North Shore to determine what kind of wholesale rate they could be offered, and how many

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skydives per week they would need to guarantee in order to get that rate. In other words, although the company will not be actually selling the skydiving package, they must attempt to establish a cost based upon actual market conditions.

Having settled on the products and/or services, and having established a cost, the company must now develop a pro forma income statement. This income statement requires estimates for the sales revenue, gross profit margin, advertising revenue, and expenses over an initial seven month period of operation. Several simplifying assumptions are made in VCommerce to facilitate development of this income statement.

The company records all of these decisions in a VCommerce business plan. This document is turned in and evaluated by the instructors, and will later be released to users during their investment decision making process.

WEBSITE DEVELOPMENT

The business plan describes the design of a company, its products and services, and how it intends to make a profit. The next activity for the company is to design and build a web site that puts these design goals into practice. In VCommerce, each company's web pages are part of a larger web site that provides useful simulation services (including virtual money, instrumentation that reveals consumer behavior within the web site, questionnaire presentation and logging, and so forth). For company web pages to work within the simulation correctly, it must obey a set of design conventions to ensure that consumers can find it, and that their purchases are recorded correctly within the game's database. These design conventions will be described in detail in Chapter 3. In addition, we will provide a template web site for a hypothetical company that can be used as a basis for development.

A company's web pages could be totally static—in other words, a fixed set of products and services could be offered for a standard price to every consumer visiting the page. However, web pages can also be dynamic—they can vary by day, or customer, or some other factor (such as how many products have been sold). In general, companies that pursue a more dynamic approach to web pages are expected to do better.

USER TEST

During the user test phase, a subset of 50-100 people from the VCommerce population are invited to visit the VCommerce web site. There they are provided with some virtual cash to spend on products and services from the various companies. Of course, they do not actually receive these goods and services from the companies—instead, their purchases are intended to reflect their personal tastes as well as the effectiveness of each company in presenting its goods and services. In addition to acting as consumers, these people also act as investors, and are invited to obtain a total of 100 “VCommerce stock options” divided amongst any of the companies. In this way, the user test phase “tests” the companies from both the consumer and investor standpoint.

Users proceed through four sequential steps in VCommerce. Upon logging into the system for the first time, users are asked to fill out a brief entrance questionnaire. The

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entrance questionnaire asks them several demographic questions. Following these questions, the system provides each user with an initial amount of virtual money, along with access to the site and company web pages.

The second step for users is to review the company web pages, and buy any goods or services that appeal to them. They are not required to spend all of their money, or buy anything at all if they do not find anything of interest. In the second step, users act as consumers.

Once the users complete their consumer activities, they proceed to the third step—investment. Each user is now given the opportunity to obtain 100 shares of virtual “stock options”, divided among one or more of the companies. To aid them in making this decision, the user can now access the VCommerce business plans associated with each business. The choices made by each user establishes their stock portfolio.

In step four, the user finishes the game by filling out a brief exit questionnaire. The answers to the questions will provide us as game designers with data about how effective the simulation was for the users, and obtain suggestions on how to improve it.

During the next phase, the business cycle postmortem, the companies do a virtual IPO. During this process, the value of a share in each company is computed, and based upon this, the value of each user’s stock portfolio is determined. Each user will be emailed a report by the system at this time that details the value of their portfolio, the value of their portfolio relative to the value of all other portfolios generated by other users, and the share price of each company.

The user test phase has a precisely defined start and end time. Typically, this phase will begin on a Monday and last until the following Sunday.

Users are not required to finish with VCommerce in one session; they can log out and log back in at another time to complete their activities. The system keeps track of which step they are working on and automatically brings up the appropriate screens when they log back in.

Entrepreneurs are not allowed to participate as consumers, although they can log in and monitor the progress of the user test phase.

**BUSINESS
CYCLE
POSTMORTEM**

The business cycle postmortem provides an opportunity to collect, distribute, and analyze the data collected from the activities in the cycle. Based upon this data, entrepreneurs can improve their approach to the next business cycle. The following information will be distributed as part of each business cycle postmortem:

- VCommerce business plans. During each postmortem, all of the business plans from the business cycle become available. This allows entrepreneurs to learn from each other and gain insights into how to improve their business plans for the next

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cycle. In addition, it enables entrepreneurs to learn about each other and potentially form new partnerships in subsequent rounds.

- User test phase statistics. Statistics on the usage of the web site during the user test will be published. Some of the statistics include: total number of transactions per day; total sales per site per day; total page hits per page per day; total page hits during each hour of each day, and approximate time spent by each consumer within each company's pages.
- Consumer demographics. The consumer questionnaire collects demographic data including: age, sex, interests, and so forth. This data is coupled with automatically computed information, such as the amount of money spent, amount of money remaining, and stock portfolio choices. The identity of consumers is kept private, of course. (All consumers log in using a randomly assigned login name and password.)
- Company cash flow. Companies are created within the system with an initial amount of investment (taken from the entrepreneur's personal accounts). Over the course of the user test phase, money is expended each day to pay for the company's web presence (fixed costs) and to pay for the cost of products and services sold (variable costs). Also during the user test phase, income is derived each day from purchases and "advertising" (a computed value that reflects the level of interest in your business' pages). From these values, the system can compute and publish a cash flow statement for each company for each of the seven days of the user test phase.
- Company valuations. A formula is used to compute a valuation for each company. The formula takes into account several indicators of VCommerce business success, including: the gross sales and gross profits of the company, the amount of traffic the web site received, the cash flow of the company, the amount of consumer investment in the company, the quality of the business plan as measured by the accuracy of its market share and sales predictions, and so forth. The better the values of each of these indicators, the higher the valuation of the company. Once computed, the company valuation is divided by the number of shares in the company to determine the price per share, from which the consumer's portfolio worth and the assets of the entrepreneurs are calculated.
- Predicted vs. actual market share and sales activity. As part of their business plan, entrepreneurs develop predictions for their anticipated market share, cash flow, sales activity, and profits. These predictions can be tested during the user test phase (thus the name user test). During the postmortem, the system will produce reports comparing the predicted values with actual results.

The results from each business cycle postmortem provide valuable data that can be exploited during the subsequent cycle of team formation, business planning, and so

forth. While the business plans and web sites from the first cycle might be relatively unsophisticated, postmortem data should provide useful feedback that improves each subsequent round.

**VCOMMERCE
POSTMORTEM**

The VCommerce postmortem occurs at the end of the semester, and is intended to allow participants to reflect on the evolution of the business plans and web sites over the course of the semester. What changes occurred? What was learned about effective ways to design businesses, at least within this simulated context? What was learned about effective ways to appeal to the consumers? While the simulated context is somewhat divorced from reality, the incremental, iterative process of learning about technology, the market place, and consumer patterns of behavior is not. It is these lessons that we intend to explore during the VCommerce postmortem.

Where to go from here

The next chapter provides an introduction to the major components of a VCommerce business plan, along with references on business planning.

Subsequent releases of this document will include additional chapters. One will provide documentation on a hypothetical web site constructed around the business plan, along with references on the technical information needed to construct your own web sites. Another will provide an outline of a hypothetical VCommerce business cycle, showing how this business might have fared against several others.

This document is Volume 1 of a four part set of documentation on VCommerce. Volume 2 provides a sample business plan. Volume 3 provides a developer guide for VCommerce system administrators and programmers. User documentation for VCommerce is provided within the web site itself.

VCommerce Business Planning

Failing to plan is planning to fail

A business plan, at its core, is simply a description of how you intend to make money from a product or service. As you work on a business plan, you are designing a business. Many businesses are started without a business plan at all: the entrepreneur gets a “hunch” about how to make some money and goes for it. In some cases, such entrepreneurial hunches become large corporations, like Apple Computer.

Although businesses can be started without business plans, the development of a sound business plan can dramatically improve the chances of success of the business by forcing you to consider certain fundamental business issues. For example, what the business is, how the products and/or services will be marketed, where the money to finance the business will come from and how it will make a profit, who will manage the company, and how it is organized.

For technical people, the importance of a business plan might be understood by analogy to the design document for a software system. If you are building a very small, “throw-away” program to support a one-time task, such as reformatting a file of data, you will generally open up an editor and hack away until the program works.² On the other hand, if you want to build a new wireless data transmission system for handheld computers, you will generally start by creating a detailed specification of the architecture, the target platforms, and the various performance and memory constraints that must and will be satisfied by the system. You spend more time planning the design of such a system because the complexity of the project is high, and because the risk of failure with a good design document is significantly lowered—the process of generating the design is an efficient way to reveal and avoid blind alleys and initially appealing but ultimately unfeasible solutions.

² This, unfortunately, is also the typical approach to solving programming assignments in University courses.

Similarly, if you have been asked to organize a huli-huli chicken sale for your local canoe club, you won't start by writing a business plan—you'll just call your buddies and start selling tickets. On the other hand, if your idea is to export the huli-huli chicken concept by developing a huli-huli chicken franchise and sell licenses world-wide, you will probably want to do some planning in advance. You will want to determine the costs involved with obtaining the necessary equipment, the size of the market for your franchise, how much money would be required to start, and what kind of return on investment would be expected. In some cases, the process of developing a business plan might convince you to not start the huli-huli franchise business, because it shows you can't design a profit-making enterprise.

This chapter presents the components of a VCommerce business plan, which are similar, though not identical to a real-world business plan. The educational goals of a VCommerce business plan are similar to the mannequin used to teach cardiopulmonary resuscitation (CPR). While the mannequin used to teach CPR is not a real person, and cannot reflect all the complexity of a real human's response to having CPR performed on them, the mannequin provides a basis for practicing many of the fundamental skills in performing CPR on a human without the associated cost and risks. Similarly, developing a VCommerce business plan allows you to practice many of the fundamental skills involved in new venture creation without the associated cost and risks.

Space prevents us from fully exploring the similarities and differences between a VCommerce business plan and a real-world business plan, though some differences will be noted. In any case, every good business plan is unique and tailored to the needs of the business being designed and the audience to which the plan is directed. The references at the end of this chapter provide resources for details. In addition, you should look closely at Volume 2, which provides an example VCommerce business plan. Finally, there are many excellent books on business planning that you should consult as well.

Goals and format

The primary goals of a VCommerce business plan are:

- To provide a framework that helps you organize the process of designing your VCommerce business and evaluating its viability within a single business cycle.
- To provide practice at developing the four fundamental components of a real-world business plan: business description, marketing plan, financial plan, and management plan. However, each of these components are simplified in a VCommerce business plan.
- To provide familiarity with the format and structural conventions of real-world business plans.

- To produce predictions for market share, cash flow, sales, and profits whose accuracy will be evaluated during the user test phase.

To achieve these goals, a VCommerce business plan can be organized into the following sections:

1. Cover sheet
2. Executive summary
3. Table of contents
4. Description of business
5. Industry analysis
6. Customer analysis
7. Competitor analysis
8. Marketing strategy
9. Management
10. Financial data
11. Growth potential

Most of these sections will be 1-2 pages in length, resulting in 10-15 pages for a typical VCommerce business plan. This may seem like a lot of writing, but don't be intimidated. You will be able to re-use much of your business plan from the first business cycle in the next, and adapt (i.e. steal) information and approaches from other business plans. By the last business cycle, you will find the writing of the business plan to be a minor detail; the major detail will be the development of a competitive, viable VCommerce business. Let's now look at the goals and format of each of the sections.

Section descriptions

C O V E R S H E E T

A VCommerce cover sheet provides the title of the business, the name and contact information for all participants in the venture, and the publication date.

**E X E C U T I V E
S U M M A R Y**

The executive summary is the most important page in the business plan. It must sell the reader of the business plan on the viability of your business, and stimulate their interest in reading further. A VCommerce executive summary should contain approximately one paragraph for each of the four fundamental components: business description, marketing plan, financial plan, and management plan.

The executive summary should be written last, after all of the other sections are complete.

T O C

The table of contents page is self-explanatory. Make sure the numbers match the pages!

**DESCRIPTION
OF BUSINESS**

This primary goal of this section is to answer the famous question: “What business are you in?” The answer to this question should be followed by key points about your marketing strategy, financial plan, and management team.

The bulk of this section in a VCommerce business plan should focus on the products and services to be offered by the business.³ Rather than focussing on product descriptions and features, you should instead focus on the *benefits* that your products and services will provide to consumers. This focus on customer needs, rather than product appearances, will help you better articulate its commercial strengths and weaknesses. If you have trouble figuring out the benefits your product or service will offer consumers, it may be time to rethink the business. You must be able to point to at least one or two things that differentiate your product or service from competitors and how these differences will benefit consumers.

**INDUSTRY
ANALYSIS**

The goal of this section is to introduce the industry your business is a part of, and the overall market trends that influence the way your products and services are produced and serviced. The description should include the total size of the market, its growth rate, general characteristics of the competitors, relevant technology trends, barriers to entry and exit, and any other trends that may have an effect on demand for your products and services.

Ideally, this section should convince the reader that you are in a growing industry that is being fueled by increasing market demands. To do this convincingly, you should cite reliable sources, such as government agencies, trade associations, business publications, newspapers, and (reputable) online sources.

**CUSTOMER
ANALYSIS**

While the last section provides information on general industrial trends, the goal of this section is to describe the specific customers who might buy your products or services. This section should specify how many potential customers are in your target market, what your share of this market might be, what they might buy from your business, and how much they might buy.

When you begin writing this section, you will confront the issue of whether you should focus explicitly on the VCommerce user test population (which will consist of 50-100 people per business cycle), or a more general population. For example, if the question is how many potential customers are in your target market, then the answer might be “50-100” if you are referring specifically to the VCommerce simulation. On the other hand, if you are selling crack seed, then the potential customer population might be in the tens of thousands.

For VCommerce business planning, the recommended approach is to write this section of the plan from the perspective that your initial market is the Hawaii-based

³ The description of products and services requires its own, separate section in a real-world business plan.

college student population, which we will set at a total size of 60,000 people. (Recent enrollment figures put UH at 45,000, HPU at 8,500, and Chaminade at 3,000. We will round up to an even 60,000.) The choice of students as your market, of course, is going to constrain the goods and services that each company offers. You probably won't succeed in VCommerce by selling Jaguar automobile leases, unless you have a very persuasive sales strategy! The user test phase will provide a "test" of your business on a subset of that population.

It is a rare product or service that will appeal to every single Hawaii-based college student. To identify the potential customers from among this larger population, you need to segment the market, in other words, divide the market into smaller, more manageable groups based upon similar needs or behavior patterns. This division is accomplished by identifying customer differences based upon product offerings and matching them with descriptive information such as demographics (age, gender, income, occupation, race, family size, religion), psychographics (needs, motives, perceptions, attitudes), or geographic (on-campus, off-campus, telecommute, neighborhood, etc.).

Once you have defined the market segment or segments that will be interested in your product or service, you should estimate the size of these segments as a percentage of the total market size (60,000). For example, you might determine that your product appeals to a market segment that totals approximately 20% of the total market size, or 12,000 people. Finally, you will need to determine your market share, or what percentage of the segment you expect will actually buy your product or service. If you hope for a 50% market share of your segment, then you would expect 6,000 people to buy your product or service, or 10% of the total market.

These percentage values imply predictions for the behavior of the VCommerce user test phase. If you predict that 10% of the total market will purchase your product in the real-world of Hawaii college-age students, then if 100 consumers visit VCommerce during a business cycle, roughly 10 of them should purchase your product according to your prediction.

**C O M P E T I T O R
A N A L Y S I S**

Customers are one side of the business planning coin; competitors are another. This section should describe the competitors for your product and service in both the real-world and the VCommerce world (at least as it existed during prior business cycles). In general, you will not know before a VCommerce business cycle whether or not direct competitors will exist during the user test phase. You will know, however, whether competitors existed during prior business cycles, and their performance. Just as with customers, it may be useful to segment your competitors by various factors.

The goal of this section is to show how your business will compete effectively with the competition you have identified. Once you have identified your competitors, you should describe how your product and service provides an advantage to consumers over those provided by your competition.

**MARKETING
STRATEGY**

In a real-world business plan, marketing strategy addresses the four “P’s” of the business: product, price, promotion, and place. Prior sections of your plan already identify the product. In VCommerce, “place” is already determined as the Internet.

That leaves price and promotion. The way you price and promote your product in VCommerce can be one of the most interesting, informative, and entertaining aspects of the simulation.

For price, there are several common strategies to consider:

- **Cost-plus pricing.** This strategy involves setting a price that covers your fixed and variable costs and includes a profit. In most cases, you cannot use a strict cost-plus pricing method, because it does not take into account the presence of competitors and their prices. On the other hand, your price better cover your costs.
- **Competitive pricing.** This strategy uses the price set by competing products to establish a price for your product or service.
- **Premium pricing.** This strategy involves pricing your product above other competing products that offer the same essential utility, but offering superior service, brand, or quality in return for the higher price.
- **Cream-skimming pricing.** In this strategy, the product is offered at a high price initially. The price is subsequently reduced over time.
- **Market penetration pricing.** This strategy involves setting the price of your product or service below the competition in order to gain market share, regardless of whether the price covers your costs.

In VCommerce, you are free to use some combination of these or other pricing strategies. However, whatever strategy you decide to use, it should be “rational,” with respect to the VCommerce world. Rational means the following:

1. The costs of the product or service should be specified and rational. For example, you cannot decide to sell Jaguar automobiles for \$100 and claim that your cost for a Jaguar is only \$1.
2. Your pricing strategy should reflect the time constraints of a VCommerce business cycle. For example, if you plan to apply a cream-skimming strategy, then you will need to increase your price over the course of seven days.

In conjunction with the pricing strategy, this section should also describe how you will promote the product. In VCommerce, the primary vehicle for promotion will be your web site, along with access to a mailing list of the consumers participating in the current business cycle. You should describe how you will pitch the product—what

message will you attempt to convey to your customers? How will you get your market segment to recognize that your product is oriented toward them?

M A N A G E M E N T

This section of the plan identifies the entrepreneurs involved with this business. In a real-world business plan, the goal of this section is to describe how all skills required for business success will be obtained. The section should describe the responsibilities, strengths, and weaknesses of the current entrepreneurial team. The section should also discuss how any skill deficiencies will be corrected (by recruiting, outsourcing, training, or so forth.) The management section typically begins with a table listing the name, age, and title held by each member of the management team, followed by a paragraph on each member describing their business and/or technical background.

In VCommerce, this section is greatly simplified. In general, a VCommerce team requires only a couple of people, and the primary skills required for success are:

- The ability to write clearly, concisely, and rapidly;
- The ability to perform market research in the real world and analyze and interpret market data in the VCommerce world;
- The ability to design and implement web pages, utilizing Active Server Pages programming and graphic design.

This section should explain which team members have these skills, and whether these skills come from prior real-world experience, or from prior VCommerce business cycles, or from some combination of the two. If the skills are not present in the team, then the section should describe how the team members intend to acquire these skills.

**F I N A N C I A L
D A T A**

In a real-world business plan, the financial data section may take months of research to develop. The major goals of a real-world financial data section for a new venture are to provide convincing answers to the following questions: When will the business become profitable? How fast will sales and profits grow in the next three years? What is the value of the company? Will cash flow be positive or if negative, for how long? What is the break-even point for the company?

These answers are typically provided in real-world financial data sections through three documents: the balance sheet, the income statement, and the cash flow statement. The balance sheet specifies the assets, liabilities, and owner's equity in a company. The income statement specifies your sales revenue, your costs and expenses, and your net income. The cash flow statement specifies how much cash flows into the business, how much cash flows out of the business, and the difference between them. Of course, in a new business, the accounting data needed to produce these three documents is not yet available. Instead, you create *pro forma*, or projected balance sheets, income statements, and cash flow statements that provide your best estimates for these values.

VCOMMERCE BUSINESS PLANNING

In VCommerce, there will not be enough time to develop a financial data section for your business based upon real-world values. To satisfy time constraints, you will write this section from the perspective of the VCommerce world, not the real-world, and you will develop VCommerce versions of only the income statement. The balance sheet requires an indication of assets and liabilities, which are not currently simulated in VCommerce. Because assets and liabilities (as well as depreciation, amortization, accruals, and so forth) are not simulated in VCommerce, a VCommerce income statement can also indicate cash flow, so a separate statement for that purpose is not needed.

Real-world business plans typically include financial projections for three years on either a yearly or monthly basis. In your VCommerce business plan, you will instead include financial projections on a monthly basis for seven months. This is because each day of the seven day VCommerce User Test phase will be used as the basis for calculating a month of VCommerce financial data in your business plan. Chapter 3 explains how this transmogrification occurs.

In general, a VCommerce income statement, like a real-world income statement, specifies the sales revenue, followed by costs of goods and services, and the gross profit margin. The VCommerce income statement also includes net advertising revenue, since this is an important potential source of income in the VCommerce world. Following the income section the Expense section, which lists VCommerce world expenses for the company web site. The bottom line indicates the difference between income and expenses for each month of seven months and expenses, and the difference or net income, at the bottom. A VCommerce income statement is structured in the form of a table with columns for each month of a seven month initial startup period. Here is an example income statement from the Pizza Portal business plan.

Pizza Portal, Inc.								
Pro forma income statement: Seven Month Summary								
Month	1	2	3	4	5	6	7	Total
Net sales revenue	\$126,000	\$126,000	\$504,000	\$504,000	\$504,000	\$504,000	\$504,000	\$2,772,000
Cost of Goods Sold	\$119,700	\$119,700	\$478,800	\$478,800	\$478,800	\$478,800	\$478,800	\$2,633,400
Gross Profit Margin	\$6,300	\$6,300	\$25,200	\$25,200	\$25,200	\$25,200	\$25,200	\$138,600
Net advertising revenue	\$2,520	\$2,520	\$10,080	\$10,080	\$26,880	\$26,880	\$26,880	\$105,840
Expenses								
Web site initial setup	\$10,000							
Network costs	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$7,000
Page maintenance costs	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$14,000
Total expenses	\$13,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$3,000	\$31,000
Net income (loss)	(\$4,180)	\$5,820	\$32,280	\$32,280	\$49,080	\$49,080	\$49,080	\$213,440

Let's begin by introducing the important concepts.

- *Net sales revenue* corresponds to the purchases made by users from your web pages. You will see how the dollar amounts in the first line of the pro forma income statement were estimated below.
- *Gross profit margin* indicates how much money you made from sales—in other words, the difference between net sales revenue and cost of goods sold. In VCommerce, you start by specifying the gross profit margin as a percentage of the net sales revenue. In developing the income statement for Pizza Portal, for example, the company developed an estimate of 5% profit on sales. Given this assumption and the predicted net sales revenue, they could then determine the gross profit margin as a dollar figure. For example, after predicting net sales revenue during the first month to be \$126,000, they used the 5% figure to determine their gross profit margin in dollars as \$6,300.
- *Cost of goods sold* is simply the difference between the net sales revenue and the gross profit margin. In the Pizza Portal example, after predicting net sales during the first month to be \$126,000 and the gross profit margin to be \$6,300, the cost of goods sold is what's left over, or \$119,700.
- *Net advertising revenue* is the amount of money made by your site in online advertising. VCommerce uses a formula to calculate advertising revenue that is based upon a combination of page hits and market share on a monthly basis. If your company reaches a market share of N percent during a given month, then you receive revenues of $N/10$ cents per page hit by each distinct consumer during that same month. So, for example, if 10% of the VCommerce market actually buys your product or service during a given month, then you obtain 1 cent for every page hit by a consumer *whether they buy anything or not*. The idea behind this formula is to reward web sites which produce a combination of high levels of e-commerce transactions as well as high overall traffic. (Note that there is no actual advertising (in the form of banner ads) in VCommerce at present. Advertising revenue is a purely simulated concept. (All sites, regardless of sales level, are guaranteed an advertising rate of 1 cent per page hit. This allows you to build a business based purely on advertising revenue without any sales at all. Of course, these sites will need more traffic than a company offering products in order to generate equivalent profit.)
- *Expenses* in the VCommerce business plan are quite simplistic relative to their real-world counterpart. In VCommerce, you must assume that initial web site development will cost a new company \$10,000. Furthermore, network fees will cost every company \$1,000/month for each of seven months, and each individual page in a company's web site costs the company \$100/month for each of seven months. So, given that the Pizza Portal web site involved 20 pages, the expenses associated with that web presence for seven months were calculated to be: \$10,000 (initial setup costs) plus \$7,000 (seven months of network fees) plus \$14,000 (seven months of page maintenance costs) for a total of \$31,000.

V COMMERCE BUSINESS PLANNING

The remaining issue is how to come up with estimates for sales and advertising revenue. For that, you should develop a revenue projections spreadsheet, such as the following one from the Pizza Portal business plan:

Revenue Projections	Month						
	1	2	3	4	5	6	7
Market Share in sales (%)	14%	14%	28%	28%	56%	56%	56%
Market Share in sales (customers)	8,400	8,400	16,800	16,800	33,600	33,600	33,600
Sales/Consumer	\$15	\$15	\$30	\$30	\$15	\$15	\$15
Net Sales Revenue	\$126,000	\$126,000	\$504,000	\$504,000	\$504,000	\$504,000	\$504,000
Gross Profit Margin	5%	5%	5%	5%	5%	5%	5%
Market Share in site visits (%)	30%	30%	60%	60%	80%	80%	80%
Average page hits/visitor	10	10	10	10	10	10	10
Advertising Revenue/page hit	\$0.014	\$0.014	\$0.028	\$0.028	\$0.056	\$0.056	\$0.056
Estimated Page Hits	180,000	180,000	360,000	360,000	480,000	480,000	480,000
Net Advertising Revenue	\$2,520	\$2,520	\$10,080	\$10,080	\$26,880	\$26,880	\$26,880

To develop your revenue projections, you first need to establish your market share. In VCommerce, the overall market is defined as the college-age student population in Hawaii, which numbers approximately 60,000. From this initial figure, you must determine your market segment, and then your share of that segment. Pizza Portal used primary market research to estimate their market segment as 70% of the total market. They then projected a 20% share of their segment in sales during the first two months. This translates to a 14% share of the total market, or $60,000 * 0.14 = 8,400$ customers. They then assumed a graduate growth in market share over the seven months. Pizza Portal assumed sales equivalent to one pizza per customer per month for the first two months, rising to two pizzas worth of certificates per customer per month in the second two months, and then a drop back to one pizzas worth of certificates per customer per month in the last three months. They dropped their estimated sales per consumer because they felt their market share would grow to include both occasional pizza users as well as the “zealots” during the final three months, which would reduce their sales/customer. Pizza Portal estimated a relatively small margin of 5% on the certificates, believing that they would not be able to negotiate large discounts until they became an established e-commerce presence in the pizza industry.

The second section of the revenue projection spreadsheet supports advertising revenue projections. Pizza Portal estimates their market share in terms of web site visits as beginning at 30% of the total market, and rising to 80% of the total market by the seventh month. They estimate that each separate visitor will retrieve, on average, 10 pages from their site per month. Their advertising revenue per page hit is based upon their sales market share, which is projected to begin at 14% in the first month and rise to 56% by the end of the seventh month. Thus, they will receive 1.4 cents per page hit in month one, rising to 5.6 cents per page hit in month seven. The total estimated page hits is calculated from the market share in site visits and the estimated page hits per visitor. So, for example, in month one, a 30% market share in site visits translates to 18,000 visitors ($60,000 * 0.30$). 18,000 visitors average 10 page hits each for a total

estimated page hits of 180,000 in month 1. Net advertising revenue comes from the total estimated page hits times the advertising revenue per page hit, which yields \$2,520 ($180,000 * \0.014) for month one.

Those familiar with standard Internet advertising rates may wonder how the VCommerce model compares to them. Internet advertising rates are typically specified in terms of “cost per thousand impressions”, or CPM. Most CPM rates offered by advertisers for college student web sites vary between \$30 and \$70, depending upon the volume and quality of the site. The VCommerce advertising revenue model simulates the real world fairly well. For example, if your site obtains a 30% market share in VCommerce, then your advertising revenue is equivalent to a CPM rate of \$30. If your site reaches 70% of the market, your revenue is equivalent to a CPM rate of \$70. Of course, CPM rates lower, higher, and in-between are also possible. In general, your total market share is used to determine the “quality” of your site and thus its CPM rate, and from that your actual revenue is based upon the number of impressions.

Although it may be tempting to inflate your projections, this is not wise in VCommerce. When companies are valued for their IPO, the accuracy of their sales and advertising projections are taken into account. A company with accurate projections will be valued significantly higher than a company with similar performance but wildly inflated projections.

The financial model used in VCommerce will almost certainly evolve during the business cycles as we gain experience with it. For now, use this section and the sample business plan as a guide, and come to class with questions about problems that you encounter while working with it.

G R O W T H
P O T E N T I A L

This final section of a VCommerce business plan does not typically appear by itself in real-world business plans, but is instead woven through the entire plan itself. The growth potential section allows you to take a longer range view of your VCommerce business idea, and discuss in general terms the growth potential within a real-world setting.

For many entrepreneurs, particularly ones with engineering or technical backgrounds, the importance of growth in a business is not well understood. Growth is not only desirable, but necessary if you are to achieve even modest financial objectives. For example, the average income from a business owned by one person (excluding doctors and lawyers) was only \$12,352 in the 1990's. If you wish to acquire wealth, you must grow well beyond the single person stage. Growth is also essential with respect to market share. A General Electric study showed that companies with a market share greater than 30% were almost always profitable, while companies with a market share less than 15% almost always lost money. Since no more than 6 companies can have more than a 15% market share, you must grow your company to one with a commanding presence in your market simply in order to survive.

Thus, this section is important for two reasons. First, it will be one of the prime ways that consumers will evaluate your business as an investment. Second, it helps you to design your business not only so that income exceeds costs (i.e. makes a profit), but also so that profits will grow over time. To make the business interesting for external investment, this property is essential.

This section should not be written from the VCommerce world perspective (i.e. you should not write that sales on day 7 of the business cycle will be double the sales on day 1). Instead, it should be written from the real-world perspective—given the basic fundamental idea of this business, what is its potential for growth in the real world over the time frame of one to three years?

