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Management Accounting Systems Support Start-Up Business Growth

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When a start-up company entered an entrepreneurial crisis, it turned to forward-looking management accounting tools to meet the challenges of its changing marketplace strategy and increasingly departmentalized organizational structure. These strategic tools—variance analysis, profit planning, and a performance measurement system—allowed the company to sustain its entrepreneurial spirit and growth. Here is the story of how it all came together.

Entrepreneurial businesses emerge from the execution of unique and commercially viable ideas, but the success rate of these businesses is relatively low, according to recent research done by the University of Tennessee. A quarter of such businesses fail in the first year, while more than half cease to exist after five years.[1] The main reasons for the failures include a lack of planning, no knowledge of financing, no experience with record keeping, and a lack of managerial experience. Recent research in management accounting, however, offers good news and shows that formally adopting management control systems provides entrepreneurial businesses with greater success at surviving and transitioning into larger, more influential companies.[2]

Management control systems, which comprise a broad set of organizational controls, include management accounting systems.[3] The research literature defines a management control system as the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities.[4] Elements of the control system include:

- Strategic plans, operating budgets, statistical reports, performance appraisals, and policies and procedures;[5]
- Personnel controls that select and recruit employees with similar objectives to those of the organization;
- Action or behavioral controls that influence employ-

ees by prescribing actions to be taken; and
- Results or outcome controls that influence employees by measuring the results of their actions.[6]

Other views of management control address informal control processes such as belief systems, group norms, socialization, and culture.[7]

As a subset of management control systems, management accounting systems specifically include a package of cultural controls, planning systems, cybernetic controls, administrative controls, and rewards and compensation.[8] Such a system should incorporate vision and mission; key success factors; strategy and plans; organizational structure; key performance measures; performance targets; performance evaluation at individual, group, and organizational levels; financial and nonfinancial rewards; and penalties for missed performance targets.[9]

Empirical evidence supports the association between sustainable growth in entrepreneurial businesses and the presence of management control systems.[10] The evidence shows that these businesses become gradually more complicated in structure and sophisticated in decision making, reaching a situation known as an "entrepreneurial crisis." In order to continue his or her company's growth, the entrepreneur must transition into becoming a manager who can display company stewardship to both investors and employees.[11] The manager has little choice but to collect more data and pay increasing attention to selecting and presenting information in order to make control and operational decisions for the organization.[12] Strategically focused management accounting tools can use this information to evaluate business performance, determine profit plans, and measure performance.[13] Because most entrepreneurial businesses are not likely to have such strategic tools, adding these tools will sustain the entrepreneurial spirit and growth.

Our case study describes an entrepreneurial business, Globe, from the starting phase to its current entrepreneurial crisis. Up until this point, the business had developed an informal management control system that featured elements of strategy and structure that would support the needs of a small business. Accounting literature refers to this control system as organic or cultural and mechanistic or administrative controls. Globe's accounting system only supported reporting, compliance, and taxation requirements and did not aid in the control and decision-making processes.

In order to successfully meet the changes in strategy, size, and evolution in structure, we designed a "missing piece"—a strategically aligned, forward-looking management accounting system with specific tools to help Globe transition through the entrepreneurial crisis. Our cybernetic controls and planning system follow the advice from prior research about management accounting tools in entrepreneurial businesses and feature a performance evaluation tool, profit plan, and a set of key operational measures. The case-based evidence supports and validates the requirement that management accounting can provide a dynamic set of tools and procedures that can meet the challenges of a growing entrepreneurial business when used in conjunction with other elements of management control.

This case study can help entrepreneurial businesses understand how management accounting tools provide information analysis about the performance of existing products and services. The tools support the strategic planning process by defining and setting key financial and operational targets for the business to achieve. They also monitor strengths and weaknesses in existing sales, delivery, other operational processes, and payment cycles to catch early signs of process failure and encourage improvements that would otherwise increase operational costs, lose future sales, and damage the company's reputation.

Case Study

Gabriel Zimmerman, president and CEO of Globe, comes from a long line of entrepreneurs.[14] When he was growing up, he would often drive around with his father and grandfather, looking at businesses. In 2005, he continued the entrepreneurial family tradition and launched Globe, an eBay-style business that sells used office equipment. His business has grown into one of the largest niche companies selling used dental equipment.[15] Serving the entire country, Globe continues to grow at double digits each year, employs approximately 40 people, and has strategic warehouse locations in the northwestern United States. In 2012, Zimmerman

earned the Small Business Administration's Young Entrepreneur of the Year award—out of 70 candidates from the United States.

Zimmerman began the business based on the premise that "there is a lot of value sitting idle in used equipment in many companies," and he identified the opportunity to unlock the value either by selling the used equipment for the companies on consignment or just buying the used equipment and selling it to others. Although his strategy was to create a unique marketplace for used office equipment, Zimmerman found it more lucrative to focus on used dental equipment.

> *"This year [2012], we started having some discussions with a couple of gentlemen. They were interested in getting involved in my business to help me grow it. Both sides decided that this was going to be beneficial. In hindsight, I wish I would have spent a little more time up front preparing the company to be able to report to new stakeholders. We spent a lot of time up front just guessing what our true performance actually is. And that was a waste of time really."*

In May 2012, Zimmerman engaged the help of investors to grow his business. He had already developed a successful marketplace strategy and organizational structure but realized that there was much to do, especially in accounting, to prepare his business for its next growth phase. While the accounting system could meet reporting and taxation requirements, it was not flexible enough to be used for operating decisions, performance evaluation, and planning. With additional staff, new locations, and new investors, Globe needed to change its accounting system to one that would not only meet the requirements of reporting and taxation but also future decision making, performance evaluation, and planning.

Early Strategy and Structure

> *"Initially the product was very scatter shot. I threw the phone book at our salespeople and said, 'All right, here is the idea: There is value sitting in all of this idle equipment.'"*

It was the salespeople's job to search for any kind of business that was willing to part with its equipment so that Globe could sell it on consignment.

> *"The idea was to get a couple of salespeople competing for the best value in the marketplace. One person would go out and focus on restaurant equipment. Another would focus on expiring rental construction equipment. They developed an approach to each of those verticals, and then I would decide whether it was profitable or not and whether we wanted to go further in on it. We ended up selling retail inventories, chain saws, and ditch pumps, even French fry fryers and ovens. I mean, it was literally everything."*

The actual process of specializing in a product did not occur until a few years later. As Zimmerman became familiar with different types of equipment, their markets, and margins, he could distinguish between products that required more effort and those that needed less.

> *"We had really started paring things down after the third year, and this was strictly evaluated based on profitability and how receptive that class of product was to our service. We got a deal with an optometrist, and we got a deal with a dentist. They were very smooth transactions. We made good money doing it. And so, each year we would pare things back toward these types of product areas."*

By 2008, Globe had used its understanding of the resale market to focus on the profitable areas, which included construction, medical, and dental equipment as well as used business IT systems. In 2010, the company narrowed its focus further by selling a variety of specialized devices within the dental industry. In late 2011, Zimmerman realized that Globe earned its revenue through various streams, and their classification was important in understanding where the revenues and profits were coming from to plan for future business expansion. This classification assisted Globe in defining its core activity as selling used dental equipment on consignment. Globe, however, was also purchasing used dental equipment and selling it to online customers. Furthermore, it was also providing a repair

and shipping service to its customers.

During this period, Zimmerman spent most of his time in sales and employed salespeople to grow his business. Just like any other entrepreneurial business, it began with its founder completing most of the day-to-day tasks.

> *"In the early days, I would be doing the shipping and packing half of the time and keeping the business going the other half. But I was also grooming and training salespeople. I needed to keep the sales engine pumping."*

His first goal was to have the sales department bring in enough revenue to support its own wages. As sales grew, he hired more staff and groomed them to add shipping and handling capacity. He also hired a person to check consignments and inventory to reduce errors and costs and to improve the quality of his products and services. The sales and the shipping and handling departments are the two most important departments for Globe because they bring in the revenue that pays the rent and operating expenses.

In 2008, Zimmerman's role in sales and shipping diminished as the two departments established themselves. His handling of the day-to-day operations of the business changed to more of a CEO/manager role, where he would make operating decisions and undertake reporting and planning responsibilities. Zimmerman attained his lofty goal to manage his business rather than be involved with the intimate details of its operations sooner than most entrepreneurs.

Current Strategy and Structure

The motivation for Globe's first comprehensive business strategy came from customers who expressed some confusion about the type of business Globe represented. Zimmerman realized that this confusion was a result of the changing products and services Globe had offered since its inception. He wanted the company to be more than a consignment service and seller of used dental equipment. Instead, he wanted Globe to be a marketplace with all types of products and services related to dental equipment.

> *"There are lots of marketplaces out there that can provide general transaction-type services, but, over the course of the evolution of the company, we have learned that dental equipment has special needs. Dental equipment is difficult to package and transport. It has a certain process that you go about to appraise its value. It has services around uninstallation, installation, repair—all of those different things that do not apply to all categories equally. I will build a marketplace and add on all those services side-by-side. And a customer can interact with us and take those services a la carte."*

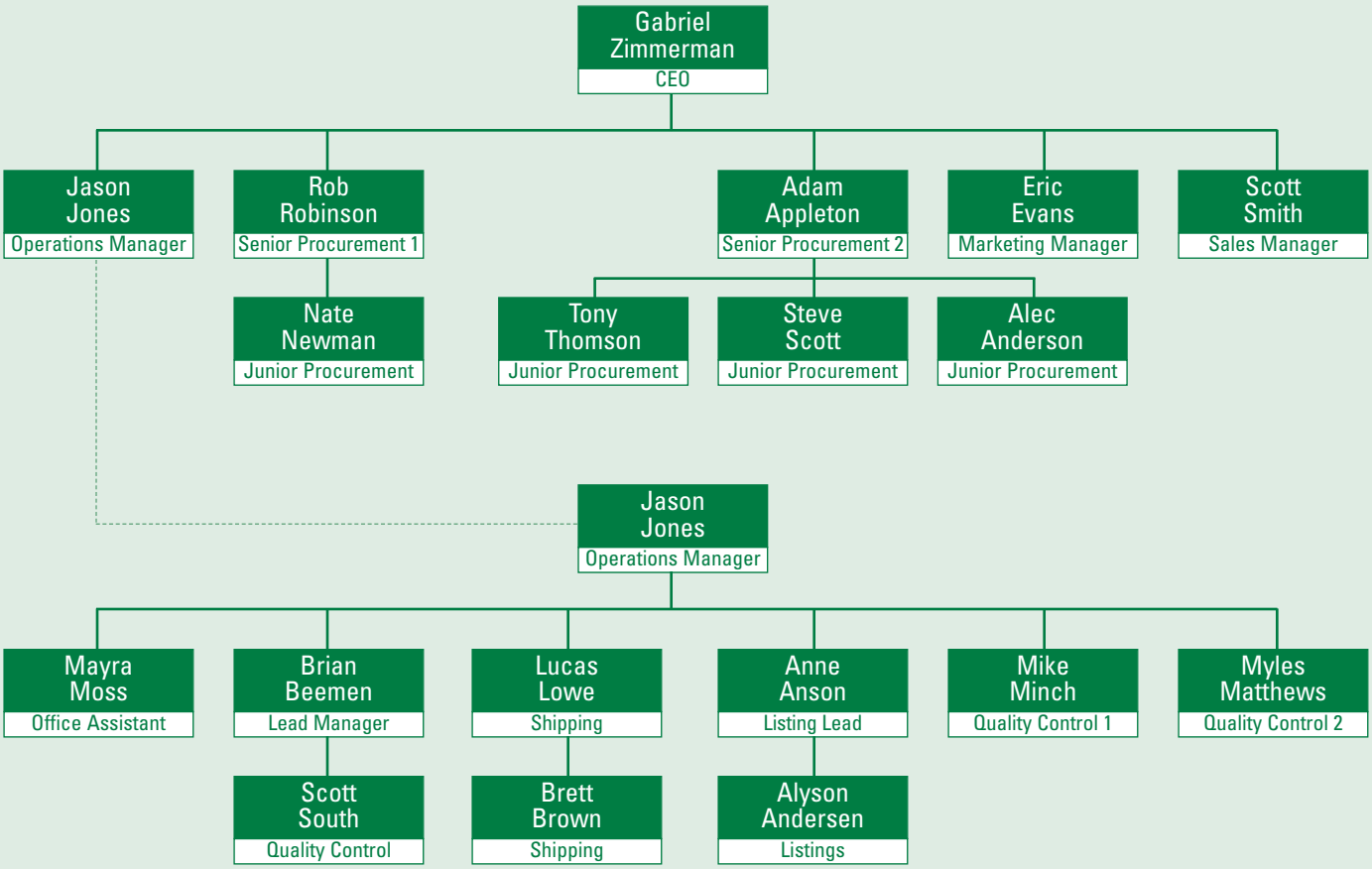
Zimmerman currently spends a lot of his time understanding the drivers of his business. He frequently asks questions relating to existing operations and also searches for new ways to develop his business for the future. Globe's organizational structure includes an operations department that has a manager, two senior and four junior procurement specialists for regional purchasing, shipping and handling staff, a marketing manager, and a sales manager (see Figure 1).

With a new strategic focus on dental equipment and a departmentalized structure, Globe enjoyed great success online and in its originating location. Two issues, however, started to limit sales. First, the early growth in sales was attributed to acquiring all the opportunities in the immediate vicinity, so the sales teams would have to travel to other regional locations and beyond in order to maintain this growth. Second, because consignments and inventory were handled from the original warehouse, it became increasingly difficult from a logistical perspective to keep routing these sales through there. Furthermore, sales growth began consuming and limiting warehouse space, so Zimmerman began to consider expanding into other strategic locations.

Business Expansion

In 2012, Zimmerman chose a board of directors to help take his entrepreneurial business to the next level. The board of directors provided business advice, led operational improvements, and sought bigger and better business opportunities for Globe. The board's investment in the business created more capital and an incentive to grow Globe. With new stakeholders, the level of decision making became more complex and sophisti-

Figure 1. **Organization Chart**



cated, and this highlighted a number of weaknesses in the accounting system at Globe.

> *"As you bring in stakeholders, such as investors, the level of decision making changes because you add new people into the conversation. The nature of your accounting requirements changes as your stakeholders require different snapshots of analysis. What might work for a sole proprietor, in terms of level of detail, might not work when you upsize. We spent a lot of time up front just guessing about numbers and guessing about what our true performance actually was because our reporting and taxation requirement did not tell us much detail about our operations or our products and services, nor was it in real time. We spent the first part of our engagement in block-and-tackle mode, which basically meant that we focused on figuring out how to report Globe's financial information to investors and business managers. It is the very first thing you do with a business that is transitioning to the next level. In hindsight, I wish I would have done this preparation ahead of time."*

Table 1 presents Globe's profit and loss statements for the past three years. Two weaknesses appear in these financial statements. First, these statements report historical performance, which is unlikely to represent Globe's future performance given the business's

Table 1. Profit and Loss Statements

Profit and Loss Statements
For three consecutive years ending December 31

	2012		2011		2010	
Income						
Sales	5,844,664		4,836,324		4,200,702	
Uncategorized Income	8,438		6,328		3,164	
Reimbursed Expenses	1,705		1,280		639	
Total Income		5,854,807		4,843,932		4,204,505
Cost of Goods Sold (COGS)						
Seller's Remittance	3,450,325		2,887,612		2,639,307	
Shipping Actual	343,266		257,450		128,725	
Sales Commission	144,480		108,360		54,180	
Inspections, Cleaning, Repair	4,684		3,513		1,757	
Inventory Costs	3,243		2,432		1,216	
Total COGS		3,945,998		3,259,367		2,825,185
Gross Profit		**1,908,809**		**1,584,565**		**1,379,320**
Expenses						
Payroll Expenses	200,518		150,388		75,194	
Rent & Facility	77,988		58,493		29,247	
Travel & Entertainment	57,477		43,956		35,896	
Professional Fees	29,682		19,001		13,472	
Taxes	4,441		3,330		1,665	
Advertising	3,905		2,929		1,464	
Insurance	3,054		2,290		1,145	
Telephone	2,236		1,677		838	
Depreciation	1,937		1,452		726	
Utilities	1,883		1,412		706	
Total Expenses		383,121		284,928		160,353
Net Ordinary Income		**1,525,688**		**1,299,637**		**1,218,967**
Other Income/Expenses						
Interest Income	136		102		51	
Claims Refund	102		76		38	
Total Other Income		238		178		89
Other Expenses	3,313		2,484		1,242	
Total Other Expenses		3,313		2,484		1,242
Net Other Income		**(3,075)**		**(2,306)**		**(1,153)**
Net Income		**1,522,613**		**1,297,331**		**1,217,814**

expansion. Second, business growth and newly appointed investors necessitated a change in management style that required more formal and frequent communications and reporting. While Zimmerman could typically understand and run his business on a daily basis, Globe's board of directors, who were not involved in

the day-to-day operations, required regular information about the operations and performance of its products and services. Recently, Zimmerman has admitted that, as the size of the business has grown, he is less able to identify precisely how specific products, services, and operating processes are performing, let alone potential business opportunities.

Globe was in an "entrepreneurial crisis." Zimmerman needed to become a manager for a business he created that would be responsible to both investors and employees.[16] Prior research shows that specific management accounting tools provide the infrastructure that is associated with the likelihood of the business surviving the entrepreneurial crisis.[17] Because most entrepreneurial businesses are not likely to have such accounting tools, adding them can sustain the entrepreneurial spirit and growth.

Businesses are advised to adopt tools that will evaluate performance using contribution margin analysis, forecast future profit, and measure operational performance. These tools provide the information and format to plan, control, and make important operating decisions for the entrepreneurial business. The research reports that using these tools results in much faster business growth in the early years, relative to competitors that do not use these tools.[18] This research also finds that the design of these management accounting systems requires specific knowledge that must be "imported" and cannot be done simply by following a set of instructions.

Globe is not the only company creating its own market. On a much larger scale, there is eBay, which is a platform where buyers and sellers come together to carry out business transactions. But because Globe focuses on the niche market of dental equipment, eBay is actually less of a threat than other competitors. Table 2 provides information on the companies that Zimmerman sees as competitors.

Table 2. **Competitor Profile**

	Globe	eBay	BuyDental Equipment.com	Dental Product Shopper	UsedDental Equipment.net
Number of Employees	40	27,700	15	5	32
Total Dental Equipment Sales 2012	$5.86m	$0.50m	$1.52m	$0.75m	$2.85m
Consignment Units Sold 2012 (2012 Expected)	6,152 (5,428)	112 (127)	1,073 (982)	635 (724)	1,428 (1,279)
Consignment Market Share 2012	65.45% (Target 68%)	1.19%	11.41%	6.76%	15.19%
Strategy	Everything dealing with dental equipment	General marketplace open to all	Mid- to high-end dental equipment	Newer options for dentists	Focuses on old dental equipment
Customer Brand Perception	All types of medical equipment	Marketplace	Quality equipment	Expensive options	Lower-end equipment

Table 3. Strategic Priorities

- Meet investors' expectations
- Maintain profitable growth by region
- Increase contribution margin per revenue source by revenue stream
- Increase customer sales by sales representative
- Increase customer satisfaction and loyalty
- Increase profitable marketing campaigns
- Become a marketplace for used dental equipment
- Increase brand name recognition
- Maximize efficiency per warehouse
- Increase inventory turnover
- Provide employees information about customers
- Increase employee training
- Improve reporting
- Improve decision making

Zimmerman believes that it is important to track Globe's market share performance among its competitors. Table 2 shows that Globe is currently the market leader in used dental equipment. To help maintain this position, Zimmerman outlined a number of strategic priorities for his business (see Table 3).

In line with the research literature, we set about to design a management accounting system with specific tools for this entrepreneurial business. Prior to our design, we asked the business investors and managers about the types of decisions that they would like to make and the types of information required to make those decisions. The investors and managers specifically expressed that they would repeatedly ask questions about how the existing products and services are performing in real time. They would like to monitor strengths and weaknesses in existing sales, deliveries, other operational processes, and payment cycles to catch early signs of process failure. Where process weaknesses and failures are detected, Globe's managers would be able to make improvements to prevent the weaknesses and failures from increasing costs, forfeiting future sales, and damaging its reputation. Finally, Zimmerman and Globe's board of directors would like to see how the business could use its information to develop various scenarios (for example, planning and sensitivity analyses) around its products and services and the impact on future profitability.

Variance Analysis

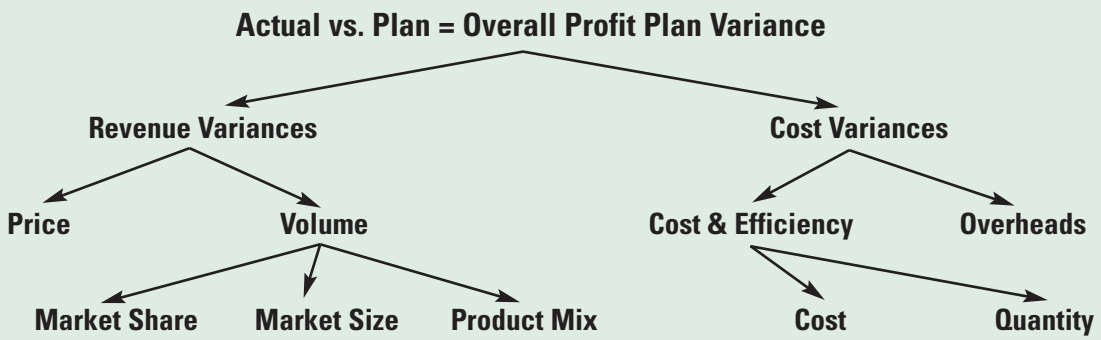
The first task was to convert Globe's income statement (Table 1) into a variable costing or contribution margin statement. Variable costing or contribution margin statements take all existing cost transactions and divide them into variable or fixed costs. This is shown in Tables 4a, 4b, and 4c. Where possible, the total revenue was broken out by product and service revenue stream and matched with the corresponding variable costs to calculate product and service contribution margins. Zimmerman, the board of directors, and Globe's management team can use these statements to understand Globe's profitable revenue streams and the drivers of their cost to make the necessary decisions to maintain their revenue streams and control their associated costs.

The second task was to evaluate Globe's performance using variance analysis of the contribution margin statement in Table 4a. We prepared a flexible budget and calculated variances for each of the line items (see Table 5). A flexible budget is a volume-adjusted column that allows for variance calculations that separate the effects of selling prices and purchasing costs from sales volumes and purchase quantities for each line item and in total. A favorable variance results from higher-than-planned revenues and lower-than-planned costs. Managers can analyze both favorable and unfavorable variances and ask questions such as, "Did we lower prices due to competitive pressure, or was it because of discounts on old products to entice customers?"

Figure 2 summarizes the relationship among all revenue and cost variances. We explained the sales volume variance calculated in Table 5 in terms of market size, market share, and product mix effects by using the competitor information on consignment units and the values Globe provided in Table 2.

We reconciled all our variance calculations in Table 6. In summary, this set of variances alerts managers to price, volume, cost, product mix, and/or competitor effects to help them make decisions that would support long-term performance.

Figure 2. **Relationships Among Variances**



Profit Planning

The third task, profit planning, provides an entrepreneurial business with guidance for achieving its strategy and goals by translating them into future financial performance targets. Specifically, the revenue streams and the variable and fixed costs are extended into the future.[19] Figure 3 shows our profit plan for Globe.

Because forecasting sales and cost line items requires consideration of the markets and market growth that the entrepreneurial business is likely to experience in the coming year, we used Globe's strategic positioning, evolving structure, and competitor information as the context to develop a 2013 profit plan. We used the variable costing or contribution margin statements in Table 4 because these statements divide revenues by product and service stream and costs by variable and fixed classifications.

Profit planning involves identifying drivers and making assumptions about how each line item in the statement is expected to behave based on its classification and assumptions about the future. We stated our forecast assumptions in the profit plan so that Globe can understand what is driving our forecasts, make changes, and conduct sensitivity analyses to see the impact of changes to our assumptions. For example, we forecasted each revenue stream based on future views about the market size for used dental equipment and Globe's expected future market share. Variable costs were forecasted on the basis of the margins that Globe's revenue stream is expected to achieve, and indirect variable costs, as well as fixed costs, were estimated based on suitable drivers stated in the profit plan.

Performance Measurement

To ensure that Globe meets its profit plan, we developed a set of performance measures that directly linked Globe's operating activities with the various line items in the profit plan and the business's strategic objectives. Since its inception, Globe had evaluated its financial performance by using accounting ratios from information in its historical financial statements. Not only were these ratios based on historical performance, but they made no reference to Globe's operating activities and how these activities contributed to its past performance.

For the fourth and final task, we employed the balanced scorecard (BSC) to create a set of measures that would meet Globe's strategic priorities and its profit plan (see Figure 3).[20] The BSC approach suggests that the set of performance measures should meet the following four criteria:

(1) There are measures for the four perspectives of financial performance, customer performance, internal business process performance, and learning and growth performance.

(2) The measures in the four perspectives are related by cause and effect and are dependent on each other.

Table 4a. Contribution Margin Statements

	Plan 2012 Total	Actual 2012 Total	Growth 2012	Plan 2011 Total	Actual 2011 Total	Growth 2011	Plan 2010 Total	Actual 2010 Total
Revenues								
Shipping	589,530	543,787	18.93%	442,148	457,239	13.82%	331,611	401,729
Handling	17,559	16,196	25.00%	13,169	12,957	18.25%	9,877	10,957
Service	129,384	119,345	11.88%	97,038	106,669	8.67%	72,779	98,154
Inventory	46,806	43,174	3.15%	35,105	41,854	2.30%	26,328	40,912
Consignment	5,564,033	5,132,305	21.47%	4,173,025	4,225,213	15.67%	3,129,769	3,652,752
Total Revenue	**6,347,312**	**5,854,807**	**20.87%**	**4,760,485**	**4,843,932**	**15.21%**	**3,570,364**	**4,204,504**
Cost of Goods Sold								
Shipping	503,276	464,225	18.93%	377,456	390,340	13.82%	283,092	342,952
Handling	11,998	11,067	25.00%	8,998	8,853	18.25%	6,749	7,487
Service	25,771	23,772	11.88%	19,328	21,247	8.67%	14,496	19,551
Inventory	8,969	8,273	3.15%	6,727	8,020	2.30%	5,045	7,839
Consignment	3,727,921	3,438,662	21.47%	2,795,941	2,830,907	15.67%	2,096,956	2,447,356
Total COGS	**4,277,935**	**3,945,999**	**21.07%**	**3,208,450**	**3,259,367**	**15.37%**	**2,406,338**	**2,825,185**
Contribution Margin								
Shipping	86,254	79,562	18.93%	64,691	66,899	13.82%	48,518	58,777
Handling	5,561	5,129	24.98%	4,171	4,104	18.27%	3,128	3,470
Service	103,613	95,573	11.88%	77,710	85,422	8.67%	58,282	78,603
Inventory	37,837	34,901	3.15%	28,378	33,834	2.30%	21,283	33,073
Consignment	1,836,112	1,693,643	21.47%	1,377,084	1,394,306	15.67%	1,032,813	1,205,396
Total CM	**2,069,377**	**1,908,808**	**20.46%**	**1,552,034**	**1,584,565**	**14.88%**	**1,164,024**	**1,379,319**

Table 4b. Other Expenses

	Plan 2012 Total	Actual 2012 Total	Growth 2012	Plan 2011 Total	Actual 2011 Total	Growth 2011	Plan 2010 Total	Actual 2010 Total
Other Expenses								
Travel & Entertainment	47,654	57,477	30.76%	31,769	43,956	22.46%	23,827	35,896
Professional Fees	20,599	29,682	56.22%	13,733	19,001	41.04%	10,299	13,472
Office Supplies	13,125	16,578	36.93%	8,750	12,107	26.96%	6,562	9,536
Equipment Rental	16,169	8,274	-44.52%	10,779	14,915	-32.50%	8,085	22,096
Bank Service Charges	868	3,954	393.63%	579	801	286.96%	434	207
Donations		540						
Small Tools and Equipment		168						
Total Other Variable Expenses	**98,415**	**116,673**	**28.52%**	**65,610**	**90,780**	**11.79%**	**49,207**	**81,207**
Operating Margin	**1,970,962**	**1,792,135**	**19.97%**	**1,486,424**	**1,493,785**	**15.07%**	**1,114,817**	**1,298,112**

Table 4c. Transaction Count 2012

	Plan 2012 Total	Actual 2012 Total
Transaction Count*		
Shipping	5,195.00	6,041.25
Handling	2,505.00	1,976.25
Service	112.50	112.50
Inventory	255.00	146.25
Consignment	5,427.50	6,151.88

*Each transaction is one unit. Globe takes into account incomplete transactions when making its plans each year. Globe also estimates incomplete transactions year-end.

Table 5. Flexible Budget, Quantity, and Price Variances for 2012

	Profit Plan Budget[a]	Quantity Variance[b]	BQ × AQ Flexible Budget[c]	Price Variance[d]	AP × AQ Actual[e]
Total Revenues	**6,347,312**	**814,968**	**7,162,280**	**(1,307,473)**	**5,854,807**
Shipping	589,530	96,033	685,563	(141,776)	543,787
Handling	17,559	(3,706)	13,853	2,343	16,196
Service	129,384		129,384	(10,039)	119,345
Inventory	46,806	(19,961)	26,845	16,329	43,174
Consignment	5,564,033	742,602	6,306,635	(1,174,330)	5,132,305
Total COGS	**4,277,935**	**(573,171)**	**4,851,105**	**905,104**	**3,945,999**
Shipping	503,276	(81,982)	585,258	121,033	464,225
Handling	11,998	2,532	9,465	(1,602)	11,067
Service	25,771		25,771	2,000	23,772
Inventory	8,969	3,825	5,144	(3,129)	8,273
Consignment	3,727,921	(497,546)	4,225,467	786,802	3,438,662
Total Contribution Margin	**2,069,377**	**241,797**	**2,311,174**	**(402,365)**	**1,908,809**
Shipping	86,254	14,051	100,305	(20,743)	79,562
Handling	5,561	(1,174)	4,387	742	5,129
Service	103,613		103,613	(8,039)	95,573
Inventory	37,837	(16,136)	21,701	13,200	34,901
Consignment	1,836,112	245,056	2,081,168	(387,525)	1,693,643

Sales Volume Variance = $241,797 favorable
Selling Price Variance = $1,307,472 unfavorable
Cost Variance = $905,107 favorable

[a]Profit Plan Budget (BP × BQ): expected revenues and expenses items.
[b]Quantity Variance: difference between actual and expected amounts due to quantity, budgeted prices/costs held constant.
[c]Flexible Budget (BP × AQ): quantity and price effects are isolated with a volume-adjusted column or flexible budget.
[d]Price Variance: difference between actual and expected amounts due to price/costs, quantity (actual) held constant.
[e]Actual (AP × AQ): actual revenues and expense items.

BQ: Budgeted Quantity, the number of expected or forecast units/sales or purchase of inventory.
AQ: Actual Quantity, the actual number of units/sales or purchase of inventory.
BP: Budgeted Price, the price expected or forecast to sell or pay for inventory.
AP: Actual Price, the actual selling price or price paid for inventory.

(3) The measures for learning and growth performance provide a lead into internal business process performance, which in turn supports forthcoming customer performance and, ultimately, financial performance.

(4) There is a mix of nonfinancial and financial measures, with nonfinancial measures often leading to financial measures.

Table 7 shows how we developed a BSC using Globe's strategic priorities in Table 3.

To show the leading and lagging nature of the mea-

Table 6. Explaining Differences Between Profit Plan and Actual Results

Total Contribution Margin – Profit Plan		**2,069,377**
Volume Effects		
Sales Volume Variance		241,797
Explained by:		
Market Share Effect[a]	(81,192)	
Market Size Effect[b]	197,952	
Product Mix Effect[c]	98,707	
Other Effects[d]	26,330	
Price Effects		
Selling Price Variance		(1,307,472)
Cost Variances		
Cost (COGS) Variance		905,107
Total Contribution Margin – Actual		**1,908,809**

This table reconciles the differences between the profit plan and actual results in Table 5. The differences are due to price, volume, and cost effects, as shown in Figure 2. The volume effect can be explained in relation to market share, market size, and other effects.

[a]The market share effect measures the dollar effect of changes in the company's overall market share of products and services among its competitors.
[b]The market size effect measures the dollar effect of changes in the overall market size.
[c]The product mix effect measures the dollar effect of changes in mix of revenue streams.
[d]The other effects are calculated from the residual of the sales volume variance, market share effect, market size effect, and product mix effect. Because we did not have any competitive information outside of consignment sales, this effect represents Globe's sales volume effects from revenue streams.

sures and their cause and effect, we created a diagram that depicts the relationships among the measures that we developed (see Figure 4). Financial measures include such items as return on investment (ROI), return on equity (ROE), and sales. Financial performance, which is derived from sales to customers, results from success in the other perspectives (customer, internal business process, and learning and growth). Providing exemplary service and support are key requirements for driving strong sales.

Internal business process involves the inner workings of the business's operations. At Globe, the measures monitor process efficiencies (or the lack of) so that management can continually assess and improve business processes through coordination, integration, and optimization. When business processes are working well, customer satisfaction is created through exemplary service and support, and company value comes from process cost reductions. This ultimately leads to financial performance. Investment into learning and growth—such as research and development—and investment in technology and employee training contribute to improved internal business processes, better customer satisfaction, and, ultimately, a greater level of financial performance.

What We Demonstrated

In this case study, we examined how Globe, an entrepreneurial business, supported its strategy, expansion in size, and evolution in organizational structure with a

Figure 3. Globe 2013 Profit Plan

	2010	2011	2012	2013 F	Year on Year Growth 2011	2012	2013 F	NOTES
Revenues								
Shipping	401,729	457,239	543,787	660,049	0.138	0.189	0.214	Calculation from Steps 1 and 2
Handling	10,957	12,957	16,196	20,751	0.183	0.250	0.281	Calculation from Steps 1 and 2
Service	98,154	106,669	119,345	138,231	0.087	0.119	0.158	Calculation from Steps 1 and 2
Inventory	40,912	41,854	43,174	46,697	0.023	0.032	0.082	Calculation from Steps 1 and 2
Consignment	3,652,752	4,225,213	5,132,305	6,298,365	0.157	0.215	0.227	Calculation from Steps 1 and 2
Total Revenue	4,204,504	4,843,932	5,854,807	7,164,093	0.152	0.209	0.224	Calculation from Steps 1 and 2
COGS								
Shipping	342,952	390,340	464,225	569,001	0.138	0.189	0.226	Calculation from Steps 1 and 2
Handling	7,487	8,853	11,067	14,249	0.182	0.250	0.288	Calculation from Steps 1 and 2
Service	19,551	21,247	23,772	27,668	0.087	0.119	0.164	Calculation from Steps 1 and 2
Inventory	7,839	8,020	8,273	8,948	0.023	0.032	0.082	Calculation from Steps 1 and 2
Consignment	2,447,356	2,830,907	3,438,662	4,219,926	0.157	0.215	0.227	Calculation from Steps 1 and 2
Total Cost of Goods Sold	2,825,185	3,259,367	3,945,999	4,839,792	0.154	0.211	0.227	Calculation from Steps 1 and 2
Contribution Margin								
Shipping	58,777	66,899	79,562	91,048	0.138	0.189	0.144	Calculation
Handling	3,470	4,104	5,129	6,502	0.183	0.250	0.268	Calculation
Service	78,603	85,422	95,573	110,563	0.087	0.119	0.157	Calculation
Inventory	33,073	33,834	34,901	37,749	0.023	0.032	0.082	Calculation
Consignment	1,205,396	1,394,306	1,693,643	2,078,439	0.157	0.215	0.227	Calculation
Total Contribution Margin	1,379,319	1,584,565	1,908,808	2,324,301	0.149	0.205	0.218	Calculation
Other Expenses								
Travel & Entertainment	35,896	43,956	57,477	70,524	0.225	0.308	0.227	Keep travel & entertainment in line with consignment growth
Professional Fees	13,472	19,001	29,682	32,650	0.410	0.562	0.100	Company growth now stablized somewhat
Office Supplies	9,536	12,107	16,578	20,341	0.270	0.369	0.227	Keep office supplies in line with with consignment growth
Equipment Rental	22,096	14,915	8,274	8,688	(0.325)	(0.445)	0.050	Most equipment required have been purchased
Bank Service Charges	207	801	3,954	4,852	2.870	3.936	0.227	Keep bank service charges in line with consignment growth
Donations			540					Small amounts are not forecasted
Small Tools and Equipment			168					Small amounts are not forecasted
Total Other Expenses	81,207	90,780	116,673	137,055	0.118	0.285	0.175	
Operating Margin	1,298,112	1,493,785	1,792,135	2,187,246	0.151	0.200	0.220	

Step 3: Use the quantity and price forecasts below to populate 2013.

Step 4: Forecast other expenses on an item by item basis. Refer to notes.

	2010	2011	2012	2013 F	Year on Year Growth 2011	2012	2013 F	
Transaction Count*								
Shipping			6,041.25	7,189.09			0.190	Slight increase from 2012
Handling			1,976.25	2,470.31			0.250	Same as 2012
Service			112.50	127.13			0.130	Show the most promising growth
Inventory			146.25	152.10			0.040	Aim to grow inventory sales by 4%
Consignment			6,151.88	7,259.22			0.180	Slow down in consignment sales due to competitors

*Each transaction is one unit. Globe takes into account incomplete transactions when making plans each year. Globe also estimates incomplete transactions year end.

Step 1: Forecast transaction growth/decline. This provides a forecast for quantity.

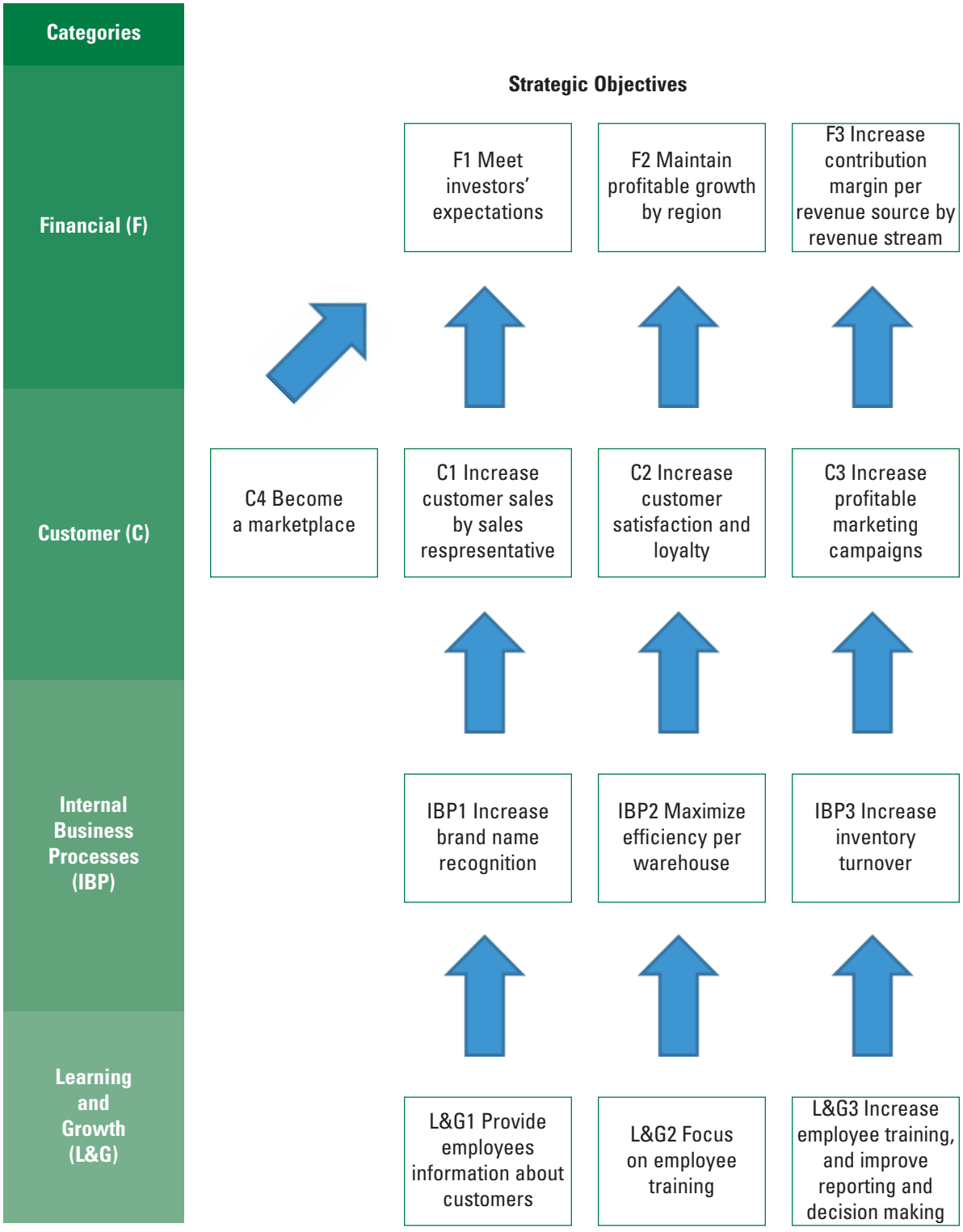
	2010	2011	2012	2013 F	Year on Year Growth 2011	2012	2013 F	
Average Revenue per Unit								
Shipping			90.01	91.81			0.020	Prices rise under inflation due to competition
Handling			8.20	8.40			0.025	Prices rise under inflation due to competition
Service			1,060.84	1,087.37			0.025	Prices rise under inflation due to competition
Inventory			295.21	307.02			0.040	Inflation expectations plus higher value inventory
Consignment			834.27	867.64			0.040	Inflation expectations plus higher value consignments
Average Cost per Unit								
Shipping			76.84	79.15			0.030	Costs expected to rise by inflation
Handling			5.60	5.77			0.030	Costs expected to rise by inflation
Service			211.31	217.65			0.030	Costs expected to rise by inflation
Inventory			56.57	58.83			0.040	Variable cost—same growth as revenue for inventory
Consignment			558.96	581.32			0.040	Variable cost—same growth as revenue for consignments
Average Contribution Margin Per Unit								
Shipping			13.17	12.66			(0.038)	Calculation
Handling			2.60	2.63			0.014	Calculation
Service			849.54	869.72			0.024	Calculation
Inventory			238.64	248.18			0.040	Calculation
Consignment			275.30	286.32			0.040	Calculation

Step 2: Forecast price growth/decline. This provides a forecast for price.

Table 7. Key Operating Measures

Categories	Strategic Objectives	Measures	Target
Financial (F)	F1 - Meet investors' expectations	Sales, Return on Investment (ROI), and Return on Equity (ROE)	Sales increase by 5%, ROE by 5% per quarter or 20% per year
	F2 - Maintain profitable growth by region	Gross profit % by region	Target 5% growth per region per quarter
		Net profit margin % by region	Increase 2% per region per quarter
	F3 - Increase contribution margin per revenue source by revenue stream	Contribution margin by revenue source by revenue stream	Increase 1% per quarter
Customer (C)	C1 - Increase customer sales by sales representative	Sales by sales representative Lead conversion by employee	Increase 10% Increase to 3.5%
	C2 - Increase customer satisfaction and loyalty	Orders by customer Use standard eBay metrics	Increase 2.5% per quarter Decrease negative feedback 2% per quarter
	C3 - Increase profitable marketing campaigns	Conversion/website traffic ROI per campaign Leads by source/sales	Increase to 3.5% Target 15% Increase 0.25% per quarter
	C4 - Create a marketplace	Listings by territory Number of market share buyers and sellers	Increase 5% per quarter Increase 3% per quarter
Internal Business Processes (IBP)	IBP1 - Increase brand name recognition	Direct and search-engine traffic compared to prior year's quarter	Increase 3% per quarter
		Amount spent on sales conventions	Spend $1,000 per quarter
	IBP2 - Maximize efficiency per warehouse	Shipping delay by warehouse Errors per order	Decrease 2% per quarter Decrease 1.5% per quarter
	IBP3 - Increase inventory turnover	Days in inventory by revenue type	Increase to 2.5 times in a year
Learning and Growth (L&G)	L&G1 - Provide employees information about customers	Rate of inventory acquisition Rate of consignment acquisition	Increase 1% per quarter Increase 0.5% per quarter
	L&G2 - Focus on employee training	Goal attainment by sales representative	Increase 5% per quarter
	L&G3 - Increase employee training, and improve reporting and decision making	Amount spent on training	Spend an average of $1,500 per quarter

Figure 4. **Cause and Effect Among Key Operating Measures**



forward-looking management accounting system. Initially, the company evaluated its performance from historical financial statements that were used for reporting, compliance, and tax purposes. As the business grew and took on investors, however, it became apparent that the requirement for frequent performance evaluation, periodic profit planning, and real-time operational decision making became a necessity.

Our case study applies the recommendations from prior management accounting systems design research for entrepreneurial businesses. Our management accounting system design is consistent with this prior research and validates the necessary components of a management accounting system to support an entrepreneurial business. Given an established set of strategic priorities and an evolving organizational structure, using a management accounting system with dynamic tools and procedures can meet the challenges of a new growing business. We utilized the context and evidence our entrepreneurial business provided to create a design that met with the approval of Globe's CEO and founder Gabriel Zimmerman and its board of directors.

We suggested that Globe recast its income statement into a variable costing or contribution margin statement so that management can understand its revenues and costs. We provided a variance analysis tool for calculating revenue and cost variances that would explain the price/cost and volume/quantity effects of the differences. Our variances took into account the differences due to market size, market share, and product mix. Using the variable costing or contribution margin statement, we created a profit planning template and provided suggestions about how to incorporate Globe's expectations and assumptions about its future business environment and future performance. Finally, we examined Globe's operations and developed a set of performance measures that would inform management about the likelihood of meeting their profit plan and prompt a proactive course of action to keep the business from veering off course. ■

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