

TRIM Inc.

Audrey Taylor

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INTRODUCTION

PERSONNEL:

Henry Taylor – Founder and father of Summer Taylor

Marie Taylor – Founder's wife and mother of Summer Taylor

Summer Taylor – President

Edward Smith – Head of Research and Development

Chris Kelly – Head of Production

Montgomery Bradford – Vice President of Marketing

Joshua Sears – Controller

Taylor's Reduction Improvement Machines Inc., (TRIM), produces exercise equipment. TRIM started in 1950 when Henry Taylor decided to create a company to produce products that he could use and enjoy. As a navigator in the Air Force during World War II Henry had released his anxiety by running and lifting weights. He had been trained by the best the Air Force had to offer and wanted to build and provide equipment that anyone could use to build the body while maintaining the tranquility of the soul. Following that vision, Henry had gathered a few of his trainers and with the financial backing of some of his fellow officers and friends he started TRIM in the family garage.

In 2008 the company has a mature market line of reliable products. The TRIM line is regarded as high quality at a reasonable price. Customers feel that they are paying for the product and not for the name. However, customer loyalty is high and some marketing consultants advised Henry to raise the prices of the TRIM line. Henry refused. As a result he increased the loyalty of his customers to an even higher level.

Recently the demand for robust exercise equipment for home and club use has dramatically increased. TRIM Inc. has maintained their sales volume but they have been gradually losing market share of an ever expanding market for exercise equipment as clubs and individuals turn to newer innovative machines outside of TRIM Inc.'s repertoire. Therefore the new company president, Summer Taylor, a former swimsuit model, Miss America first runner up, and Smith College alum has decided to try and develop new profitable products for the market. Henry turned over "his baby" to "his baby". Summer was the first born child of Henry and Marie Taylor.

Summer's Research and Development team, headed by Edward Smith, have recently developed a new product that they feel will be well received. The product is a new exercise machine that in the testing phase dramatically reduced waistlines in as little as 14 days. The initial marketing results have indicated that the market is firm for this product and that a price of \$100 would be well received. At that price, TRIM Inc. believes that 7,500 machines can be sold each year for the next two years. The material cost for each unit is \$60. One of the major benefits of the new product line is that the new product can be produced on the existing equipment.

Summer called a meeting of the management team. During the meeting Summer and Edward discussed the production needs and sales potential of the Waist Line Reduction Machine, (WLRM), with Chris Kelly, the head of production, Montgomery Bradford, the Vice President of Marketing and Joshua Sears, the Controller. Edward stated that given the flexibility of the current equipment, and the skill of the setup personnel, the existing equipment could

be used to produce the new machines. In fact, Edward stated that he had designed the new product so that it could be produced using the existing processes and machines. The skill set of the current labor force is considered to be sufficient to produce this new product. During the meeting the following discussion took place:

Summer: “Ed, this machine looks wonderful, and the marketing results look very positive. I am really impressed with your ingenuity and your practicality at the same time. Developing a machine that we could make on our existing resources is incredible.”

“You’ve done the market analysis Montgomery. What do you think of Ed’s invention?”

Montgomery: “I love it. So do our customers. The current clients are very interested and have made solid commitments for purchases if we can get it to them fast. Hopefully the competition has not caught wind of this. You know how clients talk. It won’t be long before the usual suspects come out with a clone.

Even if they do hear about the WLRM, I think we can hold our lead for the next two years and sell 7,500 units each year at a minimum. We may even be able to increase that to 10,000 units if we decide to. I do not know if I can promise much more than that. You know that I would like to say that “the sky is the limit”, but I would rather be conservative and make sure that we do not build more than we can sell. We want to keep the price high until the competition catches up.

Chris: I like that conservative outlook Montgomery. I know that we can handle 7,500 units now. I have determined our current capacity utilization with our current product lines and I projected how much of our capacity we would use for this new product. I have outlined our current capacity available and used in Exhibit 1.

I will review my projections on how much capacity 7,500 and 10,000 units of the WLRM will take and provide that for you at our next meeting. It looks like we can handle the 7,500 units right now. If we do decide to go above that I think we will need to expand. Do you want to do that right now?

Ed: Before you answer that, I probably should inform you that the Waist Line Reduction Machine is not the only product my team has developed. They also created a smaller machine great for building biceps. Therefore I call it the Bicep Builder. Catchy isn’t it?

Montgomery: Ed gave me a few prototypes and we have done some preliminary research, and again he has a winner. This machine should sell for a lot less than our WLRM, but it should cost less to build too.

Summer: Ed and Montgomery, this is wonderful news. Make sure that Chris sees it and gives you her input on what she thinks it will cost to build. In the meantime, I would like a decision on the WLRM. I do not think that we can afford to let our products lag behind our competitors. I would like to see some projections of the full cost of the WLRM for the lower volume level of 7,500 units given Chris’ projections on how much capacity she believes that it will use.

Joshua: Since we are already using Activity Based Costing for our product lines, it should be simple for me to determine the ABC cost of the WLRM for you. The data I built into our ABC system is in Exhibit 2. In most instances costs were easily divided into our activities. Only maintenance cost had to be allocated between two activities. Using this information I can develop a fully allocated cost for the new products. In addition, I will look over Chris’ notes and get my projections to you right away. I need to know from you, Montgomery, whether any additional Sales and distribution costs will be incurred with these new products. Finally, I would also like to confirm whether we are aiming for a profit margin of 25 percent of sales. Are we? I would like to determine if the WLRM meets our Target Cost requirements.

Summer: Good point Josh. Would you do that please? Montgomery, will the sales and distribution of these products increase beyond our current budget for those items and do you think that the WLRM can command our traditional profit margin?

Montgomery: At present we are contacting our buyers with our current sales force and no additional salesmen are needed. The advertising for the new products should be covered by our agreement with our advertising agency and the salesmen tell me that word of mouth is our strongest sales tool. Luckily our clients are so excited about the WLRM that they have already created a “buzz”. As far as distribution costs go, our clients continue to pay for the freight-in.

Reducing our profit margin demands on this new line would not be wise. I have the price information right here. According to our research, we can sell the 7,500 for \$100 each. Hopefully that will be enough to give us the margins we need. But Josh can tell us that.

Summer: Great. Well, let’s meet again on Friday and discuss what Josh finds. We can then decide if we should go ahead at the 7,500 unit level or not. If we think the lower volume level is profitable, we can then decide whether to expand or not and make more WLRMs or stay at the lower volume. By then we should have some more information on the Bicep Builder too. Right?

Exhibit 1**Existing Cost Structure and Capacity Provided and Used and the Needs of the New Product, the WLRM**

Current cost, cost drivers and utilization of resources by Taylor's Reduction Improvement Machines Inc. for production of the current product lines, (without the WLRM) are as follows:

	Activity Cost	Cost Driver	Practical Capacity of Resources	Capacity Used
Handling Material	\$ 200,000	# of moves	12,500	10,000
Setting up Equipment	\$1,200,000	set up hours	12,000	10,000
Designing Processes and Products	\$ 180,000	types of products	12	8
Designing Packaging	\$ 240,000	types of products	12	8
Machining the Product	\$ 360,000	machine hours	300,000	240,000
Direct Labor	\$ 600,000	direct labor hours	20,000	18,500

Exhibit 2**The Composition of Each Activity**

Activity Detail	Material Handling	Setting Up Equipment	Designing Processes and Products	Designing Packaging	Machining the Product	Direct Labor
Number of Employees	3	6	3	2		10
Annual Salaries of employees	\$174,000	\$ 840,000	\$ 210,000	\$ 130,000		\$600,000
Forklifts	2					
Depreciation on Forklifts	\$ 16,000					
Machines					40	
Depreciation on Machines					260,000	
Maintenance & supplies*	\$ 10,000				100,000	
Tools and Dyes (expensed each year)		\$ 360,000				
Software cost, utilities, hardware			\$ 30,000	\$ 50,000		
Total Cost of the Activity	\$ 200,000	\$1,200,000	\$ 240,000	\$ 180,000	\$ 360,000	\$600,000

Maintenance Detail

Employees	2	
Annual Salaries and Fringe	\$45,000	\$ 90,000
Supplies		\$20,000
Total Cost of Maintenance		\$110,000

Maintenance Cost is traced to activities based on maintenance hours

FRIDAY MEETING RESULTS:

In the meeting on Friday, Chris shared the results of her study of the resource needs for making 10,000 units of the WLRM. The Marketing Team has just informed you that their original projections for sales for the Waist Line Reduction Machine were understated. Based on the new surveys, the potential market is for at least 10,000 units annually for a minimum of two years. There is evidence that the market could last longer depending on the response of TRIM's competitors to the new machine. TRIM would be first to the market with this new equipment.

In addition, TRIM Inc. also has the opportunity to begin production on another exercise machine. Chris, Ed and Montgomery worked together to determine how many Bicep Builders, BBs, they could sell and at what price. This product, the Bicep Builder, promises to increase muscle mass while decreasing underarm fat significantly in one month if used only 15 minutes every other day.

The cost to produce the Bicep Builder and the capacity needed to produce it appears below. After testing the market TRIM Inc. believes that it can sell 20,000 units if the price is \$50.00 per unit. The market for the Bicep Builder, (BB), is equivalent in composition and duration to that for the Waist Line Reduction Machine, (WLRM). The BB market is expected to last for a minimum of two years and dependent on the response of the competitors, could last for another two to five years at significant volumes. It is even projected that the sales volume could dramatically increase if the results across the user population equal the results to date in the test market.

The projected resource needs for the WLRM and the BB and its sales price and volume is included in Exhibit 3. Detail on the Cost of Purchasing New Capacity is presented in Exhibit 4.

Exhibit 3 Projected needs of the New Products

Product		WLRM	WLRM	BB
Volume in Units		7,500	10,000	20,000
Handling Material	# of moves	938	1,250	500
Setting up Equipment	set up hours	1,875	2,500	1,000
Designing Processes and Products	types of products	1	1	1
Designing Packaging	types of products	1	1	1
Machining the Product	machine hours	26,250	35,000	30,000
Direct Labor	direct labor hours	1,500	2,000	4,000
Handling Material	units per move	8.0	8.0	40.0
Setting up Equipment	hours per move	2.0	2.0	2.0
Designing Processes and Products	per product line	1.0	1.0	1.0
Designing Packaging	per product line	1.0	1.0	1.0
Machining the Product	Machine hours per unit	3.5	3.5	1.5
Direct Labor	Direct Labor Hours per unit	0.2	0.2	0.2
Material cost	per unit	\$60.00	\$60.00	\$15.00
Labor Cost	per hour	\$30.00	\$30.00	\$30.00
Sales Price	per unit	\$100.00	\$100.00	\$50.00

Exhibit 4**Detail on the Cost of Purchasing New Capacity**

Activity	Cost driver	Capacity for the Next Step	Cost for the Next Step*
Handling Material	# of moves	5,000	\$ 40,000
Setting up Equipment	set up hours	1,500	\$ 200,000
Designing Processes and Products	types of products	6	\$ 90,000
Designing Packaging	types of products	6	\$ 125,000
Machining the Product	machine hours	16,000	\$ 25,000
Direct Labor	direct labor hours	2,000	\$ 60,000

* Each separate step must be purchased in its entirety if more capacity is needed. For example, if extra material handling is needed, the entire 5,000 moves must be purchased for \$40,000.

REQUIREMENTS:

Based on the projections in Exhibits 1 – 4 for the total resource utilization of the WLRM and the BB products on their pre-existing equipment, TRIM Inc. management is still trying to determine if the new exercise equipment should be produced.

- a) Determine the Target Cost for the Waist Line Reduction Machine.
- b) Determine what TRIM should do. Should they:
 - a. Make 7,500 WLRMs?
 - b. Make 10,000 WLRMs?
 - c. Make 20,000 BBs?
 - d. Make the full demand for both the Bicep Builder (20,000 units) and the Waist Line Reduction Machine (10,000 units).
 - e. Build the full demand for the Bicep Builder (20,000 units) and the original lower volume for the Waist Line Reduction Machine (7,500 units).
 - f. Make some combination of the volumes of the WLRM and the BB based on a profit maximizing methodology. You may want to determine some framework for deciding how to maximize profit given capacity levels and constraints. The method you choose should enable you to determine the optimal level of your resources so that profit is maximized, once the cost of the new capacity is taken into account.

- c) For each alternative in (b) include the impact on TRIM's profit. Rank the alternatives and indicate your choice. Be sure to explain the rationale behind your choice.
- d) What additional information would you like before making a decision about adding these new products?
- e) How would you track the success of this or any new product line or lines?
- f) How would you monitor production?
- g) What information would sales need in order to promote the optimal level of product sales?
- h) What would you like to know about the pre-existing product lines? How might this information change your previous responses?

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