



Measuring Team Performance

It was a beautiful day. The warm air felt good on Jack's arm and face as he drove. The best part was that Jangbu was back in town to stay. He was renting a small house near Jack's home.

Jack thought about his accomplishments during the past six months. Finally he had organized his 32 people into four work cells of eight people each. Each work cell shared ownership for all the necessary steps to produce a complete product or service.

Two daunting challenges had made the change

difficult. The first problem was that some of the equipment his department had used for years was big, fast and expensive, and there was not enough money available for each work cell to have its own machines. Sharing equipment between work cells created conflict and lots of waiting time. The second obstacle had been his people's resistance to cross-training. It was clear from the beginning that people in cells would have to learn multiple jobs to back each other up.

Jack and his people solved the first problem rather quickly as soon as they realized that each work cell did not need fast, expensive equipment. After all, the machines used by each cell would only need to handle one fourth of the number of jobs that the big, fast machines had to handle in the old system. Jack gave the high-capacity machine to one of the cells knowing without concern that the machine's utilization rate would plummet. Next he found some older equipment that was sitting idle for two of the other cells and bought one smaller machine for the remaining cell. Problem solved.

The challenge of cross-training was a human problem, not a physical problem. The resistance took many forms. Some of his more experienced people felt they had "earned their way up" to the more interesting, complex jobs after years of performing the simpler,

more mundane jobs. They did not want to go backward. Other people warned that quality would suffer, repeating the phrase, "Jack of all trades, master of none." Still other people lacked the confidence in themselves that they could learn several jobs.

Jack kept pushing them to learn new jobs and hoped that eventually they would see the advantages. After a few months, he began hearing a few positive comments about how nice it was not to have to do the same job all day long, every day. Soon he found that he was spending less time solving quality problems because his people understood more about the process and could solve more of the problems without him.

Because the tasks required to produce a complete product or service were interrelated, it turned out that the more his people cross-trained, the better they became at every job. Rather than reducing their ability to produce quality work, cross-training made them feel more like craftsmen. They were able to ensure a quality result because the job stayed in their control from beginning to end.

Once the cross-training and equipment problems were resolved, the work cells started to perform very well. Quality improved because each work cell was unquestionably responsible for its output, making sure the job was done right. Lead time also improved

because there was no waiting time at shared equipment.

Jack was so enthusiastic about the new system that he had set up a lunch meeting with Marty and Jangbu to brag about how well his people were doing.

He pulled into the parking lot. Jack had invited Jangbu to lunch at the company cafeteria, but for some reason the Sherpa did not seem to like that idea. Instead, Jangbu was treating them to lunch today at a new Nepalese restaurant, which served the food Jangbu had eaten for most of his life.

As he walked in the door he saw Marty and Jangbu sitting in a corner booth, deep into conversation. When he walked over they did not even look up. They were both looking intently at the piece of paper between them. As he looked more closely he realized it was Jangbu's map.

"So what are you two concentrating on so hard?" Jack asked as he sat down next to Jangbu.

"Oh, just some new ideas for your department," said Marty.

Jack smiled, thinking she was kidding. Then he frowned and said, "What do you mean? Don't you know how well things have been going lately?"

She raised her eyebrows. "Jack, your department has been doing great," she replied. "But are you sure your group is performing as well as it can? I only ask

because Jangbu and I have a few more ideas that could help your department to really soar, ideas you are definitely going to want to implement.”

Jack thought about this. He and his group had just finished making a lot of changes, and he was not sure they were ready for anything new yet. On the other hand, everything he had learned since he first talked to Jangbu had worked so far, so why not take a quick look? “All right,” he said to Marty and Jangbu, “let’s see what you’ve got.”

Marty slid the map over to Jack. “See anything new?” she asked.

Jack looked down at the map and immediately saw the new addition (see map 10):

SHARED GOALS SHARED REWARDS

“On Mount Everest, all the members of an expedition share a clear goal that they can see in front of them every day,” Jangbu explained. “They also seek the same reward – the feeling of accomplishment that they will receive the moment they reach the summit. It is this shared goal and shared reward that binds them together as a team.”

Camp I

WORK GROUP
creator

COACH
a.k.a.

INDIVIDUAL BUILDER
whose goal is

SELF-DIRECTED INDIVIDUALS
members treated or behave like

ADOLESCENTS
members become

INDEPENDENT

GIVE YOUR TEAM SOMETHING TO OWN

**SHARED GOALS
SHARED REWARDS**

Camp II

WORK CELL
creator

DESIGN TEAM
a.k.a.

CELL BUILDERS
whose goal is

SHARED ACCOUNTABILITY
members treated or behave like

PARTNERS
members become

OWNERS

“Now think about how it is at our company, Jack,” said Marty.

Jack thought for a moment. “At work we reward people for what they accomplish individually,” Jack said. “People compete against one another all the time, trying to make themselves look good at the expense of the team.”

“Exactly,” said Marty. “It reminded me of an article I read last February in *USA Today* titled, ‘Why Teams Fail.’ It reported that although management may be telling people to behave like team players, the compensation system in most organizations rewards people for behaving as individuals.”

“Paychecks speak louder than words,” Jack said. “If you want people to excel as individuals, you give them individual goals and reward them as individuals.”

“But if you want them to behave like a team,” Marty interrupted, “you should have team goals and reward the members of the team based on the performance of the team.”

“Wow,” said Jack. “Now I know why you were excited to tell me this. The timing is perfect. Before we formed work cells, there was no way for a group of people to share goals and rewards. Now that my people have control over enough process steps to produce a

complete product or service, they can be rewarded for good performance and held accountable for poor performance.”

“What kind of goals would they have?” asked Marty.

“Well, the main reason we are in business is to make a profit, right?” said Jack. “I think I should measure the profitability of each cell. It will be as if they owned a small business within the business, and I think it would cause them to start acting less like employees and more like businesspeople. We also could share part of the profits with them using some sort of bonus program. We’d be paying more for labor costs, but I bet in the end the company would make better profits as well.”

Marty nodded. “I think everyone at one time or another thinks about how great it would be to own their own business. This would be a way for people to have that opportunity while working for a company. We could tap into their entrepreneurial spirit, and they would not have to take on all the risk themselves.”

“That’s exactly what I’m thinking,” agreed Jack.

Jangbu lifted his hand to slow them down. “I agree that in many cases profit is a great measure,” he said. “However, for some teams profit cannot be measured or profit is not the goal. Think about a management

team at a hospital. They would still need shared goals and rewards.”

“I agree,” said Marty. “It is ideal to set teams up as profit centers like small companies within the company. But even though our company’s overall goal is to make a profit, we have teams inside the organization that cannot be measured using profit as the goal. During my career I have had the opportunity to manage both kinds of teams, and in every case we’ve been able to develop shared goals. I will describe two examples for you.”



Case Study: Using Profit as the Goal

“My last employer manufactured outdoor grills. As the operations manager, I was in charge of arranging their manufacturing operation into work cells. We set up one cell with eight employees to manufacture portable tabletop grills that retailed for \$31. A second cell with seven employees had responsibility for manufacturing mid-sized backyard grills that could be rolled on wheels. They retailed for \$295. The third cell had eight employees and built grills that would be permanently installed as part of an outdoor deck.

These retailed for about \$2,500, depending on the options chosen.

Previously, the production area had been organized into four different departments. The forming department cut and bent all the sheet metal, the paint department painted the sheet metal, the burner department manufactured all the tubing through which the propane gas flowed and the assembly department put all the parts together into finished grills.

Today each cell manufactures its own sheet metal and burners and assembles the parts. However, paint is still a separate department that functions as an internal vendor, painting parts as they arrive from the cells."

"That sounds a lot like the change we just made in my department," said Jack.

"Exactly," agreed Marty. "Wait until you hear what we did next. Before forming the cells, the accountants had prepared only one set of financial statements for the whole company. However, soon after breaking production into cells the accountants divided the financial statements into three different parts, one for each cell, so that each cell could manage its own operation like an independent business."

"It was easy to create these reports for each cell, and the employees in each cell caught on to the idea quickly." She took a piece of paper from her notebook.

“Take a look at this. It is the combined financial statements from the month before I left the company.”

“Net Profit is simply Sales Revenue minus all the costs and taxes,” explained Marty. “Sales revenue is volume multiplied by price per unit. Labor includes benefits of course. Materials cost is also readily available. Equipment cost is the monthly depreciation for all the equipment within the cell. Utilities and Rent are calculated based on the square footage occupied by the cell. If a cell occupies 3,000 square feet, and the entire plant occupies 10,000 square feet, then the cell is charged 30 percent of the total rent and utilities, which also gives the cell an incentive to reduce floor space. Administration is equal to the total salaries of management, supervisors and staff.

Measuring Team Performance

	<u>Table Grills</u>	<u>Yard Grills</u>	<u>Deck Grills</u>	<u>TOTAL</u>
Sales Revenue	\$229,710	\$356,950	\$527,500	\$1,114,160
Costs:				
Labor	23,936	20,944	33,792	78,672
Materials	96,330	66,550	201,716	364,596
Equipment	8,500	16,000	18,950	43,450
Rent	7,800	14,000	16,400	38,200
Utilities	7,313	13,125	15,375	35,813
Admin.	49,822	89,424	104,754	244,000
Gross Profit	36,010	136,907	136,513	309,430
Taxes	13,684	52,025	51,875	117,583
NET PROFIT	\$22,326	\$84,882	\$84,638	\$191,846

Each team is paid a quarterly bonus equal to a percentage of the improvement they made in their profitability since the beginning of the year. Each member of the cell gets the same bonus."

"That's great," said Jack. "I can definitely do the same thing for my teams."

"That is fascinating," said Jangbu, "but what about when the team cannot be so easily measured based on profit?"

"I'm glad you asked," Marty replied. "I've got just the example for you."



Case Study: When You Can't Use Profit As The

Goal

“When a team cannot use profit as the goal, I suggest using a Performance Management Matrix*,” she explained. “It is most useful when a team has several important objectives that must be kept in balance. I’ll use a fun example. The President of the United States has a team of advisors called the Cabinet that helps him run the government. Certainly they can’t be measured based on profitability, but they still need shared goals and shared rewards.”

These are the seven steps to building a Performance Management Matrix:

1. Brainstorm objectives

“Okay, guys, pretend you are the President’s Cabinet. What are all the possible improvements you could implement to make this a better country? You give me the ideas and I’ll make the list.”

Jack and Jangbu hesitated a moment, and they started spouting ideas. Here is the list Marty made:

* Adapted with permission from the book *Performance Management*, by Aubrey Daniels.

- Reduce taxes
- Reduce crime
- Protect the environment
- Improve education
- Fix the roads

“That’s enough for now,” said Marty. “I know there are many more, but this is just an example. Time for step two.”

2. Vote on top choices

“If you brainstormed a while longer, you would have come up with 20 or 30 ideas,” Marty explained. “No team can really focus on more than a few objectives. Let’s each choose the one we like the most and use it in the example. Jack, what is your choice?”

“Reduce crime,” said Jack.

“Improve education,” said Jangbu.

“I’ll pick reduce taxes,” said Marty. “We chose quickly, but in a real team setting, we’d discuss our preferences until we reached consensus. Now here is what a blank Performance Management Matrix looks like.”

She pulled another piece of paper out of her notebook and drew with her pen for a few moments. “We’ll write our objectives in the first column.”

Step 2

Objective	Measure	Base				Goal				Strch		W%	Score
		4	5	6	7	8	9	10	11	12	13		
Reduce Crime													
Improve Education													
Reduce Taxes													
Total													

“Time for step three.”

3. Define measures

“Now that we know our objectives, we need to figure out how to track our progress on improving the objectives we chose,” said Marty. “Jack, you’ve got crime, Jangbu’s got education and I’ve got taxes.”

They each took out a pen and paper and jotted down some ideas. A few minutes later Marty asked for their answers.

“The police already have data on the number of crimes per 1000 people,” said Jack. “I think we could use that as a measure.”

“That will work fine,” agreed Marty.

“For education, I would measure the improvement in the SAT scores,” suggested Jangbu.

“Fine,” said Marty. “And for mine I will simply use the average of taxes collected per person. We’ll write

our measures in the second column of the matrix.”

Step 3

Objective	Measure	Base				Goal				Strch		W%	Score
		4	5	6	7	8	9	10	11	12	13		
Reduce Crime	Crimes Per 1000 People												
Improve Education	SAT Scores												
Reduce Taxes	Taxes Per Person (\$K)												
Total													

“Now for step four.”

4. Determine baseline and set goals

“Now I’d like each of you to estimate where we are today according to your measure and where you think we could be at the end of a four-year presidential term if we work hard,” said Marty. “Where we are now is called the *baseline* or our current performance. Where we think we could be is our *goal*. I also want you to think of what we might be able to attain if we work really hard and get a little lucky. That is called our *stretch goal*.”

They each thought for a minute and guessed at the numbers for their objectives. Jack was done first. “I estimate my baseline at 100 crimes per 1000 people, my

goal will be 70, and my stretch goal will be 40," he said.

"Okay, now watch carefully," said Marty. "I am going to write your baseline number under the 5 on the matrix. I'll write your goal under the 10 and your stretch goal under the 13. That is where they always go. I'll explain what the 5, 10 and 13 mean in a minute, but let's get all our numbers in the matrix for now."

"For my measure, we'd have to have a representative sample of people take the SAT because not everyone takes it now," Jangbu said.

"That's fine," Marty said. "Sometimes you have to collect data in order to get an accurate baseline, but for now just give me your best estimate."

He told her his estimates, and she wrote them in the matrix followed by her numbers.

Step 4

Objective	Measure	Base			Goal			Strch			W%	Score		
		4	5	6	7	8	9	10	11	12			13	
Reduce Crime	Crimes Per 1000 People		100					70				40		
Improve Education	SAT Scores		840					890				950		
Reduce Taxes	Taxes Per Person (\$K)		8.5					6.0				4		
Total														

5. Fill in the sub-goals

"The numbers 4 through 13 across the top of the matrix are called anchors," said Marty. "They also can be called milestones or sub-goals. They act like a ruler against which we can measure the progress of our objectives."

"I think I know what we do next," said Jack. "We break our goal into sub-goals that we can measure so we can get credit as we make progress."

"That's right," said Marty. "What would be your sub-goals as you move from baseline to goal?"

"Well, I guess under the 6 I'd put 95, for 7 I'd put 90, for 8 I'd put 85 and for the 9 I'd put 80."

"Perfect," said Marty. "How about from goal to stretch goal?"

"60 for 11 and 50 for 12," he replied, watching Marty write his numbers in the matrix. "I see what we're doing so far, but what do we put under anchor number 4?" he asked.

"Is it possible that crime could increase?" asked Marty.

"Sure," said Jack.

"Wouldn't we want our measures to be able to track that also?" she asked.

"Yes, I guess you're right," agreed Jack. "Put a 110 under the 4 then." Marty wrote his number in the matrix and then added both Jangbu's and hers.

Step 5

Objective	Measure	Base				Goal				Strch				W%	Score
		4	5	6	7	8	9	10	11	12	13				
Reduce Crime	Crimes Per 1000 People	110	100	95	90	85	80	70	60	50	40				
Improve Education	SAT Scores	830	840	850	860	870	880	890	910	930	950				
Reduce Taxes	Taxes Per Person (\$K)	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.0	4.5	4				
Total															

6. Define weights

"The sixth step is to decide on the importance of each objective," said Marty. "We'll show the priorities by writing numbers called weights under the column labeled W%. When added together, the weights must total 100."

"So the weights of our objectives could be 60, 20, 20?" asked Jangbu.

"Or 10, 40, 50?" asked Jack.

"Or 30, 30, 40," added Marty, "or any combination that equals 100."

"So if one objective is weighted 50 and another is weighted 25," said Jangbu, "then the first is twice as important as the second?"

"You've got it," said Marty.

“For our matrix,” said Jack, “I think education should get a 50. If we give people better education they might not commit as much crime.”

“Okay,” said Marty as she filled in the matrix. “For now let’s give crime 25, education 50, and taxes 25.”

Objective	Measure	Base				Goal				Stretch		W%	Score
		4	5	6	7	8	9	10	11	12	13		
Reduce Crime	Crimes Per 1000 People	110	100	95	90	85	80	70	60	50	40	25	
Improve Education	SAT Scores	830	840	850	860	870	880	890	910	930	950	50	
Reduce Taxes	Taxes Per Person (\$K)	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.0	4.5	4	25	
Total											100		

Step 6

7. Calculate score

“Finally we can calculate our score as a team,” said Marty. “First, we’ll get the score for our performance on each objective. In order to calculate a score for an objective, we need to figure out what sub-goal we’ve attained according to the anchors labeled 4 to 13 across the top of the matrix.”

“We’re at a 5 on all of them,” Jangbu interrupted, “because we just started.”

“Right,” confirmed Marty. “Then we multiply the anchor by the weight for that objective. Jack, can you do the math for us?”

"Sure," said Jack. "Crime would be $5 \times 25 = 125$, education would be $5 \times 50 = 250$, and taxes would be $5 \times 25 = 125$."

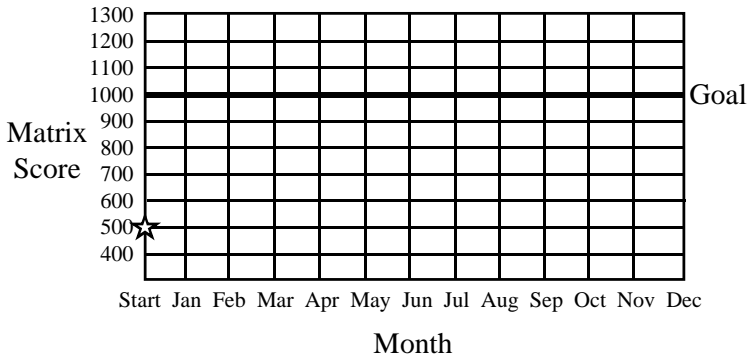
"Exactly right," said Marty, as she wrote Jack's answers in the column labeled score. "Now what would be the total score for the entire matrix?"

Step 7

Objective	Measure	Base			Goal					Strch		W%	Score
		4	5	6	7	8	9	10	11	12	13		
Reduce Crime	Crimes Per 1000 People	110	100	95	90	85	80	70	60	50	40	25	125
Improve Education	SAT Scores	830	840	850	860	870	880	890	910	930	950	50	250
Reduce Taxes	Taxes Per Person (\$K)	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.0	4.5	4	25	125
Total												100	500

"Just add up the scores for all the objectives," Jangbu said. "So the total score for the team would be 500."

"Yes," said Marty as she wrote 500 at the bottom of the score column. "With this kind of matrix, you always start with a score of 500. Now I always make a graph of the team performance like this." She pulled another sheet of paper out of her notebook and drew a graph. She labeled the vertical axis from 400 to 1300 and wrote the word "start" followed by the months from January to December on the horizontal axis. Then she placed a star above start at the 500 mark.



"So we'd score the matrix every month and update the graph as we make progress?" asked Jack.

"Yes," said Marty. "Let's pretend we've been at it as a team for a month and we've reduced crime to 92 per 1000."

"So we'd be at anchor number 7, right?" asked Jack.

"Oh no you wouldn't," said Marty. "No rounding on this matrix. Until you get to 90 or less, you are at 6."

"All right, so I'm at 6," said Jack. "That'll make it easy to get to 7 next month."

Marty circled 95 on the matrix and then turned to Jangbu. "Let's say you really worked hard on education and improved the SAT scores from 840 to 880."

"Impossible," said Jangbu. "Not in one month."

"It's just an example," said Marty as she circled 880 on the matrix. "Stay with me. I am going to say that we

had to raise taxes in order to pay for your crime and education improvements, so I actually went backward to \$9,000 per person."

"So you are only at a 4?" asked Jack.

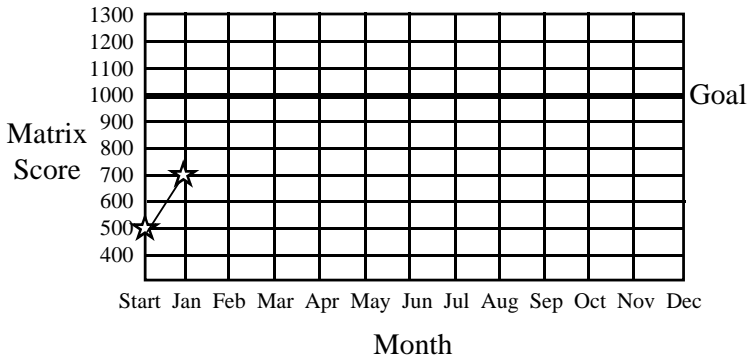
"Unfortunately, you are right," confirmed Marty as she circled 9.0 on the matrix. "Now let's see you score the matrix, Jangbu."

Jangbu turned the paper to face him. "Crime would be $6 \times 25 = 150$, education would be $9 \times 50 = 450$, and taxes would be $4 \times 25 = 100$," he calculated, writing the numbers in the score column as he talked. "And the total score for the team would be 700."

Objective	Measure	Base				Goal				Strch			W%	Score
		4	5	6	7	8	9	10	11	12	13			
Reduce Crime	Crimes Per 1000 People	110	100	95	90	85	80	70	60	50	40	25	150	
Improve Education	SAT Scores	830	840	850	860	870	880	890	910	930	950	50	450	
Reduce Taxes	Taxes Per Person (\$K)	9.0	8.5	8.0	7.5	7.0	6.5	6.0	5.0	4.5	4	25	100	
Total											100	700		

"Correct," said Marty. "Now, Jack, you update the graph."

Jack pulled the graph in front of him and drew a star above January at the 700 level.



“The idea is to keep working on our objectives and score ourselves each month,” explained Marty. “What is our goal for our total score?”

Jangbu looked at the matrix again. “I think we want to get to *10* on each of these objectives,” he said. “So if we have all *10*s our total would be $10 \times 25 = 250$ for crime plus $10 \times 50 = 500$ for education plus $10 \times 25 = 250$ for taxes equals a total of 1000 points.”

“That’s right,” said Marty. “Would it be possible to reach 1000 without getting to a *10* on every objective?”

“Sure,” said Jack. “If we got to an *11* in education, we could be at *9* in both crime and taxes and still be at 1000.”

“Is that fair?” asked Marty.

“I think so,” said Jack. “It’s real life. There may be factors that are out of our control, so we ought to be able to work harder on one objective to make up for

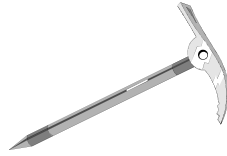
falling short on another.”

“I can see how this matrix provides a very clear goal for the team,” said Jangbu. “But what about a shared reward?”

“The idea is that when the team reaches 1000, they will be rewarded somehow,” explained Marty. “Maybe with a bonus, maybe with a celebration or perhaps with recognition.”

“This seems like a very wise way to measure performance if you can’t measure profit,” said Jangbu.

“If you can’t measure profit, this is the best way I know to create a shared goal,” said Marty.



CLIMBING TIPS

1. There are two main types of teams:
 - A. The first type of team is typically called a work center team, a natural team or a self-directed team. These teams are permanent and are responsible for producing an output on a regular basis. A team of factory workers produces products. A team of janitors produces clean buildings. In most cases you will be able to use profit measures for this type of team even if the customers are other teams within the same company. For instance, a team of engineers might sell their services to teams of factory workers on an hourly basis.
 - B. The second type of team is often called a project team, "Kaizen" team, task force, or quality circle. These teams are almost always cross-functional and have a specific, one-time goal or set of goals. When the goal is achieved, the team usually ends. A software development team brings their product to

market. A team of operators, supervisors and human resources specialists might develop a new training procedure. In most cases you will not be able to use profit measures for this kind of team and would be better off using a Performance Management Matrix. For instance, the leadership team at a hospital might measure patient satisfaction, adherence to budget and percent occupancy.

2. There is no doubt that making these kinds of changes in the measurement and reward system at your organization will be difficult. In fact, if you have not implemented work cells that own enough process steps to produce a complete product or service or a large component thereof, measuring and rewarding your people as a team does not make any sense. **You cannot hold people accountable for something they do not control.**
3. Remember that until you build your individuals and then build work cells, it is wasteful to invest time and money in team building. Your organization will simply not be ready for it.

