

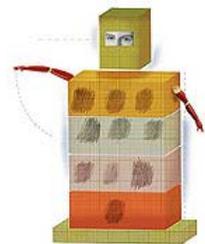
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The Next Page: How to build better leaders ... An engineer's recipe

Marcel Bergerman, a robotics engineer, spends his days making things work better. But he also thinks about how people can work better together. Humans, in some ways, are like robots: They need wise humans to get them going.

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 By Marcel Bergerman



Stacy Innerst/Post-Gazette

The world is starting to go through some of the harshest times of the past 75 years. The global economy is sinking, wars are ravaging countries and peoples, climate change is threatening the entire planet, optimism and hope are at very low levels. As the "leader of the free world," the United States is uniquely positioned to drive a multinational effort to overcome all these challenges. Will Barack Obama be capable of taking on this tough leadership role? Can we even say he is a leader at all? For that matter, how can we tell whether any given person is a leader?

Over the years I thought about this problem as I observed the many people I worked with. I came to the conclusion that most so-called leaders were undeserving of the title. I believe that true leadership is about much more than simply having authority or influence.

Now I am not a linguist, so I have difficulty expressing what leadership is in, as my big friend Alberto would say, 25 words or less. On the contrary -- I am a robotics engineer, and I need some kind of tool to "measure" how much of a leader one is.

Several years ago I engineered a "recipe" to forge a leader, consisting of five "ingredients." In these turbulent times when people are yearning for leadership, it may be the perfect moment to apply it to our president-elect.



THE FIRST AND FOREMOST ingredients is **Vision**. True leaders are capable of "seeing" further into the future than their peers, and formulating this future in a way that people can understand and "visualize." Using their Vision, leaders define meaningful goals to be pursued. A leader's Vision is his flashlight, allowing him to choose the road to take even though it's dark and everyone else can barely see what's ahead.

Second in the list is **Strategy**. Once the leader knows her goals -- what she wants to achieve -- she draws a plan detailing how to get there. Depending on the goals, this plan, or strategy, can be as simple as a collection of mental notes, as complex as a 1,000-page document, or anything in between. Two of its most fundamental components are a resources strategy -- who and what will be needed and when -- and a communications strategy -- to reach all stakeholders in a meaningful way. A good plan also includes alternatives for those "just in case" situations, when Murphy decides to interfere and things don't happen the way the leader expected them to. Planning is probably the single most overlooked activity in our business and personal lives. Even though most of us can clearly define goals we want to achieve, we don't always get to them -- because we fail to define a strategy to succeed.

Next comes **Execution**, or the actual work. While true leaders engage all human and material resources available for an entrepreneurship, they will always execute part of the plan themselves -- especially its most critical parts. Leaders do not distribute tasks and then simply wait for others to report their results. They get their "hands dirty," in essence leading by

example. When people see leaders working hard and taking on the same (or higher) level of responsibility as themselves, they are much more likely to engage, no matter how hard or seemingly impossible the task.

The fourth "ingredient" in my recipe is **Evaluation**. Leaders make sure they measure progress every step of the way, to ensure that the goals are being accomplished -- and to refine and revise the plan in case they are not. Leaders implement Evaluation methods in essentially the same way they plan: by keeping mental notes of what's done and what the results were, by painstakingly recording each and every activity and its result on a computer database, or with something in between.

Last, but definitely not least, is the "secret" ingredient: **Respect**, which I use generically to include honesty, ethical behavior, integrity, and above all, humility. Leaders are bold and visionary, aggressive and ambitious -- but their humility prevents them from becoming megalomaniacal and greedy. Leaders understand that power and money can corrupt even the holiest of the persons, and avoid accumulating too much of either to prevent becoming corrupted themselves.



THERE YOU HAVE IT -- an engineer's tool to tell leaders from non-leaders.

You can think of this "recipe" as a building. Vision is the penthouse, lying above the "clouds" that block most people's capability to "see" and define meaningful goals. Strategy, Execution, and Evaluation are the base floors, connecting the high-flying Vision to the reality of the ground where things happen.

What about Respect? It's the building's foundation, hidden below the ground. You can only see it indirectly. In much the same that you know a building's foundation is solid when it withstands an earthquake, a leader's Respect is only known from the way she acts in bad times.



I BELIEVE THAT there are no "natural-born leaders." With years of study, observation and practice all of us can learn how to define worthwhile goals, how to plan, how to execute a plan, and how to measure progress. Respect is the only ingredient that the leader brings from home, where she was taught to be honest, ethical, humble and not take things for granted.

My leadership recipe is "scalable" -- engineering jargon meaning that I can see leaders coming in different "sizes." Some leaders are capable of establishing modest goals, say for themselves, their families, or their small businesses, and to plan and execute accordingly. Others are capable of defining national and even multinational corporate or governmental goals, whose planning, execution, and evaluation demand thousands of collaborators.

I imagine a "Leadership City" to resemble the island of Manhattan: thousands of buildings, some tall and some short, indicating various levels of leadership maturity. What they all have in common is a solid foundation. If you come back to visit the Leadership City after 10 years, you will see that some buildings grew taller -- these are the leaders that improved their skills and are applying them to the common good, be it locally, regionally, nationally or globally.

Vision requires experience. Experience, it's been said, is what we rely on to make good judgments -- but something that can only be gathered through bad judgments. This seemingly contradictory definition is at the heart of the different levels of leadership maturity between individuals and nations. Families and societies that encourage safe experimentation and risk-taking foster more and better leaders. True leaders know that they make mistakes just like everyone else, but they learn from them instead of lamenting them.

We all can be, and in fact should be, our own leaders in our spheres of influence. Starting at home, we should educate ourselves and our children to be respectful to others, to be honest, to be tolerant of diversity, and to be humble about our achievements. We should teach, study and practice planning, execution and progress evaluation.

And we should all exercise the half-science, half-art business of defining meaningful goals that create a better future. Some of us are content to be family or community leaders, others prefer to work toward becoming worldwide academic or business leaders. All are important and necessary, and they only differ in terms of the impact they produce.

I hope the recipe I describe here will serve as a guideline that others can use to acquire, sharpen, and exercise their leadership skills as it has served me.



SO BACK TO THE ORIGINAL question: Will Barack Obama be able to lead the world and help us all navigate through the difficult times ahead?

I believe that he demonstrated all five leadership ingredients during the presidential election race -- the capacity to establish goals, to plan and execute, and to assess progress, while maintaining a level of decency that I haven't witnessed in a contest like this in all my 40 years. (I know that this last one is contentious, and I respect those who disagree with me here.) I have no reason to believe that he would not continue to use them while exercising the presidency, and I am very comfortable thinking of the future president as a leader.

Leadership is not parenthood. True leaders do not solve our problems, they guide us in solving them I am very optimistic with respect to the future of this country and the world. I am sure Mr. Obama is as well. And optimism is the leader's eternal core strength, which is a very good start for him and us.



Beware the 'Pseudo-leader;' Someone missing a crucial ingredient

You don't need all five ingredients mixed in the same proportion to be a leader. On the other hand, if one or more of the five ingredients are missing, what you have is a pseudo-leader -- a wannabe imitator who, hopefully sooner rather than later, reveals his true nature and is properly identified as undeserving the title.

I have special names for the pseudo-leaders:



THE PURE has plenty of Respect, but no Vision or capacity to plan, execute, and evaluate. This is a great candidate for a friend, but one that will need your help in almost everything he does in life.



THE MEAN BLIND has no Vision and no Respect, but great capacity to do work -- work that does not advance the common good and answers only to his greed. Try to stay away from this kind of person as much as possible.



THE GOOD BLIND lacks Vision but has all other ingredients. As long as she doesn't try to establish goals for you, she can be a great asset in any endeavor.



THE GOOD ORACLE is a nice version of the mean oracle. She also can give you excellent ideas and advice, and she does so with lots of Respect, thus being someone very enjoyable to be with. But be careful -- she does not walk the walk and won't get things done.



THE DICTATOR is seemingly a visionary, doer kind of person, but without a single drop of Respect. On the surface it looks like he has the right ideas and works relentlessly to pursue them. After working for a couple of years with this kind of pseudo-leader, however, you learn that he is secretly pursuing a greedy, personal agenda. (Alas, I know about this type from professional experience. Having a Ph.D. doesn't shield you from life's harsh realities.)



THE MEAN ORACLE has only Vision -- he has ideas, but he doesn't move a finger and is constantly disrespectful. Do seek him every once in a while for those great ideas and advice, but don't be around him on a daily basis, unless you are a masochist.

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