

Fourteen More Points: Successful Applications of Deming's System Theory

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This paper presents 14 additional application strategies for implementing the systems concepts of W. Edwards Deming. These strategies can all be generalized to virtually all organizations to enable them to do more and better with less. In these economically stressed times many organizations are struggling to survive. A key challenge is to adapt their operations in such a way as to make them both financially sustainable and capable of succeeding in an ever more competitive environment through ongoing self-improvement. This paper presents change strategies that are both significantly more effective and less costly.

We must recognize the power of systems thinking. Using systems thinking we can extend and apply Deming's ideas to transform all of our organizations. We can do more and better with less.

As our economy continues its downward trend, we are facing mushrooming debt at all levels of government and most of the private sector as well. We can use systems thinking to change organizations (systems) to improve and increase productivity while reducing required resources. We can apply systems thinking to all forms of organizations and save American education as well as our entire economy. Certainly significant improvement in our educational system by itself will cause significant improvement in our economy among many other things.

In building on Deming's work there are fourteen more points or key strategies we can identify and use to drive systemic change and save our education system, companies, governmental agencies and numerous other organizations that make up our entire economy. Some of these are already being applied in various sectors of the business community (see Kelly, 2012 for these and other examples referred to below).

1. Reallocate existing resources. Before we look to increase resources we must determine where there are existing resources that can be used more effectively. Much of the trillions of dollars we are currently spending annually can be used much more effectively in virtually all cases. Resources that are currently being used unproductively or under productively offer a vast pool that can be reallocated to productive ends.
2. Restructure existing resources to improve the system. Deming's fourteen points are a good framework for doing this. We can also do systemic assessment for this purpose. In our efforts to pursue ongoing improvement we must commit to ongoing organizational self-assessment. There are a number of ways to do this described in my book, "We can Do More and Better With Less."
3. Use technology for innovation. We must make maximum use of new technology to change and improve the system. Not all changes require new technology but many do. Friedrich Engels (although almost always wrong) made an astute observation: all great advances in human knowledge have followed some technological breakthrough. For example, when the first cave

person observed that a sharp stone could be used to cut things, a revolution occurred in tool making, hunting, weapons, shelter, etc. The new knowledge created changed the whole world. The easiest example to see of this phenomenon of technological innovation as the means to expand knowledge would be the invention of the printing press. With this single innovation the whole world not only gained access to knowledge, but it could contribute to, preserve, share and expand it. Technology offers the ability to increase productivity tremendously in countless organizations.

Today we are in the midst of a technological revolution that shows no signs of abating. Computers, the Internet, and numerous other innovations are improving and increasing productive capacity while reducing required resources. Change efforts must constantly seek ways to use technology to solve problems and increase productivity.

4. Use clear simple data to measure and drive improvement. Avoid over use of sophisticated statistics in presenting systems alternatives to most people. Specifically we need data that assesses the system, not just the people. Assessments of people, such as teacher evaluation and state tests of students used in all 50 states for decades, have failed to improve student achievement nationally. This requires different forms of very simple uses of data. The more complex uses found in many attempts to implement Deming's ideas, while of great value in some cases, are usually unnecessary and frequently counterproductive in terms of convincing large numbers of people of the value of widespread use of data. More complex forms of statistics have valuable uses in many areas but the popular culture finds only mystery in them. While systems thinking presents numerous wonderful concepts for structural change we must keep the popular aversion and fear of statistics in mind. At least first seek to explain systems thinking in the simplest terms possible in order to implement it in the general culture.
5. Educate our population to use W. Edwards Deming's systems methods. Deming has revealed the incredibly important insight that ongoing problems in organizations are not coming from the individuals in the system but from the structure of the system itself. The system is the problem. In schools for example, we have been trying to "improve" teachers, administrators and students. This is the wrong focus as billions in expenditures for these efforts and decades of education reform have clearly demonstrated. There is no evidence nationally of any improvement in student achievement while student discipline problems and dropouts have increased dramatically. Chronic problems in organizations have systemic chronic causes. Unless and until we recognize these chronic causes and deal with them effectively we will continue to waste and misallocate billions of dollars and countless hours of work while failing to change their chronic effects.
6. Abandon the standard "We need more money" false solution. This is a classic example of a logical fallacy confusing quality and quantity. We must abandon this conventional all-purpose solution for solving all problems. It is not only false but is bankrupting America while preserving the failure of our economic system. The changes we need are not more but better. Specifically in most instances we do not need more money and we do not need more work. In Deming's terms we need quality over quantity. When more money is not available this false solution serves as justification for the status quo or even failure.
7. Generalize implementation of effective models to other applications. Welfare reform is an excellent example of how a successful state innovation was replicated in other states and then nationally. When new structures are successful we must make them known to all who can use them to do more and better with less. The American automobile failed to replicate Deming's systems ideas leading to not only inferior American cars but near collapse of our automotive industry in the face of foreign competition. We should set up a clearing house or network available online free for these successful innovations. This could be done not only in general but also by specific organizations with their peculiar implementations.
8. Recognize that all organizations, public and private, must continuously find ways to increase productivity. We must always seek to develop systems that can produce more while consuming

fewer resources. Only those organizations (systems) that do this will survive and thrive in an ever increasingly competitive global market.

9. Recognize that ongoing change causes ongoing unemployment and develop standing or ongoing systemic responses. Change is systemic, ongoing and inevitable. This ongoing change is called “creative destruction” by economists. Old jobs are destroyed and new ones are created. This is an inherent and permanent characteristic of all economic systems. Resistance to change is futile and self-defeating. The incredibly rapid rate of change we now experience in our culture is only going to accelerate. Millions are unemployed, most through no fault of their own. Ongoing change will create millions more. Since this ongoing change is causing ongoing unemployment as a permanent condition in our economic system we need systemic structures to deal effectively with it on an ongoing basis. The system needs to recognize these realities and create structures and processes to deal with them. Systemic problems must have systemic solutions. We need a kind of G I Bill to retrain those unemployed for new jobs. Improvement of our largest and severely ineffective antipoverty program, the public schools, is also an unrivaled imperative here.
10. Recognize the destructive impact of subsidies on individuals, organizations and the common good. Subsidies maintain unproductive jobs at the expense of those that are productive. The net effect of subsidies is to make the entire system less productive. The long term impact of subsidies on individuals who are unproductive is loss of self-worth and self-esteem. Workers who find themselves in unproductive jobs can be retrained if necessary and redeployed in productive work. Such retraining is an investment in our most important resource, our people. Subsidizing unproductive work penalizes all concerned, reduces competitiveness and harms the economy. Carried far enough, such subsidies will destroy the economy. Paradoxically subsidizing unproductive jobs (which is usually meant to preserve jobs) causes general economic decline and increases long term unemployment.
11. Recognize the difference between an investment and a subsidy. An investment pays for itself in the long run, builds capacity and adds to the resources of the system. A subsidy diminishes the system by maintaining that which is unproductive at the expense of resources that could be used for things that are productive. Give a man a fish and he eats for a day. Teach him to fish and he eats for a lifetime.
12. Systems are interactive. Improving or weakening any part of the system affects the entire system in the same direction. The importance of recognizing this interactive nature of systems cannot be overstated. When we affect any part or subsystem, we affect the entire system. In terms of change this is good news. Systems are complex. They have many interacting subsystems. Efforts to change systems often fail because they are unfocused and attempt to change the whole system or too many dimensions or subsystems at the same time. This causes energy and effort to be dispersed and spread over too many different parts of the system. We can instead focus on one part of the system and by successfully changing that subsystem get positive changes in all of those subsystems with which it interacts.
13. Systems have levers, particularly important subsystems that can be identified and used to maximize the impact of change efforts. Since systems are made up of a number of subsystems that affect each other, knowledge of the existence of these levers in some subsystems that can be used for much greater impact on the entire system is extremely important. For example, a school has subsystems for curriculum, instruction, attendance, student discipline, scheduling, budgeting, etc. While all are important subsystems, some are far more important because they act as levers on the rest of the system. A constructive change in such a lever subsystem will have a big impact on the entire system. In a school for example, a positive change in curriculum will have a positive impact not only on student achievement but also on student attendance, discipline, teacher morale, parent support, etc. Changes in less important subsystems, attendance policies for example, would also have a positive impact on the entire system but to a lesser degree. In fact, the public school system as a whole is one of the most important subsystems or most powerful levers

in the entire economy/culture. Significant improvement there will have exponential positive impact on the larger system.

14. Systemic change should always focused on capacity building, changing the system so as to increase its ability to produce.

Money is not the problem. It never was the problem and it's not the problem now. We are currently maintaining and subsidizing inefficiency, mediocrity, failure and decline. We are fiddling while Rome burns. The "we need more money all-purpose solution" has become the primary cause of the problem. For example, after thirty years and hundreds of billions of dollars spent on public education reform student achievement data nationally is about where it was when we started. Totally lacking in imagination and ingenuity, "we need more money" is the automatic false solution we hear all the time. It is a common assumption not only in education but also in virtually all public/governmental and private organizations. As long as we continue to rely on this false solution, confusing quality and quantity, we will continue business as usual.

We must accept some necessary assumptions for leadership to accomplish successful systemic change. Jim Collins (2001) points out that great leaders confront the brutal facts. Too many of our leaders refuse to recognize the brutal long term facts for their own selfish short term gain. This inevitably hurts us all over time. We must confront the brutal facts that public k – 12 and higher education are pricing themselves out of existence (as we have seen with General Motors, Chrysler, Bethlehem Steel and many others) while at the same time our product is not improving or changing to meet the new and ever changing needs of our students, nation and economy. Our present educational and economic models must be modified if they are to be sustainable. This includes structural change in both government and private sector organizations. We need educational and economic models that build in a systemic change process based on ongoing organizational self-assessment and self-improvement.

William Glasser is an addition great resource for systemic improvement. He tells us that the healthy personality deals with reality, accepts responsibility and cares about right and wrong. Leaders must not only take responsibility to recognize and accept the brutal realities but develop ethical and effective means to deal them. Glasser supplies the psychology Deming would approve.

I would add to the insights of these two geniuses. If you don't deal with reality, reality, deals with you. I refer again to Bethlehem Steel, General motors, Chrysler, etc. Were it not for government bailouts the latter two would be gone. They may still fail. The unsustainable reality of current government "entitlement" programs is also obvious.

Systemic changes may or may not require pain. Some systemic changes create little or no pain, e.g. reducing staff through attrition. Effective and timely planning can serve as one lever to minimize or eliminate the pain of unemployment. We can also do this by making retraining available for those who become unemployed. We must constantly try to anticipate the new knowledge and skills that may become necessary and work to provide appropriate training. Improving our educational system to teach certain areas we know will always be necessary will help tremendously. This includes teaching critical thinking, literacy and numeracy to high levels which the present system fails to do. These will always be required. Making the changes described in above in schools and other organizations will go a long way to respond to and meet this critical need.

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