CAD Manager or CAD Leader:
How to Be the Best of Both

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The best leaders may not be great managers. The best managers may not have the skills to lead. We will look at the skills of each position and see how you can blend them together to make you the most effective at both. You can improve your effectiveness by knowing what skill to apply to each situation. We will show you how to identify the situations where leadership is the most effective approach and the situations where management skills need to be applied. Making the wrong call about which hat you need to wear can get you into hot water. Come away with the tools you need to be more nimble and productive.

Learning Objectives

At the end of this class you will be able to:

- Discover which skills are linked to managing and which ones are needed for leadership
- Develop the tools you need to identify situations and learn how to identify what skill to apply to make progress
- Learn how to balance your efforts for doing things right and doing the right things
- Discover the traits of an effective manager and those of a great leader

About the Speaker

Mark has more than 25 years of hands-on experience with technology. He is fully versed in every area of Management from deployment planning, installation and configuration to training and strategic planning.   As an internationally known speaker and writer, he is a returning speaker at Autodesk University since 1996.

Mark is currently serving as Director of Information technology for SIATech, a nationwide public charter high school focused on dropout recovery. He writes the monthly "CAD Manager" column for *AUGI World* magazine. He is editor of caddmanager.com and bimmanager.com.   He served for 6 years on the AUGI Board of Directors, served as AUGI President for 3 years and also as AUGI Executive Director.

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Management and Leadership – the Best Blend

"Management is doing things right; leadership is doing the right things."
*Peter F. Drucker*

Today's Managers and Leaders must know the traits for each function they provide. They need to know when to be a manager and when to be a leader. They each have unique and valued skills. Many have failed to know when to use which skill. Many firms have pushed Managers into Leadership positions only to see them fail. Some have placed on the shoulders of Leader the Management efforts that they just do not have talents for.

Most move up the ladder with title and positions from User to Manager to Leader. So we will start with Management and then discuss Leadership.

Leadership – when added to Management Skills expands your effectiveness

Leadership in 3D

▪ When added to Technical skills and Management prowess it expands your effectiveness
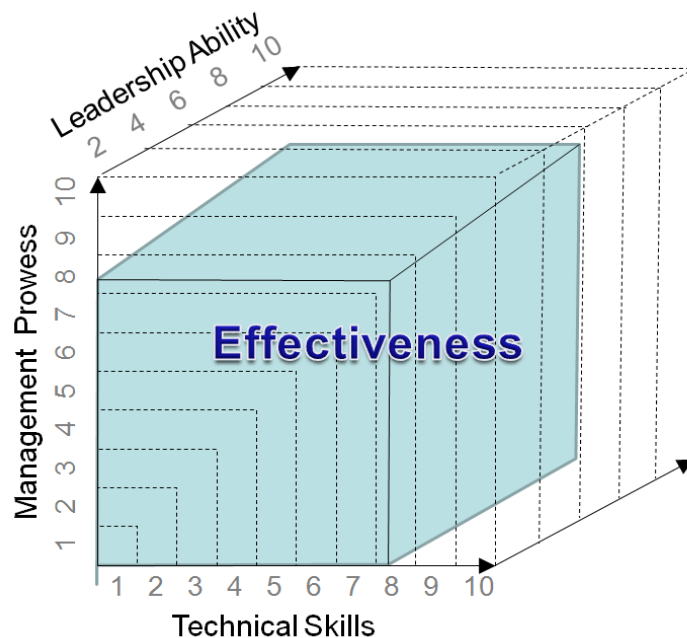
Management and Leadership not Equal

- You Manage things – You Lead people
- Managers work with processes, structures, and systems
- Leaders work with people, emotions, and motivation.

Management skills without leadership
- Gets you trapped in Rules
- May end up mired in the Details
- Reduces everything to a checklist
- Soon settles into repeating outdated methods

Leadership without Management skills
- Ends up being just wishful thinking
- Never gets anything done

"A Vision without Execution is an Hallucination" – Jeffrey E. Garten

Management Skills	Leadership Skills
Project management	Strategic planning/vision
Vendor management	Great networking skills
Project responsibility	Collaboration skills
Team/personnel development	Being a great listener
Delegation/division of labor	Empathy
Problem solving	Motivational
Solid communicator	Leadership development
Consistency	Influence/persuasion
Honesty	Profit & loss accountability
Change management	Authenticity
	Consistency
	Honesty
	Great Communication
	Change program implementation
	Emotional intelligence

Rich Hein - CIO Magazine – April 2014

A Foot in Both Worlds – You cannot live in just one or the other

The CAD Manager has to slide in and out of leadership and management rolls. They have to perform well in both.

Wearing both hats

- The CAD Manager has to slide in and out of leadership and management rolls.
- A CAD Manager has to perform well in both.
- Leadership expands vision
- Management provides for execution.
- Leadership sets the tone and style of the team
- Management defines the tasks and executes the plan
- Leadership creates the high level plan
- Management fills in the details and moves the plan toward completion

So what does the CAD Manager do?

CAD Management increases efficiency

This is done through automation, standardization, elimination (of roadblocks) and duplication (of trained users). Let's look at each one of these areas.
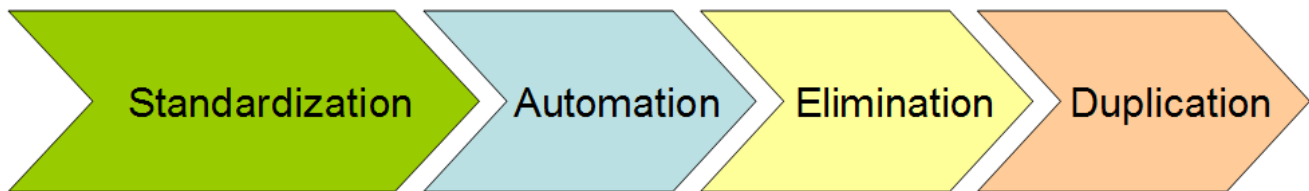
Standardization:

The CAD Standard is your lifeblood. It is the starting and ending point of all your efforts. It is woven into everything you do and think about. Your goal is to get people to follow it. Not by pounding them over the head, but by prodding them to comply. Look to standardize everything that needs it.

Automation:

You look for ways to do things better and faster. Either you eliminate steps or you increase the effectiveness of the steps you take. Getting rid of just a few keystrokes and clicks can save tons of time over the long haul.

Elimination:

Eliminate roadblocks to productivity. Are the standards too restrictive? Maybe they need to lighten up. Is the software or hardware in need of upgrade? Getting rid of redundant tasks. Eliminating old projects from the server through archiving.

Duplication:

Not of effort, but duplicating skilled workers. Passing on the talents that you have gathered. Giving away tips and tricks.

Seven Functions of a CAD Manager

1. Planning

CAD Managers should always be planning. Short term and long term planning. Planning their days and weeks and months. Mapping out what they need to do today, tomorrow and next week. No one is thinking more about CAD than the CAD Manager and they should be thinking and planning more than anyone.

CAD Managers make plans that are detailed enough to generate actions, but not overly detailed as to take up too much time during the planning phase. Do not get bogged down over-planning everything. Plan just enough so that everyone can see and think about what will happen and what might happen (or just you if you are doing something alone).

2. Organizing

CAD Managers are called on to organize things. Processes, procedures, structures, organizations, staff, and budgets… the list just keeps on going. There are software tools; books, systems, charts and so much more that help people get organized. Some people are better than others at organizing. I think it is a sign of the way your brain is wired.

Some areas of my life are organized and others are not. If you looked at my closet or my garage, you would not think that I am "over the top" organized. My desk may not look organized, but I can get my work done efficiently. I have a saying… "My desk is not messy, everything is "misplaced" exactly where I can find it."

But when it comes to my CAD life – it is organized. My standards are organized. My systems are organized, my server is organized and my data is organized.

Here is what I think you need to organize at a minimum:

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Your Standard

It needs to flow in a manner that reflects how people will use it. It needs to start with the basics of project/firm organizations and file naming. It should have the early chapters/pages devoted the first things people need to know to start a project. It should start with server folder names ans locations and then it can move on to the file setup and support file structure. After that it can move to mid project issues like layout, set structure, dimensioning, detailing and more. After that move to plotting, deliverables, archiving and other things that tend to happen at the end of a project.

Your Server

Every project should be located in a central location and file names in such a way that everyone can find them. Folder names could be by client or project name or number. Just do it the same way for all of them. And keep everything for the project under the same master folder. Break sub-folders out by function or discipline or department and define the naming. Do it the same for every project you have. Just be consistent. People can find things if you are consistent. They can move from one project to another if it is all in the same location in the sub-folders.

Your Support Files

Put them in one place and lock them down. Do not allow people to copy them into their own favorite location. Keep them available to all users at all times. Provide some logical setup for them all. Standardize file names.

Your Archives

Know where they are and how to get to them quickly. This means that you standardize the naming and the storage location and sorting of the media. You could develop a database that could be searched, or list them on your intranet. Pay attention to this area. Just because the project is over does not mean that you can get sloppy.

3. Leading

I have taught many classes in this area. There are tons of books. I have narrowed the sphere of Leading in CAD to what I call the 5 T's of CAD Leadership

Tools relates to the CAD tools that you select. Which ones will you use? What will you use them for?

Talent relates to the people who are using the tools. Do they have a gut level understanding of how they are used? Do they get it? Do they push the limits?

Technology is your approach to using the tools and the talent. Who gets to use what? What mix can they have? When do they select the tools? When do you push toward the next great tech tool.

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Training is how you get everyone there. Provide it and you succeed. Let it laps and your best tools and talent go stale.

Time – the magic ingredient - just give it all time to work

4. Coordinating

Are you coordinated? Some folks can juggle baseballs, while riding a unicycle, on a tightrope. That would be a stretch for most of us, but some are more coordinated than others.

Coordinating is something that CAD Managers have to do every day. They orchestrate the flow of CAD work, schedule roll-outs and downtime, work with multiple departments, shuffle deadlines and work under pressure. Here are a few areas where coordination is needed. Some are very hands on and some are philosophical.

Project Work Flow: CAD Managers need to be embedded into the project workflow so they know what is coming. This is typically seen as critical when it comes to plotting output. Coordinating submittals between projects is important. Work with the PM's to make sure that they are not landing on the same date and time. You will not be able to change submittal dates, but you can work with the PM to schedule the output. You may even have to outsource plotting if there is a major bottleneck.

Software Roll-outs: You will need to coordinate the timing of new software roll-outs. Make sure that they avoid major project submittals and milestones. Make sure that training is ready before the roll-out (if needed). Make sure that everyone in the firm knows it is happening. No surprises.

Hardware Refresh: When that new hardware finally arrives, make sure that the desktop swaps are not impeding work production. Some have done them on the weekend, some overnight, some during lunch. You need to work with each individual person on the timing of a swap. Don't just roll up with a new workstation and expect the person to jump out of their seat (unless the old dog machine they have is on it's last legs)

5. Controlling

One of the things that I have listed among the seven functions of a CAD Manager is that they need to be controlling things. Controlling can seem overbearing and annoying to people if it rings of some micromanaging person in your past. Done right and it is motivating. Done wrong and it is just annoying.

Let me expand on the definition. Controlling should be controlled and not allowed to leak into every aspect of your work life. If you are a controlling person, it is seen as dominating. But if you control the things that tend to go out of control, then you will be appreciated.

Before we start defining what to control, let's talk about why we need to and what needs to be in place.

We control things that tend to need improvement or maintenance. Maintaining control over your speed in a car will prevent accidents and tickets. Improving your gas mileage can save you money. So even in this simple example, we see a need to control. They way we control begins with Measurement. We measure our speed with a speedometer. We measure our mileage with gallons used per miles driven.

Measurement is critical to controlling. Without it, how would we know where improvement or control is needed? How would we measure our effectiveness in controlling?

Start measuring and tracking the areas you think need to be controlled. So what needs to be controlled? Here is my list:

- Performance of People
- Performance of Technology
- Performance of Systems and Standards
- Establishing an expectation on CAD Production Timelines

6. Staffing

CAD Managers have to work with and through others to get things done. They have to work with people that they hire, but mostly they work with people they do not hire. Others hire them. They report to other managers. Others promote them and others fire them. Some CAD Managers wish that they could fire some people.

Working with employees that others hire and fire does not mean that you have no input into the process at all. You can seek to have a part in the hiring and promotions and also give indications to the managers of those employees that may not be contributing to the firm in a positive way.

Here are some ideas about getting involved in the processes that you do not control.

Set up a screening process for new hires. This may be a CAD Test or something that attempts to verify the validity of candidate's statements about their technical ability. There are commercially available CAD Test or you could make your own. It could be a written test or it may include an actual drawing component. I have used both.

Become part of the interview process. It could be that you become part of the interview process and actually get some time to talk to new hire candidates. I have done this before. It was just a casual conversation about what software they used, how long they have been doing it and where they worked before. During this chat, I was looking for language that made me believe they actually have used the software to the level they stated. I would ask a couple of direct questions about advanced software areas or maybe ask them questions about the standard they use to use. All of this was to see the comfort level of their interaction and what level they discussed. Advanced users are usually very willing to discuss details while novice users will either avoid details or get them wrong.

Once the employee is hired – your interaction is not done.

Get involved in evaluations. I try to provide input into employee reviews if the employee is providing superior efforts or if they are detracting from the team. Mostly the former. Seldom and selectively on the latter. Just email the manager or supervisor or have a conversation about the employee's contributions. It is a way of complimenting the good employees and helping managers see the negative side of an employee in an area they may not notice. I don't do this for every employee just the top 5% or bottom 2%.

Staffing is part of your job and you can have input even if you are not the hiring manager.

7. Motivating

In order to get the Six Pack, you need motivation. For yourself and others. "Let's get this done" – "We can do this" – "It is not as bad as it appears" – "We need to kick it into high gear"

These are just some of the motivating statements that might be used in your daily interactions with your team and others. The CAD Manager has to motivate people to encourage progress. Motivation is the process we use to spur others on to action.

It is imperative that the CAD Manager be a motivator so that the firm move forward on all front. They need to motivate in the small stuff and the large things. Daily, weekly and ongoing motivation is needed because people get bogged down in the project work and may lose sight of the purpose of where they are headed and why they are doing it.

Extrinsic Motivation is when you are motivated by something outside of your own thoughts and internal desires. This is where the CAD Manager lives in relationship to others. All of the statement above can be used in an extrinsic manner when working with others. Extrinsic motivations can include money, grades, time off, extra benefits, avoidance of pain or effort and many more ways of getting things moving.

Intrinsic Motivation is when someone is motivated by their own internal desires, values or feeling of duty. We all have this within us in differing measures. Some can energize themselves, pick up the pieces after a failure and strive for more out of themselves without much interaction with others or reward at the end of the process. Others may need to be motivated when they have no internal desire to move forward.

The CAD Manager may have access to tangible motivators like bonuses, gifts and such but most likely they do not on a regular basis. So they have to define motivators that can be used that may not involve some physical reward.

Here is a list of some Extrinsic Motivations that I have used:

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Build Teams. Define a team that helps with software decision – adding the right people to the team will be a motivator. Those involved will feel appreciated and take a higher stake in production. Take a look at the posts I have on CAD Standards Teams on my blog – caddmanager.com

Ask spot questions. Just asking what someone thinks about your processes or standards can motivate them with a feeling of involvement. When people feel that they are involved and that they are contributing, it makes them willing to push a little harder on their efforts.

Give rewards. Extra software utilities that do not cost a lot can be purchased and distributed first to those that need a little motivation. Tossing a little utility at those who are trying to improve can make them try even harder.

Buy them lunch – or provide lunch at a casual meeting. Ask several users to come to a meeting at lunch (onsite or off) where you will gather some ideas about what might be done better. Creative conversations can spark users to think outside the box and come up with new approaches to getting things done.

Give people credit. When a good idea is provided make sure that you announce who gave it to you or who was pivotal in making a new initiative work. Giving credit to those that help you will encourage them to help you again.

Talk about the big picture. Some users may be motivated by the long range, big idea discussions. Just knowing what is going on elsewhere in the firm can help people grasp the purpose beyond their own project and function. If times are tough and they will soon change, just knowing what is planned for the next few months can keep people from frustration and giving up.

Tell people Why. Besides knowing what needs to be done, tell people why it needs to be done. No one likes being given directions without much information. Provide more than is expected and it will motivate individuals and teams.

Leadership Skills

Your ability to lead will impact several areas for which you company can profit if you take the reigns and make things happen.

1. Productivity levels
As you lead the charge to greater productivity, it will be your insight into areas that could easily be automated or eliminated. Quite often the front line users do not have the perspective that you have since they are focused intently on the job at hand. They may know of the repetitive nature of some of their work, but do not realize that everyone can benefit from automating a task.

2. Adherence to your CAD Standard
No one is going to know what is in the CAD Standard or why they need to follow it. This may seem

like a management topic, but it involves leadership to coerce, cajole, encourage, remind, refine, and explain the standard. The leadership comes in constantly reviewing the "why" of the standard. Most users do not mind following a standard. In the absence of a standard, most users will make up their own. Your job as leader is to map out a path, point the troops in the right direction and check the compass to make course corrections.

3. Advancement of Technology
No one knows the pulse of the production floor like the CAD Manager. They know from day top day where the bottlenecks are and what tools may get them through the rough spots. By keeping upper management informed of what the next software tool should be, they can make sure that the wish list is always up to date and ready to put into place.

4. Saving Money
By actively keeping the direct negotiations with vendors at the forefront, the CAD Leader can save untold amounts of money by seeking lower pricing, garnering NFR software, free demos, training material, free seminars, etc.

What CAD Leadership does:

- Leadership expands vision
- o Management provides for execution.
- Leadership sets the tone and style of the team
- o Management defines the tasks and executes the plan
- Leadership creates the high level plan
- o Management fills in the details and moves the plan toward the goal

Leadership is… According to Bob Vernon – former Deputy Police Chief of Los Angeles

- The ability to clearly understand and articulate the goal
- The confidence to be out in front and show the way to the goal
- The ability to convince people to follow as an act of their free choice
- The desire and ability to help people develop and pursue excellence
- The capability to inspire people to achieve their full potential

Who can become a leader?

- Every person has the potential to be leader in some areas of life
- Leaders are made by circumstances – not by birth or genetics
- Leaders are born out of embracing responsibility

Visible Characteristics

- Integrity
- Courage
- Discipline
- Loyalty
- Diligence
- Humility
- Optimism
- Conviction

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Visible Behaviors

- Decisive
- Good Listener
- Keeps Commitments
- Consistent
- Good Judgment
- Fair
- Give Recognition
- Remove Work Barriers
- Equips Followers
- Emphasizes Principles not Rules
- Champion of Followers

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The Blend

Tech Managers have to blend Management and Leadership together. Some/Many actually have to live in three worlds; tech, management and leaderships skills. They need to move between all three at any given time.

How to Blend

According to Michael Watkins of Harvard Business Review, you need to be perceptive.

- Level Shifting – moving between details orientation and the big picture thinking

- Pattern Recognition - Discerning casual relationship between events and people plus separating the message from the noise

- Mental Simulation - Thinking through the impact of the situation or solution

This means that you need to:

- Managers

    - Avoid the draw of Tactical thinking

    - Learn all you can about Leadership

- Leaders

    - Avoid the draw of vision casting only

    - Stay connected

    - Learn all you can about Management

- Both

    - Learn everything you can about every area of your firm

    - Keep your tech skills current
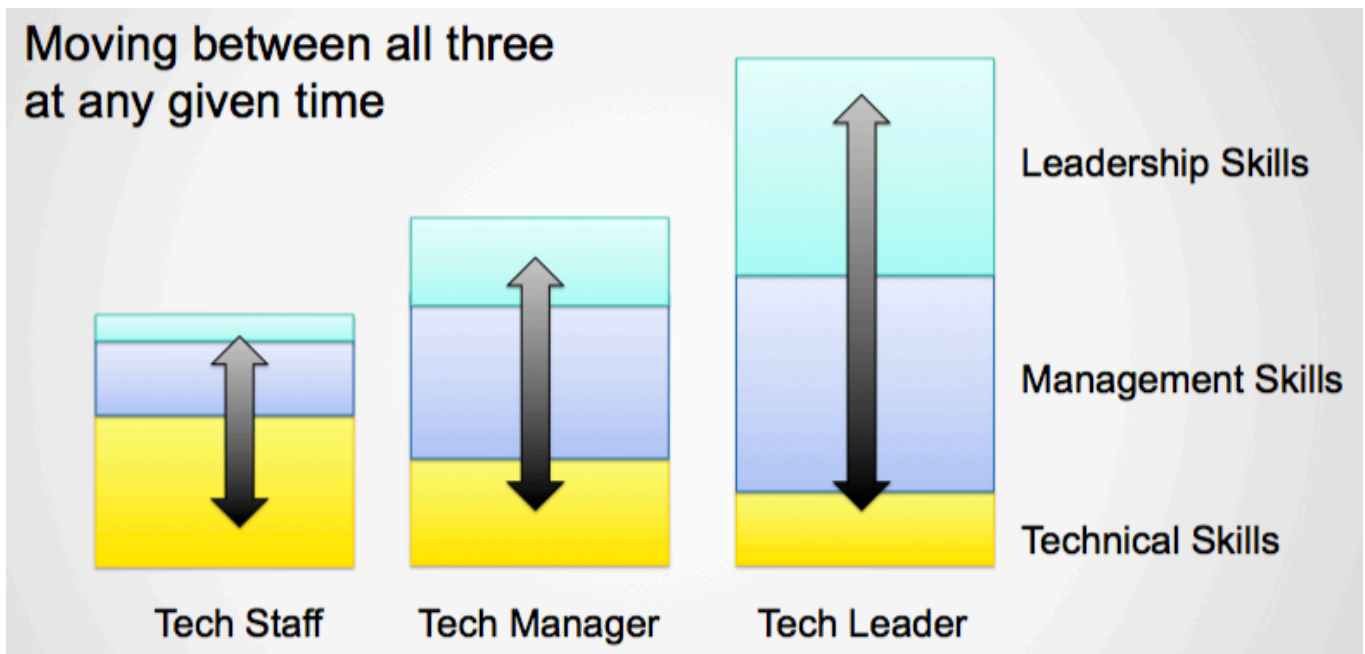
Customized Leadership

One size does not fit all. You have heard that over and over. You know its true when you try to buy clothing that is labeled "one size fits all" which means that this size fits some. You may try it on and see that it is to tight, too loose, too short, too long or whatever it might be. It obviously does not fit you.

Leadership is the same way. There is not predefined, one way to lead all people. Trying to do that will result in conflict and frustration at best and outright rebellion and heated words at worst. I know. I have fallen into that trap. I have seen tough times come because I try and lead everyone the same way.

A leader has to bend and shape their leadership into a manner where people can be encouraged, engaged, energized and mobilized in a way that work for each of them individually. It is not easy but it does pay off.

But you cannot change everything for everyone all the time. That is called anarchy. Some things have to be firm and in place. You cannot be flexible in everything just as you cannot be unchanging in everything. A leader has to recognize and change as needed and when it is appropriate. And it is hard to know when to customize your leadership. Get it right and things click. Get it wrong and things get rough. Just like customizing your software can make you a better performer, customized leadership can make your team work better.

Things To Not Change Much (notice I did not say "never change"). There are many things that should not be allowed to slip. Even small slips if left uncorrected can soon spawn more slips and slide that deteriorate the entire efforts of all.

Expectations of Quality. Some say never sacrifice quality for any reason. I wholeheartedly agree for things like healthcare, safety, child protection, data security and many more. Holding the line and setting the bar high is needed in many, many areas. Leaders set the pace and often allow a slip in quality to happen without realizing it. Keeping a focus on quality will improve every area of your teams efforts.

Expectations for Level of Effort. Make the level of effort match the need for quality and completeness. Like a BIM model, sometimes level of effort needs to be dialed back a bit because the return on infinite detailing is small. Keep the focus on what is needed to achieve the goal. Expect more and you will get more, I have been told. Expect your team to put out a high level of effort on every task that is approached.

Expectations of Professionalism. Respect, honesty, trust, graciousness, helpfulness, humility and sharing of knowledge are a few things that should be on your list of expectations. Everyone deserves to be treated professionally. Every person that you and your team interacts with should be treated as someone who deserves the best you have to offer at all times.

Expectations of Customer Service. Excellent service and extra efforts from those who you lead should be something that they all strive for. Service focus that goes beyond just what is expected and moves toward exceptional support and contributions. Providing more information, explanation, support, assistance and provisioning approached with vigor, under budget and delivered as agreed. Go the extra mile.

Expectations on Deliverables. Leaders should put forth the expectation that all deadlines will be met or exceeded with the expected delivery or even more. On time, under budget and high quality as agreed. If a deadline and quality expectation is defined and agreed to – strive to exceed those expectation on every task or project.

Things That Should Be Customized

Customizing your leadership to fit the person or situation has been suggested by many authors. It is what the best leaders do. They adapt and shape their leadership based on the people they lead and the project, task or environment they are in.

What do they adapt?

Methods of Communication. I have seen this in action and it works great. When I am trying to interact with people, I try to adapt my communications to fit the audience. I will use different wording and tools. I have some that will reply to emails. Others that instantly get back to me via texting. And still others that respond well from their desk using Instant Messaging tools.

You should look at how you communicate and the tools you use. Change it up a little and try different methods and wording to see what might work for some groups and use others for the next team. See which works and move toward that method.

Methods of Production. Setting the goals and targets that need to be hit along with the deadlines really do make a leader into someone to follow, but there may be times when the "how" of getting things done needs to be left to the team member. They may know something you do not. They may have processes that will get the job done better than what you might be thinking. They may have shortcuts and tricks that seem outlandish but produce the desired outcome that you desire. Let people be creative in how they get things done.

Methods of Interaction. Just like communication, your methods of interacting need to bend and shape to the need. Some like meetings others hate them. Some will respond to thinking independently and then presenting to the team. Some might want to run everything past you as they move forward in an iterative process. Some may want to break into smaller teams of 2-3 and work together to set the pace. Letting people work in ways that they enjoy and can be productive will unleash new energies.

Methods of Motivation. Just like people wanting to define how they work, many like to define the way they are rewarded. Each and every person will respond to motivation options in differing ways. Some may go for money. Some may want time off. Some may want advancement or being put on a specific team or project. Some may like gift cards. Some may want to be introduced to your contacts. Some may want to just sit and pick your brain. The list is endless and varied. Don't try to put everyone into the same bucket for motivation.

By being flexible and customizing your leadership you can achieve more. By changing things up a little, you can go a long way.

CAD Leadership

I suggest you get a book that has some very valuable lessons - It is called "What got you here, Won't get you there" - by Marshall Goldsmith

In that book he mentions several items that will hold you back from making progress in your efforts to lead others. Here is the list.

Twenty Habits that will hold you back
1. Winning too much (at all costs)
2. Adding too much value to yourself (saying - "I already knew that")
3. Passing Judgment on others opinions
4. Making destructive comments (sarcasm)
5. Starting with "No, But or However"
6. Telling others how smart you are
7. Speaking when angry
8. Negativity – "that will never work"
9. Withholding information
10. Failing to give proper recognition to others
11. Claiming credit that you do not deserve (or failing to speak up when someone gives you the credit)
12. Making excuses (blaming others or writing it off)
13. Clinging to the past
14. Playing Favorites
15. Refusing to express regret

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16. Not listening
17. Failing to express gratitude
18. Punishing the Messenger
19. Passing the buck
20. Excessive need to be "Me"

Conclusion

Your company needs the right mix of workers, managers and leaders. The unique position of a CAD Manager must blend together all three. You may be a User and also a Manager. Then tack on Leadership (because no one else is more focused on this area than you).

You are the only person at your firm that might need to blend all three levels of employee. When you get it right, great things happen.