

## IT21798

# Critical Success Factors for a CAD Manager

Mark Kiker  
CDDManager.com

### Learning Objectives

- Objective 1 – the best software for your firm may be something you do not even own yet.
- Objective 2 – expand your impact by moving past design tech and into your firm's upper management mindset
- Objective 3 – Review your talents and see where you need to strengthen the tech side with people skills
- Objective 4 – Learn the 5 key areas of oversight that if you get wrong can derail all your efforts.

### Description

There are several key success factors that CAD Managers need to know. It may not be what you expect. Key factors include software, hardware, your firm, your industry and yourself. We will review each of these with a focus on uncovering critical perspectives and knowledge that you need to add to your talent mix. Find out how to move beyond the basics and build on your technical skills with Management and Leadership prowess.

### Your AU Expert

Mark has more than 25 years of hands-on experience with technology. He is editor of [caddmanager.com](http://caddmanager.com) and [bimmanager.com](http://bimmanager.com). 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, and he is a returning speaker at Autodesk University since 1996.

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

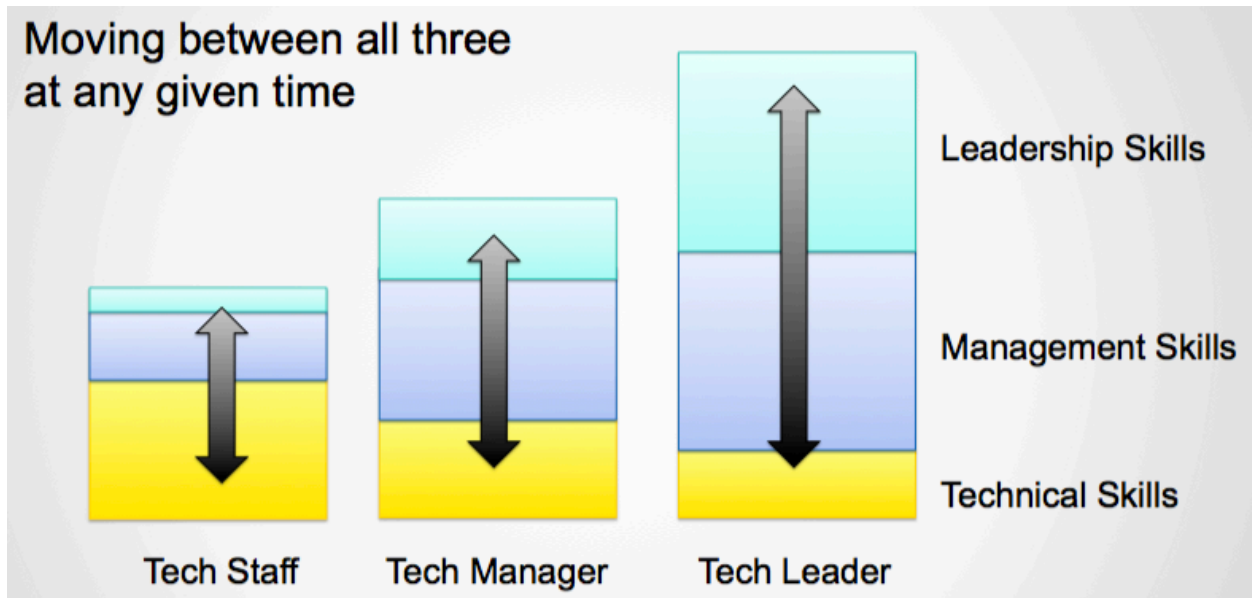


## Critical success factors for a CAD Manager

### Leadership that is Customized

**The Blend** - Discovering which skills are linked to tech skills, or managing and which ones are needed for leadership

Tech Managers have to blend Technology skills, Management prowess and Leadership know how together. They need to move between all three at any given time.



### Technology that is rock solid

#### 5 T's of Technology Oversight

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

**Talent** relates to who is 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.

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



**Time** – just give it some time...

## Shared Principles

### What Are Tech Principles?

Principles are guiding statements that communicate your fundamental technology values. Concise and clearly articulated, they reflect preferences for managing information technology to achieve goals. They are applicable to the entire organization, and directly support the overall mission and values of yourself, your team and your firm.

### The Purpose of Technology Principles

The purpose of formal principles related to technology is to establish a shared understanding of strategic direction and to guide tactical decisions. These technology principles are based on generally accepted and best practices that have been demonstrated to achieve positive, consistent results.

The 17 Principles

- Principle 1 - Support the Tech Environment
- Principle 2 - Create a Common Staff Experience
- Principle 3 – Empowers the Staff and the Organization
- Principle 4 – Provide Rock Solid Architecture
- Principle 5 - Promote Consistent Platforms
- Principle 6 - Utilize Industry Standards
- Principle 7 - Use it - Buy it - Build it
- Principle 8 - Manage IT like a Portfolio
- Principle 9 – Apply Project Management Tools to IT Initiatives
- Principle 10 – Make Measured Progress
- Principle 11 – Enhance Technology Knowledge
- Principle 12 – Data Integrity and Security
- Principle 13 – Offloading the Technology Burden
- Principle 14 – Open Source is not the answer
- Principle 15 – Character Matters
- Principle 16 – Project Calendars Rule
- Principle 17 – Stakeholder Involvement

## Expanding Skills

**Tech Skills** – one giant bucket – this one covers every area and is the entry fee for moving from Tech User to Tech Manager. I lump everything together under Tech Skills because these have to be in place and rock solid. So what are some tech skills that are not directly linked to the character traits we discussed before?

- Programming
- Customization
- Staff Management
- Financial Skills
- Prioritizing
- Troubleshooting



- Constant Thirst for Change

## Knowing Your Strengths

### **Talent + Knowledge + Skill + Practice = Strength**

Subject matter expertise is not strength – knowing AutoCAD is not a strength, it is an acquired skill.

**Strength** – *The ability to consistently provide near-perfect performance*

**Competency** – *the ability to provide acceptable performance most of the time*

**Weakness** – *the ability to provide tolerable performance some of the time*

**Failure** – *an inability to perform*

What are your talents? Organizing, refining, creativity, memory, categorizing, musical ability, mechanical, calm, decision-making, energetic, resilient, simplifying, seeing patterns

What are your Skills? What are your Strengths? How do you find out?

**Identify your strengths** – you might be aware of them or need to identify them. Get feedback from peers, family or managers. Take personality tests such as StrengthsFinder 2.0, Belbin, WorkUno.com, Myers Briggs and so on. At this point, weaknesses will emerge as well, giving you a balanced picture.

## Wrap it all in the right perspective

- Shared workload – helping other team members
- Shared knowledge – telling others what you are doing
- Desire to improve – learning new tools
- Standardizing – seeking to find repeatable structure
- Supporting documentation – job is not done until documented
- Reporting – job is not done until others know about it
- Foundational work – doing what needs to be done, even mundane tasks
- Redundancy – multiple people know how to do critical tasks
- Ownership – taking responsibility and full possession of your area of oversight
- Trust and Verify – Engenders trust, but verifies results
- Testing - part of every task. Verify all functions prior to calling it complete

## Awesome Management Skills

### **Planning** - Tactical

After your strategic plan is completed, move toward tactical planning.



Tactical Plan is focused on what you will do and when you will do it.

### **Boundary Management**

Boundary Management consists of defining the general target and the limits of constraint. It may consist of setting a small well-defined target and allowable area of deviation. It can also define a task that does not even have a hard target at all. It may just be defining the target by stating what it "is not" rather than what the target "is".

### **Project Management**

- Planning
- Define Stakeholders - early and all
- Define Expectations
- State Assumptions
- Define Major Tasks
- Work Breakdown
  - Who does what by when
- Buy in
- Communication

### **Execution**

- Cadence of accountability
- Look for Warning Signals
- Manage Scope Creep/Change

## **Leadership that People Follow**

**Character** - Character Matters

**Focus and Clarity** - The ability to get things in focus or bring things back into focus.

**Compare and contrast** – you look at the problem to see what is the same and what is different.

**Categorize** – Look to link things together by category. Putting similar items together can reduce the confusion.

**Prioritize** – Rank things and put the most important at the top. Focus on the top 20 percent.



**Grouping** – by software product needed to get the job done. By job function. By time needed to get it done. By information available. By cost to complete. By workflow.

## Planning - Strategic

Step One: Look to the Past

Step Two: Look at Now

Step Three: Look Toward the Future

Step Four: Define your Goals

Step Five: Identify Objectives

### Alignment

Aligning CAD with the business goals can be something that helps move your firm forward. By getting in line with where the business is going you can improve your success rate because you will be chasing the same targets as upper management. Getting on the bandwagon takes some thought. It just does not happen on its own.

### What does Alignment look like?

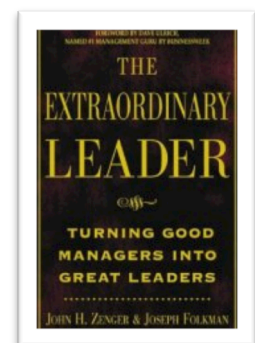
Understand that not all of the goals that your firm develops will be connected to CAD. In fact there may be very few that really can be used to create alignment. The point is not quantity but quality. If you can align to several specific strategic goals then others will be able to help you achieve them.

### Where to start

Get your hands on the firm's strategic plan. Review it and formulate your CAD objectives that fall in step with that plan. Look for anything in the firm's goals that is related to CAD, productivity, time savings, design processes, standardization or improvements. Start thinking like the top level managers and leaders of your firm.

## People Skills

- Communicating powerfully and prolifically
- Inspiring others to high performance
- Building positive relationships with others
- Being an effective team member
- Influencing others above you, along side you and below you
- Teaching others
- Building other peoples self-esteem
- Responding positively to feedback
- Handling stress well
- Recognizing and rewarding other peoples contributions





## Critical Conversations you Must Have

When things happen in CAD that need to be addressed and discussed, there is always a good and a bad time to have the conversation surrounding the situation. There are violations of CAD Standards, shoddy work, flawed processes, off track procedures and so much more that can derail a good Design project.

- **It is your job as CAD or BIM Managers to stick your nose in.**
- **Members of the CAD production team may not want to discuss CAD issues.**
- **Leadership may not see them.**
- **You do not want the client pointing them out.**

So since other may not see the problems or be motivated to discuss them, I think it is incumbent upon the CAD or BIM Manager to speak up.

## Topics that Might Trigger Critical Conversation

You might ask, "What areas should you be looking at that might cause troubles and that might generate a critical conversation?"

Violations of the Standard – this is a big area, but a few quick checks on a set of project files can turn up areas of concern.

Beyond the CAD standard you might pay attention to:

- Design Standards
- Wrong Tool applied in the Wrong Way
- Project delivery tools
- Archiving

When you see problems in these areas that are a pattern and not just random errors, you may want to consider having a critical conversation with someone. Again – this is when you see a pattern... Repeating, recurring, over and over, etc.

## Who to talk to

When a CAD Manager uncovers a pattern of deviation that might impair the progress of a CAD project, they need to bring it up to someone. There needs to be a conversation related to what they have found so that it can be addressed and alleviated. But who do you talk to? Who is the best person to approach with the information you discovered?

## Talking Points

There are three levels that I usually try to frame my discussions with people when something comes up that I have to address. I frame them under the lead off words I might use when starting the conversation.

- I noticed that...
- I am concerned about...



- We have an issue...

## **Noticing then talking**

### **Uncovering a Concern.**

Last time I talked about things that you might “notice”. Now we turn to the things that you have noticed that have become a “concern”.

### **Identifying an Issue.**

When CAD concerns continue without being addressed they become CAD “Issues”. Issues should be fairly easy to identify because someone should let you know about it. That does not always happen and we will discuss that in the next post. For now, let’s just identify the Issues.

Issues are trouble spots that have impacted workflow and endanger deliverables, dollars or deadlines. These are the big “3Ds” that when put in danger... people notice. I mean they become concerned. Actually – it is an Issue.

### **Evolution of Awareness**

You notice something. Then you become concerned. Then it becomes an “Issue”. That is the progression... but how does it move from one to the next? These are the steps of items evolving beyond annoyance, anomaly or abstraction. These are the items that have others moving beyond concern to very concerned, to an issue. The conversations that others start with you begins with “We have an issue with...” and move quickly from there to possibly even more advanced levels.

### **How things move from Noticed to a Concern**

If you notice something, you keep your eye on it and address it when it first looks to be a concern. Others typically do not bring you things that they notice. They may mention them in conversation, but it is typically not the topic of the discussion. they may concur when you mention something. They may validate your perceptions, but they seldom bring things up that they have noticed.

### **How things move from Concern to Issue**

Moving from concern to issue happens when something along the pathway of correction fails to work. It happens when corrective measures are not started. There are a few ways that this happens.

### **When Issues Descend into Failure**

CAD Issues that are brought to you must be addressed. CAD problems can corrupt CAD files, cripple progress and ruin projects. This is not a good thing. Issues have to be dealt with when they arise. Better yet – tackle them when they are just concerns before they become failures.

### **When CAD Failures Happen**





Take ownership of the repair. Do whatever you can to get things back on track. Personally take charge of the situation and make adjustments and suggestions as needed.

**Pulling it all together**

Build your Tech skills  
Add to your Management prowess  
Expand your Leadership impact

Identify your Critical success areas and act on them