

Building a “Powerhouse”

Why standardization is the key to improving efficiency and profitability

Presented by Richard Millson
Millson Technologies
richard.millson@millson.net



MANAGEMENT CONFERENCE
2010

www.cedia.org/mc

Introduction

Our industry is made up of approximately 3000 companies, each with an average of less than 7 employees. In small firms like these, most people naturally wear many hats and are often responsible for a variety of functions within the organization. In this model, everyone subscribes to a “do what it takes to get it done” philosophy and the fact is that this type of approach has worked reasonably well for a lot of ESC’s over the years.

Unfortunately, this has also resulted in the reinforcement of the idea that more formal business practices are not necessarily required to be successful. However, if your goal is to consistently grow your business, both in terms of the volume of projects you take on and the amount of profit you derive from each, then this “figure-it-out-as-you-go” model is not going to help you achieve those goals. The reasons for this are straightforward and apply to any business;

- As an organization grows, it naturally becomes more complex and this increase in complexity eventually leads to:
 - A lack of clarity regarding roles and responsibilities
 - Increased stress, pressure and anxiety
 - Increased miscommunication
 - Increased operational errors
 - Reduced customer service
 - Increased employee turnover
 - Greater overall costs

All of this results in essentially a kind of self imposed limit to any real or sustained growth. As the company attempts to grow by taking on more business, people end up trying to do more work, but in the same disjointed way they are used to. Without well defined and established standards and procedures in place, the company simply cannot ramp quickly or smoothly enough to cope with this increased workload and this is often when things begin to break down.

However, there is a better way. There is a proven way for Electronic Systems Contractors to grow their companies and take on more work without the associated problems listed above. You can simplify and streamline your operations so that they almost seem to run on autopilot and you can increase your speed, efficiency and overall project success by implementing a single strategy throughout your organization. That strategy is called Standardization.

The Game Is Changing

Obviously all of us would agree in principal that having our companies run as efficiently as possible in order to reduce confusion, simplify communication and improve profits is a desirable goal. However, as we enter this new decade of development in our industry there may be much more at stake than many realize. Establishing and implementing standardized operations within your company should not be viewed simply as a choice or preference; it may in fact be the key to your survival. Consider the following factors that have already or will shortly contribute to the change we face as an industry. Also consider how each might impact your ability to compete in the next few years;

- Technology in general is moving toward a more standardized, “Plug and Play” model. More and more devices are being designed to be easier to set up and use without specialized knowledge or training.
- The move to wireless transmission of content within the home is advancing rapidly. More and more devices and services are becoming available that do not require traditional “custom installation” services or in some cases even wires.
- A growing number of the devices we sell are quickly moving toward an “IP Centric” model. A model that will require a deep understanding of IT networks (wired and wireless) as well as the skills to deploy and manage those networks.
- The delivery mechanisms for media of all types are changing rapidly. Traditional broadcasters or “one-to-many” networks such as ABC, NBC, CBS, etc. are giving way to a wide variety of internet based delivery models for the TV, Movies and Music our clients want.
- The largest players have their sights firmly fixed on the living rooms of North America. Giants like Microsoft, Apple, Google, and even Cisco are all actively developing strategies for gaining market share with end users by making it easier to access, purchase and store content anytime, anywhere they want. The role of the ESC in all of this is by all accounts not even being considered at this point.

With these and other changes underway (and more undoubtedly on the way) the best hope we have as ESCs for not just surviving but growing our businesses is to become faster, smarter and most importantly, more efficient. To compete at the highest level, we will need to turn our businesses into highly structured “powerhouses” of efficiency.

The bottom line is this;

- To become a true “Powerhouse” you must be a model of efficiency
- That efficiency is created by implementing repeatable processes
- Those processes are only attainable through standardization

The Upside

By starting to standardize your processes, procedures and operations today, you can experience almost immediate results in all areas of your operation. Realistically, developing and implementing a complete set of company-wide standards and practices will take time, but the benefits of moving in that direction can be seen almost immediately. Once fully realized, an ESC business based on well defined standards and procedures will enjoy enormous efficiencies in virtually every area of the operation. However, even small changes can have a big impact on streamlining operations. For example, simply by choosing to standardize on a limited selection of products from one or two vendors you can immediately enjoy real and measureable improvements in various departments throughout your firm. Consider the following benefits;

Administration

- By standardizing on a limited and focused number of brands and products you carry, there are fewer model numbers for your team to become familiar with for each category of product.
- This means a finite set of models that you need to enter and update pricing for in your proposal and accounting software.
- It also means that those responsible for ordering, receiving and processing payments for products, become familiar with and easily recognize model numbers, prices and other information relevant to what they do every day.
- A larger sales volume with fewer vendors increases your value to those vendors and over time leads to stronger relationships

Sales

- Within a given product category there are often several manufacturers who offer a wide enough selection of solutions to earn all of your business within that category. For example, any of the larger manufacturers of flat panel displays (Sony, Pioneer, LG, Samsung, etc.) has a wide enough range of products to accommodate virtually any installation requirement, so choosing to represent and sell only one should not pose any significant challenges.
- With only one or two brands to focus on, your sales people should have no trouble becoming very familiar with specific models, features and pricing allowing them to quickly and confidently suggest the best solution for a given application.
- Standardizing on products allows sales people to concentrate on becoming really knowledgeable about what they sell, which improves the customer experience and makes it easier to price projects and change orders

- Standardizing on products allows you to easily create “packages” with known labour quantities, accessories and pricing
- Standardized package pricing ensures predictable and repeatable margin and profits which translates into reliable compensation for sales people.

System Design

- Whether you draw up simple diagrams with paper and pencil or use more sophisticated software such as AutoCAD or Visio, standardizing on a limited number of products means the folks responsible for system design can quickly become familiar with the inputs and outputs on a given model and are able to replicate their documentation much more easily and with greater accuracy.
- Standardizing on products leads to standardizing all of the documentation associated with those products, including the icons you use to represent them on your drawings. Fewer products mean fewer icons to create and remember which leads to fewer mistakes and faster turnaround for documentation.
- With a standardized set of products and packages, system designers have instant access to proven solutions that take essentially no time to engineer or document because that work has already been done and proven on multiple previous projects.

Programming

- Standardizing on fewer products SKU's means far fewer control commands to learn.
- Your team learns and stores the required IR commands once, not over and over with every new brand or model added.
- If you sell automation solutions like AMX or Crestron you need only build the software control modules once. And once you know they work, you can use them over and over.
- You decrease time spent troubleshooting IR codes, RS232 protocols and control modules and testing functions because you already know they work.

Installation

- By standardizing on a fewer products, your installation team can focus on becoming very familiar with the installation requirements for those products.
- Over time, they come to know what kind of wire is needed, which bracket is the company standard for a given situation, what hardware is required, what hole pattern is present on a given model, the type of connector and wire color order for device terminations and so on.

- All of this built-up knowledge helps them both during pre-wire and at trim out. It also radically reduces the number of questions that need answering because they already know the answers from past experience.
- Installation technicians naturally gain knowledge and confidence because they know what to expect and how to prepare for a given installation.
- This standardized installation knowledge also greatly simplifies training for new employees.
- All together this means that your team spends almost zero time figuring these things out in the field and dramatically increase the speed and efficiency of each installation.

Service and Repair

- By standardizing on a fewer number of products, you can potentially keep one of each major component on the shelf for immediate use as a warranty replacement.
- Having a replacement to deliver the same day you get a service call, creates a fantastic customer experience and gives your team both an immediate solution and much more time to get the clients' unit repaired.
- Also, because the replacement product is the same model as the one you are removing for service, the rack shelf/bracket, connections, and any system programming all work as well.
- Lastly, standardized product selection and system design mean service technicians spend less time troubleshooting problems on site because they are already very familiar with the standardized systems you deliver

It's important to note that while we have only examined a single element of the typical ESC business here, namely standardizing on the products you choose, it is not difficult to imagine how all of these same advantages could be multiplied many times over if all areas of your operation were approached in this way.

Creating and implementing standards throughout your organization results in the natural evolution of a universal "Language" for how you do what you do. This not only allows existing employees to improve their performance, but also serves as the foundation for training new employees. This "language" becomes the framework for improving and streamlining communications throughout the organization, resulting in a massive reduction (or even elimination) of the time required for decisions. The standardization of processes and procedures ensures predictable results, simplifying project management, eliminating chaos and reducing stress for everyone. All of which adds up to dramatically improved efficiency, allowing the company to "fire on all cylinders" and greatly improve profitability.

So Where Are The Standards?

The value of implementing a comprehensive set of standards for the work we do and the benefits derived from doing so seem obvious. So why don't we already have a well established set of industry wide standards and best practices that we can all use for improving our businesses? There are a number of reasons but the following represents three of the most important;

1. Time

The "Custom" industry is essentially just 20 years old and this short timeframe has not allowed any kind of universal standards to evolve and develop naturally. For proof of this time requirement we need only look to other, older and well established trades and industries. Consider the Electrical, Plumbing and HVAC disciplines;

- All of these trades are at least several decades older than our own "Custom" industry
- This longer timeframe has allowed for the development of well defined and accepted standards and practices and their subsequent adoption throughout these industries
- These standards also enable clearly defined learning paths for people entering these trades, including long established post secondary, college and trade school curricula as well as formal apprenticeship programs.

2. Regulation

Other trades and industries have well established and accepted standards in part because they have had government and industry regulation imposed upon them, essentially forcing the creation and acceptance of standards. In many industries, poor workmanship and mistakes can result in very serious (expensive) mistakes and in the most extreme cases, even death (electrical). No one wants to see heavy regulation of our industry, especially by governing bodies that lack any deep understanding of what we do. However, it is worth noting that regulation of other disciplines has resulted in higher expectations around quality of work, a well defined inspection process and the adoption of industry-wide standards.

3. Leadership

While there are numerous examples of large and successful companies that have been created specifically to service the ESC industry, there has to date been no single, accepted industry Leader. The significance of having an acknowledged "Giant" within an industry is that often these are the companies that end up defining the standards for that industry.

Again, other industries have had many more years for one or more “giants” to develop and emerge as the acknowledged policymaker. Examples of companies that “changed the game” forever by defining the standards for their industry include the following;

- **Ford Motor Company** – There were many companies building a wide variety of automobiles when Ford came along, however each was also working in isolation and essentially making it up as they went. With the introduction of the assembly line to automotive manufacturing, Ford established a repeatable, predictable and profitable way to create the same car the same way every time and changed the automotive industry forever.
- **Microsoft** – We take our PC operating systems for granted these days but the fact is that Microsoft created and defined the standards for the OS running on the vast majority of PC’s on the planet today. There will always be the discussion as to whether Microsoft operating systems are better or worse than the Apple OS or open source solutions such as Linux. However, to focus on this is to miss the point entirely. The real point is that by defining the OS at such an early stage in the development of the PC industry, Microsoft set the standard that allowed the global PC industry to grow and flourish. It was this standards based approach that finally allowed the PC industry to evolve from a bunch of hobbyists to the global powerhouse that it is today.
- **Bell Labs** – In this age of instant global communications, it is easy to forget that it was the innovation and groundbreaking research of Bell Labs and their Canadian subsidiary Northern Telecom that laid the foundation for the Internet services we all enjoy today. It was Northern Telecom who jumped on the new data packet switching standard - X.25 to develop the critical first generation digital telephone switches in the mid-70s and the Bell Canada companies developed the first popular digital controlled PBX systems (e.g. SL-1 and DMS-100). The point is that by developing and establishing new standards for digital communications, Bell was instrumental in the transition from analog phone systems to digital data networks in the late 70s/early 80s and this was the fundamental precursor to the development of the Internet we all use today.

With such a short timeline, little regulatory supervision and no single entity to define industry best practices, it’s clear why ESC’s lack an accepted and standardized methodology for the work we do.

A Word about CEDIA

It may be tempting to ask why CEDIA, the organization charged with representing our industry, has not done more to create and establish an industry-wide set of standards and best practices. The simple answer is that it's not up to CEDIA to establish a set of standards for how you run your business. CEDIA can provide training and resources to establish basic skills and improve specific competencies related to our industry, but it is well beyond the scope of a volunteer organization like CEDIA to attempt to establish and dictate a set of universally accepted standards and practices for every member company to follow. Only you know the specifics of your particular business and it is up to you as the leader of your organization to create your own company wide, standards based "play book" that everyone on your team can follow.

Creating Standards

You can create and implement standardization throughout your organization by choosing one area of the business and following a few simple steps.

Step 1 – Just Do it

The single most important thing to focus on when setting out to establish standards within your own firm is to simply get started. There will always be dozens of other important things to deal with and implementing a more standardized way of doing things can seem less important than other "burning hot" issues of the day. But remember, in the long run it is in fact the standardization of your operations that will result in most of those "burning issues" being eliminated before they even start.

So where do you start? One way to decide is to meet with your key team members and together create a list of the top 5 areas of the company that create largest amount of grief for folks, day in and day out. Once you have your top 5 areas, choose the 1 area that you want to tackle first. Your "Top 1 of 5 " can be based on a) the largest pain in the butt for the most people or b) the easiest item to tackle. Remember that all areas of the business can benefit from standardization so starting with something that is reasonably easy to standardize is still valid and can provide an easy "win" at the beginning of the process. This in turn can allow people within the firm to see the value of standardizing and get them on board for tackling the harder elements that may take more time and effort.

Step 2 – Choose the Document Type

Once you have decided on the area of the business you are going to start with, the next thing to do is decide the best way to document the standard you create. Depending on the area of the business and type of information you are trying to communicate, it will generally come down to 1 of 3 choices;

- **Excel** – If the information can be described or represented in terms of a series of choices, each with one or more common attributes, then it is likely that an Excel document will be the best choice for organizing and communicating that information. For example, if you are trying to standardize the types and uses for the various kinds of wire you use in your projects, a good way to show that is with rows for the wire types and columns showing the various attributes applicable to each.
- **Word** – If you are trying to document a “best practice” then a simple word processing document is often the best way to capture and communicate that type of information. Standardized policies, processes and procedures are all likely candidates for presentation in a written document type format.
- **Diagram** – Sometimes the best way to represent information is with a simple diagram or flow chart. Termination standards for various connector types can be documented and communicated easily in a color diagram showing which colored wire connects to which terminal etc. If you are trying to document a standardized process made up of several steps including some yes/no decisions along that way, then a flow chart type diagram in Visio or AutoCAD is an excellent way to clearly represent this.

Regardless of which tool you use, the idea at this stage is to choose the one which allows you to collect, organize and modify the data you will generate with your team as you work through creating the standard. Choosing the right tool at the outset will make the entire process easier, faster and much more intuitive.

Step 3 – Hold Your First “Standards” Meeting

We have already acknowledged the fact that it may be difficult to carve out the time required to tackle the task of creating and establishing standards within your firm. O.K. yes, it's hard. All I can offer you on this one is that you simply have to get over it and get on with it. The simple fact is that if you can make it happen you will be thrilled with the results.

In my own firm we often began our meetings in the late afternoon and worked into the evening with the company providing dinner or sometimes even spent time on the weekends creating and refining standards. That may sound like a lot of time, energy and expense but I can tell you that every person in my firm now deeply believes that it is the most valuable and productive time we have ever spent on anything related to company development.

Choose a regular time that key people can make most of the time and put it on everyone's calendar as a recurring event. When folks know that there is a regular meeting to discuss the current standard you are working on, they begin to think about the kinds of criteria needed and ways to improve the standard as they move through their workday and are eager to share and contribute at the next meeting.

Tip – Appoint a Gatekeeper

In a group session with everyone sharing information and presenting their ideas for why one choice may be better than another, it is vital to collect all of the decisions as they occur. The gatekeeper does not need to hold a senior position in the company as they are not intended to referee anything, but it is very important that they be naturally organized, detailed and comfortable with the type of documentation you are working with. It is the gatekeepers job to collect all the verbal suggestions/decisions as well as any notes, comments, drawing markups etc. as they will be responsible for editing and summarizing everything for presentation at the next meeting.

Step 4 – Meet/Review/Edit

It is highly unlikely that a standard can be discussed and finalized for any area of your business in a single meeting. This is normal, as the idea is not to try and hammer out every detail and finalize a standard in a single attempt. You will gain more buy-in from your team by iterating through a series of meetings, sharing and discussing the best way to standardize with input from your key people. Once you have what everyone in the initial group thinks is very close to the final standard, you can move on to the next step.

Step 5 – Presentation to the Team

Now that you have a reasonably fully developed standard, it's time to get all the stakeholders together and present it for final discussion and feedback. It is important for you as the leader of the company to present the new standard and ask for constructive feedback from everyone who might be impacted by the changes inherent in the new standard. This is important and can often lead to small but critically important revisions based on information that was not currently known by the initial group. However, this is not a time to start over but rather a forum where more people in the company can become aware of not just what the new standard is, but the thought process behind its creation.

This meeting may result in new information that will be considered for inclusion in the final Rev 1.0 of the standard or perhaps not. However the main point is that you HAVE a standard where none existed previously and that the stakeholders are given the opportunity to contribute and comment.

Step 6 – Implement Rev 1.0

Now it's time to pull the trigger and roll out the first Rev of the standard. There may be some small hiccups but if you have carefully considered all the criteria and crafted the most complete standard you can, you will likely be surprised by how easily standardization can be added. The truth is that very few people thrive on chaos and when your team sees that the company is trying to clarify, simplify and streamline operations by creating and implementing standards, they tend to be grateful and want to contribute to the effort, not fight it.

The timeframe for reviewing Rev 1.0 of the standard should not exceed 2 weeks. If you wait longer than that, people are inclined to lose focus and the entire effort loses momentum. At this point, the idea is to repeat steps 4, 5 and 6 until the standard can be officially "locked".

Does Locked mean Locked Forever?

Once a standard has been locked it has attained that status because of many hours of discussion, examination and revision until it works well every time and in every circumstance (or as close as possible). Therefore, while changing a standard after it has been "locked" is possible, it should be approached with extreme caution after carefully considering the potential repercussions any changes may have. You need to consider not just how a change might impact the work folks are now used to, but also how changes may impact other standards as well. Remember, the power of the standard lies substantially in the fact that it IS a standard, so the longer a standard has been in place and working well, the higher the bar should be for changing it.

Where To Begin

The more standardization you can bring to every area of your company the better. Once you create and implement a few standards you'll see that the benefits from doing so only increase and multiply as each new area is tackled.

However you can't start everywhere at once, so I recommend starting with the most basic things that are easily understood and involve the largest number of roles in the company. For example, you may have identified that it is important and urgent to standardize the administration tasks for your office staff, but this may not be relevant to the technicians in the field etc. For this reason, it's better to start the standardization process with something that will have a broader impact.

There are dozens of areas that can benefit greatly from standardization and only you know the specific areas within your own firm that would benefit most at this point. However, you may want to consider tackling some of the items on the following list as logical candidates for a starting point;

- Discipline Definitions
- Wire Types and Uses Standard
- Drawing & Documentation Standards
- Installation Practices Standard
- Device Termination Standards
- Product Selection Standards
- Project Process Standard
- Service Call Work Flow Standard

If you are really stuck as to where to begin, one item above that makes a great starting point is what can be called a **Wire Types and Uses Document**. It is fair to say that for the average ESC there is not a single project that doesn't involve wire being used in some way at some point. However, it's probably also fair to say that most ESC's have not spent the time to create a comprehensive and detailed standards document that identifies every type of wire used for each discipline and the attributes of each of those wires. This type of document lays out, in detail, the exact type, gauge, color and use for each wire used in each discipline that your company includes in the projects you do. Having this information standardized and documented results in the following;

- Your **installation technicians** already know which wire to use for each device in each system without even looking at a diagram. They already know that they are supposed to use a larger gauge of wire over a certain distance wire run and what color that wire is supposed to be, eliminating those kinds of questions on site and essentially “building-in” the right decisions on site with far less project management.
- Your **project managers** are able to forecast wire usage while in the field because they know which systems are included in the project and which wire types are required for each. They can visually inspect locations where multiple wire runs are required such as TV’s & projectors, security cameras, lighting control panels, automation processors etc. and know just through visual inspection if the correct wires have been run, if there are wires missing, etc.
- Those responsible for **designing and documenting** the systems you install are able to generate their work faster because they are working from a known “playbook” and certain devices will require a certain number, type and color of wire(s) because all of this has been standardized.
- Those responsible for **purchasing and inventory control** become very familiar with which wire SKU stock levels need to be higher than others because they can more easily spot patterns in usage based on the systems you do most. Also, because you know exactly which wire SKU’s you will use all the time you can now negotiate better pricing with your suppliers and/or ensure that they always have the exact wire types you need in stock. This of course helps enormously when there is a sudden need for a specific type of wire and it also keeps the inventory on their shelf and reduces the need to devote your warehouse space to inventory large amounts of wire. They will do this because you will guarantee that you will always buy all your wire from them for a period of one year (or whatever you feel is appropriate). If they get all your business, they will be much more inclined to work out a very attractive price and keep the stock you need on hand, reserved for you. You also have the additional benefit of dealing with one wire vendor instead of several, reducing paperwork etc. etc.

The benefits listed above illustrate how implementing standardization to even a single area of your operations can result in a wide variety of benefits in different areas throughout your organization. What is interesting is that these same benefits (simplified installation, less project management, streamlined documentation and leaner purchasing and inventory) often result regardless of where you focus your standardization efforts.

Unlock the Power of Standardization

Every great industry has started with a few visionary folks trying something new and pretty much making it up as they went, and ours has been no different. But it's also true that the companies that have emerged as the acknowledged leaders of those same great industries often did so by defining and implementing the standards for that industry. And while it may be beyond the reach of any one ESC to define the standards for our entire industry, it is a very realistic and worthwhile goal for you to create and implement the standards you need within your own business.

Fully standardizing your operations is not easy and it will take time. However, with our industry now experiencing unprecedented change at an ever accelerating pace, your best defense is to implement standardized operations as soon as possible. In this way you will create a true model of efficiency that is far more resistant to the changes and obstacles we will no doubt be faced with in the years ahead. With focus, commitment and a little luck, you may even emerge as one of the true "Powerhouse" companies in our industry.

- To become a true "Powerhouse" you must be a model of efficiency
- That efficiency is created by implementing repeatable processes
- Those processes are only attainable through standardization