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• Alterman, Inc., John C. Wright
• Amaya Electric, John Amaya
• ARS Proyectos, Mexico, Carlos Anastas
• B&D Industries, Inc., Clinton Beall
• Bagby & Russell Electric Co., Franklin D. Russell - In memory of Robert L. Russell
• Baker Electric, Inc., Ted N. Baker
• Berwick Electric Company, Doug Berwick - to honor the leadership and passion that Jim Peterson has provided for the growth and success of Berwick Electric Co.
• Boggs Electric Company, Inc., Michael H. Boggs
• Daniel Bozick, d., CA
• Bruce & Merilee's Electric Co., Jay H. Bruce
• Richard L. Burns, d., FL
• Carl T. Madsen, Inc., Rocky Sharp
• Chewning & Wilmer, Inc., Robert M. Zahn
• Christenson Electric, Inc., Sonja Rheume
• Collins Electric Company, Inc., Kevin E. Gini
• Continental Electrical Construction Co., David A. Witz
• Ben and Jolene Cook, TX
• Corona Industrial Electric, Herbert P. Spiegel - A tribute in memory of Flora Spiegel
• CSI Electrical Contractors, Inc., Steve Watts
• Thomas F. and Alana Curran, CA
• Daniel’s Electrical Construction Company, Inc., Thomas G. Ispas
• DiFazio Power & Electric, LLC, Robert DiFazio
• Dillard Smith Construction Company, Brian Imsand*
• Divane Bros Electric Co., In memory of William T. Divane, Sr. and Daniel J. Divane III
• Egan Company, Duane Hendricks
• Electric Power Equipment Company ***
• Electrical Corporation of America, Donald Laffoon
• ERMCO Electrical and System Contractor, Greg Gossett
• Ferguson Electric Construction Co., Ron Markowski
• Fisk Electric Company, Orvil Anthony*
• Fuller Electric, Earl Restine – Honoring our founders and family
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• Gregg Electric, Inc., Randy Fehlman*
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• Harrington Electric Co., Thomas A. Morgan
• Holmes Electric Company, Michael J. Holmes
• Eddie E. Horton, TX
• Hunt Electric Corporation, Michael Hanson
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• Johnson Electrical Construction Corporation, Donald Leslie, Jr.
• Jordan-Smith Electric, Travis A. Smith
• L. K. Comstock & Co., Inc., Ben D’Alessandro
• L.L.D. Electric Co. (Hyslop Shannon Foundation), Tom Morton
• Lighthouse Electric Company, Inc., Todd A. Mikec
• The Lindheim Family, Michael Lindheim*
• Long Electric Company, Gregory D. Long
• Mark One Electric Company, Inc., Carl J. Privitera, Sr.
• Mayers Electric Company, Howard Mayers
• McCoy Electric, Max N. Landon
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- MJM Electric, Inc., Mark J. Mazur
- MONA Electric Group, David McKay
- Motor City Electric Co., Richard J. Martin*
- Newkirk Electric Associates, Inc., Ted C. Anton
- Oregon Electric Construction, Jeff Thiede
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- Truland Systems Corporation ***
- Truland Walker Seal Transportation, Inc.***
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- Universal Systems, Gene W. Dennis
- Whitehead Electric Company, Christopher Foster
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- Southeastern Line Constructors Chapter NECA, C. Stephen Gaines, Jr.
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- General Cable, Brian Moriarty
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- Mayer Electric Supply, Kyle Walters
- Milwaukee Tool Corporation, Scott Kopriva
- Mosaic Learning, Michael Callanan
- Miss-Adams LLP, Buddy Wall
- Paradigm Sales Group, Brett Bauz
- Philips Lighting, Jon Zelinsky
- Rexel/Gexpro, Chris Chickanosky
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- WESCO Distribution, Inc., John Muenchen

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INTRODUCTION

Electrical contractors are eager to adopt new technology, processes, and business strategies. However, the implementation of organizational change – defined as an intentional, company-level adoption of new practices, technologies, or management approaches – can be extremely difficult. Research in the field of Organizational Behavior has, in fact, found that nearly 70% of organizational change efforts fail to achieve their intended objectives.

In today’s rapidly evolving construction market, the ability to adopt new practices is a core competency for contractors who wish to remain ahead of their competition. Electrical contractors are faced with many organizational change opportunities, including prefabrication, mobile and paperless technologies, payroll automation, new software packages (estimating, project management, accounting, etc.), alternate project delivery systems, expansion into new market segments, and management team realignments.

While the opportunities are very valuable, their adoption is inconsistent across the electrical contracting industry. This raises a fundamental research question:

**Why are some companies able to adopt organizational change initiatives while other companies are less successful?**

Electrical contractors must have a clear understanding of the change management practices that have been proven to result in successful organizational change implementation. This study, as commissioned by ELECTRI International, included a national survey to identify the top seven most effective change management practices recommended by NECA contractors. For the next step, interviews were conducted with 11 NECA contractors who had recently implemented a substantial organizational change.

The interviews collected lessons learned and tangible examples of organizational change adoption. It is anticipated that the results will help guide other NECA contractors how to position themselves as “Early Adopters” who are better able to achieve successful – and therefore more profitable – outcomes after implementing organizational change initiatives.
The study consisted of two parts:

1. A nationwide survey of NECA contractors to identify specific change management practices that are proven to result in successful change adoption.

2. Interviews with NECA contractors to collect information related to eleven organizational change events these companies recently experienced.

SURVEY DATA SAMPLE

The study collected 94 survey responses from NECA Chapters nationally. The survey was designed so that each response represented a single, company-level organizational change initiative implemented by a NECA contractor. The data sample accounted for a wide variety of organizational change initiatives, including changes related to new technology, software, management structures, equipment/fleet, business processes, and supply chains, as well as moving to entirely new markets.

**94 Organizational Change Initiatives within Electrical Contractors**

- Each represents an *organization-wide change*
- Respondents averaged *30+ years of experience*

**Organizational Changes Within the Data Sample**

- Management Team Realignment
- Automated Payroll Entry
- Prefabrication
- Change in Market
- New Estimating Software
- Lean Construction Culture
- Implement Trimble
- New Accounting Software
- Paperless
- Preplanning Meetings

**Generational Affiliation of Respondents**

<table>
<thead>
<tr>
<th>Generation</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generation Y</td>
<td>5%</td>
</tr>
<tr>
<td>Generation X</td>
<td>34%</td>
</tr>
<tr>
<td>Baby Boomer</td>
<td>57%</td>
</tr>
<tr>
<td>Traditionalist</td>
<td>4%</td>
</tr>
</tbody>
</table>

The graph shows the distribution of respondents across different generations.
The sample consisted of experienced electrical contracting professionals. The average industry experience held by respondents was 30+ years, with nearly one-third of responses from individuals with more than 40 years’ experience. One limitation of the study was that nearly all respondents had a generational affiliation with Baby Boomers and Generation X. Millennials (Generation Y) only represented 5% of the data set.

Companies represented in the survey data sample were of different sizes, split fairly evenly between companies with gross annual revenues of less than $10 million, $10-$30 million, $30-$100 million, and more than $100 million. The majority of companies surveyed had between 21 and 500 employees, with a minority of companies larger and smaller than that.

Respondents also represented a range of job positions throughout the hierarchy of an electrical contracting firm. The largest set of responses (35%) came from senior executives and board members. The next most populous job title was assistant vice president or vice president. Regional/district managers and project leads were also included in the data sample. Two responses were received from other positions (a human resources manager and a computer systems analyst).
INTERVIEW DATA SAMPLE

Interviews were conducted with eleven NECA contractors located across the country, as indicated on the map below. Each interview focused on a single organizational change initiative that occurred within the company. The objective was to collect in-depth implementation details related to successful organizational change efforts.

The interviews examined several different types of change initiatives. Five interviews were with contractors who transformed their businesses to use prefabrication. Two interviews focused on companies that underwent significant management team realignments. One interview was with a company that rearranged its business to enter a new market (outside line construction). The remaining three interviews addressed various technology integrations: a new estimating software, payroll automation, and paperless mobile technologies on the jobsite.

Table 1: Types of Organizational Changes Collected within the Interviews

<table>
<thead>
<tr>
<th>#</th>
<th>TYPE OF CHANGE</th>
<th>COMPANY REVENUE</th>
<th>COMPANY EMPLOYEES</th>
<th>INTERVIEWEE’S JOB TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Prefabrication</td>
<td>$100-$500M</td>
<td>101-500</td>
<td>President &amp; CEO</td>
</tr>
<tr>
<td>2</td>
<td>Prefabrication</td>
<td>$100-$500M</td>
<td>101-500</td>
<td>Preconstruction Director</td>
</tr>
<tr>
<td>3</td>
<td>Prefabrication</td>
<td>$10-30M</td>
<td>51-100</td>
<td>President &amp; CEO</td>
</tr>
<tr>
<td>4</td>
<td>Prefabrication</td>
<td>$100-$500M</td>
<td>101-500</td>
<td>Chairman &amp; CEO</td>
</tr>
<tr>
<td>5</td>
<td>Prefabrication</td>
<td>$100-$500M</td>
<td>500+</td>
<td>CEO</td>
</tr>
<tr>
<td>6</td>
<td>Management Team Realignment</td>
<td>$100-$500M</td>
<td>101-500</td>
<td>President &amp; CEO</td>
</tr>
<tr>
<td>7</td>
<td>Management Team Realignment</td>
<td>$50-$100M</td>
<td>101-500</td>
<td>VP of Operations</td>
</tr>
<tr>
<td>8</td>
<td>Paperless</td>
<td>$10-$30</td>
<td>21-50</td>
<td>President</td>
</tr>
<tr>
<td>9</td>
<td>Payroll Automation</td>
<td>&lt; $10M</td>
<td>21-100</td>
<td>VP &amp; General Manager</td>
</tr>
<tr>
<td>10</td>
<td>Estimating &amp; Bidding Software</td>
<td>$100-$500M</td>
<td>101-500</td>
<td>Partner</td>
</tr>
<tr>
<td>11</td>
<td>Enter a New Market Sector</td>
<td>$500M+</td>
<td>101-500</td>
<td>Senior Executive</td>
</tr>
</tbody>
</table>

Figure 1: Headquarters of NECA Contractor Interviewees
RESEARCH FINDINGS: PHASES OF ORGANIZATIONAL CHANGE

Based on these 11 interviews with NECA contractors across the country, the average timeline for organizational change was six years, with a range from three to ten years. See Figure 1 below.

Three major phases were found in the timeline: Phase 1 - the Planning phase begins with first identifying a need for change and then ends with the milestone of initiating the change within the company. Phase 2 - Pilot Testing the change at a smaller, controlled scale, ending once the merits of the change are proven. Phase 3 - the Expansion phase when broadly implementing the change across the company. Once the change has become part of the company’s normal operations (i.e. is has “stuck”), contractors found that their work was not done. Instead, an ongoing period of continuous improvement led contractors to perpetually build upon the initial change to further improve their business.

PLANNING PHASE FINDINGS

The Planning Phase lasted 1-2 years on average and covered a range of activities:

- “Don’t just change on a whim. Make the decision to change based upon measurement of key parameters in your business.” (Transition from Inside to Outside Operations)
- “We took 6 months of serious talking and planning, then 6 months to review various products, and 3 months to develop excel-based patchwork workarounds before pilot testing.” (Payroll Automation)
- “We spent 2 years planning how to standardize materials and how the company purchases from vendors.” (Prefab)
- “We started by sitting down with each department to evaluate each department leader’s level of acceptance.” (Management Team Realignment)

The vision for the change should be communicated before initiating the change:

- “First, we communicated the vision thoroughly to our stakeholders.”
- “Change and the ‘disruption’ surrounding it can place a lot of attention on your company in the marketplace. We spent a lot of time planning how we would communicate the message to our customers and to the marketplace.” (Management Team Realignment)
PILOT TESTING PHASE FINDINGS

The Pilot Testing Phase lasted 1-2 years on average:

- We did multiple alpha- and beta-tests of the software in parallel with our time entry process. Then, we eventually did a full pilot on one project.” (Payroll Automation)
- “We had to constantly remind people why we were doing it the new way.” (Management Team Realignment)

Pilot Testing is valuable to work out the “kinks” which also minimizes resistance:

- The pilot test “uncovered different patchworks that needed to be built.” (Payroll Automation)
- “We used the initial pilot project to identify standardized items that could be used in future projects.” (Prefab)
- “Jumping in all the way at the start was a mistake. We should have tested the software in parallel for at least one year.” (New Estimating Software)

Pilot Tests should be conducted by enthusiastic change agents or change champions:

- “Find people at the start who will be open and enthusiastic. If you find someone who is passionate, they get excited and their mind will find different ways to become successful.” (Payroll Automation)
- “The first 5 pilot projects were all done with our initial change champion.” (Prefab)
- “We started with foremen who were running the major projects and then expanded.” (Paperless)

EXPANSION PHASE FINDINGS

The Pilot Testing Phase lasted an average of 3½ years, but with a range of 1 to 8 ½ years:

- Prefabrication changes required an average of three years for full expansion throughout the business. The fastest prefab expansions were two years and the longest was 5½.
- Management team realignments were fastest relative to other types of change. Management team realignments could be extremely fast (the fastest example was three months for planning, six months for piloting, and one year for full expansion).
- Technology-based changes – such as new estimating software, payroll automation, and paperless mobile technology – required an average of 2.67 years for full expansion and adoption.
- By far, entering a new market sector required the longest expansion phase. One company that transitioned from inside to outside operations chose to roll out the change slowly over the course of eight to nine years.
There are many different approaches, speeds, and philosophies for expanding an organizational change throughout the company:

- “We slowly expanded on a job-by-job basis. It took us about a year to do the expansion, roll out, and coaching of our field staff.” (Paperless)
- “We started with 1 pilot project. Next expanded to about 10 projects. Then to 20 projects. Now we are on all our projects.” (Prefab)
- “Our first expansion projects outside of initial pilot testing had several key factors:
  1) hand-picked lead project coordinator,
  2) worked with our 2 best foremen, and
  3) ensured we had good relationships between all the lead people on the team.” (Prefab)
- “We didn’t want to grow too fast and over-burden our prefab group because they were just learning themselves.”
- “It became the standard – THE way we estimated – after about 4-5 years of expanding and training.” (New Estimating Software)

**MILESTONE: MAKING IT “STICK”**

Nearly every contractor stated that there was NOT a specific moment in time when the change became “fully implemented.” Instead, it was a change in mindset over time:

- “Making it stick is more of a mindset. It’s not always a tangible outcome. Now, our staff wouldn’t go back and do it any other way.” (Prefab)
- “Making it stick is absolutely a ‘hearts and minds’ question.” (New Estimating Software)
- “You have accomplished the change when you no longer have to prove out the numbers because everybody now believes it’s the right way to go.” (Prefab)
- “We mostly assessed buy-in on a ‘gut feel’ basis after introducing the change vision across the company.” (Management Team Realignment)

**CONTINUOUS IMPROVEMENT**

You’re not done once the change has “stuck” → you just have a better platform from which to continue innovating:

- “People eventually started trying to fine-tune our prefab. They wanted to find even more stuff to do.” (Prefab)
- “Our staff sees it as the best way to manage their projects, so it’s only going to become more widespread and innovative.” (Prefab)
RESEARCH FINDINGS: TOP PRACTICES FOR ORGANIZATIONAL CHANGE MANAGEMENT

A combination of results from the national survey and contractor interviews identified the top seven organizational change management practices for electrical contractors. The survey was used to rank the top change management practices in order of their effectiveness. Interviews were then leveraged to provide in-depth understanding of how contractors can implement these practices.

MEASURING THE SUCCESS OF ORGANIZATIONAL CHANGE

The national survey asked NECA contractors to identify a recent organizational change effort their company had implemented which had a substantial impact on their personal workgroup. The survey asked each contractor to rate the success (or lack thereof) with which the change effort was adopted within their company. The level of successful change adoption was measured in three ways:

1. Was the change adopted as intended?
2. Was the change sustained long-term within the company’s operations?
3. Did the change achieve the beneficial impacts and performance gains that were intended?

Responses to these questions were compiled into a single measure of organizational change adoption. This measure was then used to rank the responses based upon overall adoption.

THE TOP SEVEN ORGANIZATIONAL CHANGE MANAGEMENT PRACTICES

The national survey also asked respondents to rate their company’s effectiveness at carrying out various change management practices. Correlation analysis was used to determine which change management practices had the strongest associations with successful change adoption. A rank-order list of the top organizational change management practices is shown in the table to the right.

The following pages provide an explanation of each change management practice. Lessons learned from NECA contractors who were interviewed are highlighted to guide future change efforts by other NECA contractors.

<table>
<thead>
<tr>
<th>RANK</th>
<th>CHANGE MANAGEMENT PRACTICE</th>
<th>CORRELATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Effective Change Agents</td>
<td>.633**</td>
</tr>
<tr>
<td>2</td>
<td>Realistic Timescale</td>
<td>.551**</td>
</tr>
<tr>
<td>3</td>
<td>Adequate Training</td>
<td>.522**</td>
</tr>
<tr>
<td>4</td>
<td>Senior Leadership Commitment</td>
<td>.493**</td>
</tr>
<tr>
<td>5</td>
<td>Measure Performance Benchmarks</td>
<td>.445**</td>
</tr>
<tr>
<td>6</td>
<td>Sufficient Resources</td>
<td>.389**</td>
</tr>
<tr>
<td>7</td>
<td>Understand Personal Benefit</td>
<td>.354**</td>
</tr>
</tbody>
</table>

** statistically significant at the 99% Confidence Interval
EFFECTIVE CHANGE AGENTS TO GUIDE THE EFFORT

The top-ranked change management practice, according to NECA contractors, was the effectiveness of the change agents responsible for leading the change effort. Change agents are defined as the champions or leaders of an organizational change effort. Typically change agents are most effective when they are: (a) positioned in key roles within the company at the operations-level rather than senior executives, (b) highly respected by their peers and subordinate staff, (c) passionate and enthusiastic about the change, (d) accountable to implement the change as part of their true work responsibilities (rather than the change simply being a “side project”).

LESSONS LEARNED FROM THE CONTRACTORS

Find the right individuals to act as the Change Agents or Change Champions:

- “Someone has to be first, the pathfinder. Now everyone wants to be involved.” (Prefab)
- “Part of making a change is finding the right individuals who are willing to foster and support the change. Executives can be committed and provide resources, but ultimately you need the project teams to make the change happen.” (Prefab)
- “You can’t assign someone to be the champion of the change who isn’t committed to it and who doesn’t understand it.” (Prefab)
- “Our most forward-looking people were not always in charge of our biggest jobs, because those were with people who had proven track records.” (Prefab)

Selecting the right Change Agents adds credibility to the Change Message:

- “We communicated the change vision to our middle managers, superintendents, and foremen. These individuals carried the message through all our operations.” (Transition from Inside to Outside Operations)
- “It helped to have a very good foreman sell this to others who were in the field and even help the field call directly into the prefab shop.” (Prefab)
- Learn to leverage “contagious enthusiasm”….Pair up an enthusiastic support with an older or more resistant person. The champion will show them what the change can do and the older guy says ‘Wow! That really works!’

When implementing Prefabrication, pick the right person to pull into the prefab office:

- One company started with a service truck driver who was in an accident and could not work in the field. The thinking was that the prefab office would not be physically demanding. In the end, the individual was not qualified for the position.
- Some companies started with a lesser-skilled person because they thought it was easier work and should be a cheaper salary. This quickly proved to be a mistake.
- One company brought in an experienced field foreman who was ready to retire and then volunteered to take on this task. It turned out the foreman was partially motivated by finding a way to cruise to the end of his career. Nevertheless, some companies felt prefab is a great place to put older employees and continue leveraging their knowledge.
- Most companies said selecting a highly skilled, innovative, and widely-respected field leader is the key for starting an effective prefab shop. The right person needs to have proper seniority and also have the support of the field staff.
REALISTIC TIME SCALE FOR CHANGE IMPLEMENTATION

As previously noted, the average organizational change effort within electrical contracting companies followed a six-year timespan. It was not uncommon for larger organizational change efforts to require nine years before they were fully adopted. This is critical for senior leaders to understand. Expecting a rapid change effort is unrealistic and short sighted. Instead, contractors are better served by maintaining the long-term, strategic perspective that organizational change is a learning process for the company, its leadership, and staff. It is recommended that contractors be patient during the middle of change and adopt the attitude “We are striving to be better today than we were yesterday, better this month than last month, and better this year than last year.”

LESSONS LEARNED FROM THE CONTRACTORS

Leaders and managers often underestimate how long the change will take:

- “Change takes a lot longer than what we initially thought.” (Management Team Realignment)
- “You will always underestimate how long change will take. Don’t get frustrated if it takes longer than you thought it was going to take. Stay the course.” (Payroll Automation)

Be comfortable in the midst of change. Understand that it is a learning process and will inevitably encounter unexpected challenges:

- “Wish we would have acted sooner. Hesitation is one of the worst things for the organization. If you are not changing, you are dying, and people are going to pass you.” (Management Team Realignment)
- “We jumped in with both feet and rolled everything out at once. We even wanted to do more than just estimating in the beginning – we wanted to tie ALL accounting into the new software. But once we started, the magnitude of going through the estimating software alone became a problem.” (New Estimating Software)

Have realistic expectations. Don’t try to grow too fast or “force” the change on people:

- “The worst thing you can do is to try to force-feed it. You’ll get tremendous resistance.” (Prefab)
- “In some people’s minds we are going too slowly. But in my mind, it’s the right pace to build incrementally and avoid making a major mistake. If you grow too fast and make a mistake, it gives ammunition for people to argue against the change.” (Prefab)
- “Managing expectations is important. We do not expect that 100% of our work will be prefab (of all items that could reasonably be prefab).”
- “The worst thing to do is to ‘back off’ because you grew too fast. If you back off, it will be difficult to regain the enthusiasm.” (Prefab)
In any change initiative, employees obviously must be trained in how to succeed in the company’s new environment. Training is most effective when delivered at two levels. First, up-front training is needed to provide basic development of new skills (e.g., providing general computer training for older employees prior to implementing mobile jobsite applications). However, up-front training is not sufficient. Companies must follow up with on-the-job training to truly show employees how to carry out the change within their day-to-day job functions. When employees are unsure how to implement a change, they will commonly revert back to traditional practices. Company leadership sometimes interprets this as employee resistance to change. In reality, it may indicate inadequate training.

**LESSONS LEARNED FROM THE CONTRACTORS**

There is a need for formalized training as well as “un-training” of obsolete practices:

- “Our company provided re-training when we moved employees.” (Transition from Inside to Outside Operations)
- “The older generation had to be taught the basics of computers. Our local NECA chapter put on a computer class to help get our older generation coached up.” (Paperless)
- “Sometimes there needs to be more focus on ‘unlearning’ or ‘un-training’ from traditional practices.” (New Estimating Software)

However, the most effective training is hands-on during projects rather than the classroom:

- “We taught in real-time. Any time questions came up, we sat them down with someone else who was proficient to serve as a coach.” (Paperless)
- “Training was not a scheduled event – it was done on a 1-on-1 basis.” (Paperless)
- “Every Wednesday we hosted a lunch-and-learn for foremen to share thoughts, review updates, etc.” (Prefab)
- “We had to educate our field teams on how to engage with the prefab group. We learned that we have to go project-by-project and educate each foreman individually.”
- “We met individually with each foreman for each new project. We provided a job briefing on the process and made sure we had their buy in before moving ahead.” (Paperless)

Training reduces employees’ fear of the unknown, a major cause of resistance:

- “Many challenges we encountered were mainly due to a lack of training.” (Management Team Realignment)
- “Fear of the unknown was the biggest barrier for our people, which caused a lot of hesitancy.” (Payroll Automation)
- “We found that people are willing to change but sometimes they don’t know how.” (Prefab)
- “Make sure the technology works with younger people who won’t get frustrated with it. By the time you get to the older folks, you already know the technology works and will save them time and energy.” (Payroll Automation)
SENIOR LEADERSHIP COMMITMENT

Although the company’s Change Agents should be in charge of day-to-day implementation of the change (at the operational level), the role of senior leadership is still critical. Senior leaders wear multiple hats during a change. They must be clearly visible in their unwavering support for the change, otherwise employees may not feel the need to follow through. Senior leaders hold the keys for providing resources and they must “walk the talk” during implementation. Additionally, senior leaders must maintain the company’s focus on the overall change objectives and not allow individual departments, teams, or personnel to “bog down” other units.

LESSONS LEARNED FROM THE CONTRACTORS

Senior leadership must show visible commitment to the change – this convinces employees that it’s not just a “new flavor of the month” and that the entire organization is committed:

- “Look around at companies that have done prefab successfully. It had to be from the top down. Senior leaders have to take responsibility to make it happen and to do it right.” (Prefab)
- “Senior leadership assembled the entire staff and communicated the vision very thoroughly – what we were doing and the reasons why.” (Management Team Realignment)
- “We tried putting in contests and offering prizes (i.e. individuals who ordered the most prefab gets a steak dinner every month). We found the same 2-3 people were winning every time, and they were our most forward-thinking people. In the end, it took management being committed to the change for it really to happen.” (Prefab)

Senior leaders have a unique vantage point because they can view the entire organization:

- “It’s important to get everyone in the company to understand the broader vision.” (Management Team Realignment)
- “We found when one group made a change it would make things more challenging for another group. Senior leaders had to get groups together to explain the bigger picture. For example, something that saves time in the field is a bigger impact to the bottom line than something that saves time in the office.” (Management Team Realignment)
- “We ended up taking the prefab decision out of the hands of our field and project leadership. We didn’t have 50 separate general foremen in the field deciding how to change their 30 years’ experience of installation practices. We had centralized folks directing them on what to do.” (Prefab)

Change Agents should be accountable to Senior Leadership throughout the change initiative:

- “We got the buy-in of upper management early on. Then we updated them on a regular basis as we moved forward.” (Prefab)
- “Instead of having executives push the change, we wanted to have enthusiasm from our people who volunteered and were excited. The role of executives would be to encourage our change champions.” (Prefab)
MEASURING QUANTIFIABLE PERFORMANCE BENCHMARKS

Part of the planning process for any change is to identify the specific performance metrics the company is trying to improve. During the implementation phases, measuring performance benchmarks are beneficial in several ways. First, and most straightforward, performance benchmarks quantify whether the change is truly successful (time, money, resources). Second, benchmarks can be showcased across the company to build interest. Third, benchmarks are actually an important part of the “hearts and minds” aspect of organizational change. That is, benchmarks can prove to employees that their jobs are being impacted in a positive manner.

LESSONS LEARNED FROM THE CONTRACTORS

Quantifiable performance benchmarks prove the change is viable (and minimize doubt):

- “You can eliminate resistance by showing success in what you’re doing.” (Prefab)
- “We realized that we were accomplishing so much, but it wasn’t getting shared for the entire company to see. We started having regular meetings to share successes. We found that success built more success.” (Management Team Realignment)
- “We shared our first major success across the company. We saved about 1200MH and turned a 12% margin to a 15% margin job.” (Prefab)

Showcasing “early victories” can help build momentum:

- “We created a slide show of our first pilot project to show what could be accomplished. We took other PMs and foremen to view the project site. Our PMs quickly saw that prefab flattens out the manpower curve.” (Prefab)
- “Supers started selling the idea after seeing results on their initial projects.” (Prefab)
- “We had an early project where prefab enabled us to meet the schedule easily. Even if we add up all the time spend in the prefab show, the simple fact of being able to meet the schedule with a high quality installation was a huge victory.” (Prefab)

Quantifiable performance benchmarks can answer the question of “What’s in it for me?”

- “People want to win. So if there’s something that can help them win, be sure to measure it. They’ll listen up and grasp it.” (Payroll Automation)
- “Sharing results has to be more than Return on Investment (ROI) at the company-level. Probably half of the people do not care about profitability so long as they get their paycheck.” (Prefab)
  “We used measurements to show the change as a positive – what opportunities does it bring to the company and to individual employees?” (Transition from Inside to Outside Operations)
  “We showed the speed at which we could get documents out to our field team, which really kept the jobs rolling along.” (Paperless)
  “Prefab really resonated with our PMs because they are accountable to the man-hours, materials savings, and the project’s bottom line. They are incentivized to use every tool possible to achieve results.” (Prefab)
PROVIDING SUFFICIENT RESOURCES TO SUPPORT THE TRANSITION

Often, the first barrier that hinders change is the perception that it will be too costly. This study found that it is true - organizational change does require an investment. Yet, once contractors accept this fact, the better question is not “How much?” but rather “What type of resources are really needed for success?” The most important resource was found to be the time, effort, and support of critical staff, yet this can be often be spread across numerous people within the company as a “shared burden”. The benefit of this resource, rather than money, is that change often provoked staff to become more creative.

LESSONS LEARNED FROM THE CONTRACTORS

It’s unavoidable – change requires a commitment of financial resources:

- “We chose a large project. The size allowed us to absorb the extra costs and also serve as a high profile example within the company.” (Prefab)
- “It was very costly to get started. It cost nearly $300,000 (2017 dollar equivalent) just to get started.” (New Estimating Software)
- “We expanded slowly by buying 2-3 laptops or tablets at a time.” (Paperless)

Money is not the only critical resource. Time, effort, and support may be more important:

- “We ended up creating an entire department called ‘Construction Services.’ They create the prefab plan for every job.” (Prefab)
- “We took the time to bring all our PMs on a tour of our prefab area. We showed a presentation, toured the prefab shop, and discussed how the process works. This boosted us up to 90% buy-in from our PMs.” (Prefab)
- “We worked hard to have individual meetings with the folks who were struggling.” (Management Team Realignment)
- “We have not done a great job with planned education and mentoring. We have not pulled in the entire PM team or field team regularly to train them. We will be changing this very shortly.” (Prefab)

Overall, contractors must look beyond dollars-and-cents for the value of change:

- “Do not think in terms of ‘We can’t afford to spend XX dollars to make this change.’ Instead, it’s more realistic to say ‘We can’t afford NOT to spend resources to make this happen.’” (Prefab)
- “The recession was a time for innovation. Our first pilot projects happened in the depths of the recession. This was beneficial because people weren’t too busy, which meant every trade brought their best people to the site. You have the best people all working to get the best possible result from the small piece of the pie that’s available.” (Prefab)
- “We found that we had to take one of our most progressive field leaders and put him in charge of our prefab shop. Some of our leadership thought this was crazy to take a profitable asset out of the field. You have to realize that by putting him in charge of our prefab shop, suddenly he can help make EVERY job more profitable.” (Prefab).
COMMUNICATING THE PERSONAL BENEFITS TO EACH EMPLOYEE

It is important for each individual employee to understand how the change will impact him/her personally, in the specific role within the company. Several common questions must be addressed to alleviate employee concerns. First, employees should be assured that the change will not have drastic negative impacts (increased work, loss of status, rupture of relationships, or even potential layoffs). Second, the positive benefits should be explained in detail. Finally, the “soft-side” of change should be considered to answer emotionally-based concerns and confidence (Can we do this? Can I do this? Etc.)

LESSONS LEARNED FROM THE CONTRACTORS

Be sure to communicate that the change will not negatively impact people’s status, position, or working environment:

- “If you’re implementing a change, you don’t want to make things harder for the person you’re trying to implement the change with. Ideally you are making their jobs easier.” (Payroll Automation)
- “We continually reassured everyone that they would have a job through the change.” (Transition from Inside to Outside Operations)
- “We communicated our transition plan and what it meant to each employee personally.” (Transition from Inside to Outside Operations)

The beneficial impact to each employee must be addressed specific to the person’s position, situation, and role:

- “You must answer the question ‘What’s in it for me?’” (Payroll Automation)
- “We highlighted better living standards that would come with greater travel, such as per diem, racking up airline miles, and more consecutive days spent at home” (Transition from Inside to Outside Operations)
- “You have to show people there’s a benefit to what they are doing. Once they start to see the tangible benefits themselves, it tends to overcome the resistance to change.” (Payroll Automation)
- “Our pilot project had absolutely zero laydown area on site, along with an extremely tight schedule. This was a huge motivator for our project team to buy into prefab.” (Prefab)

There are proven components to a successful Change Message:

- “We would have communicated even more completely than we did. We would engage employees by addressing these questions:
  - Why does the organization want to do this?
  - Is the change necessary for the organization?
  - Does the senior leadership support the change?
  - How can each employee make the change happen?
  - Where will each employee benefit from the change?”
RESEARCH FINDINGS: RESISTANCE TO CHANGE

RESISTANCE TO ORGANIZATIONAL CHANGE

All interviewees in this study indicated that they encountered some form of resistance within their company. Contractors should recognize resistance is a natural part of change. Several examples and explanations for resistance from the interviewed contractors are provided below.

- “In our experience, only about 5% of the company will say there’s no way they’re making the change. 25-30% will buy in up front. The rest will go along with it and do what they are told so long as they are led properly.” (Prefab)
- “A challenge is when the change brings greater accountability to the company. For us, this led to a continuous battle between our estimators and the field. There was very little positivity at the start. Our estimators didn’t like using the software. And our project managers and superintendents disliked it the most.” (New Estimating Software)
- “Some individuals were loyal to the original management structure.” (Mgmt Realign.)
- “We had a lot of resistance when we first started.” (Prefab)
- “Sometimes a lack of change (or even resistance) is simply a lack of understanding and isn’t malicious.” (Prefab)
- “We had to fight the perception that prefab was taking work away from the field. Ultimately we treated prefab as a ‘new’ jobsite that supports many disciplines.” (Prefab)
- “We noticed that individuals would say the right things in meetings and seemed to understand the change. But, as they went out and continued everyday business, their actions did not align with their words.” (Management Team Realignment)

LETTING PEOPLE GO

Nearly half of the companies interviewed (five of eleven interviews, 45%) indicated they had to let go of resistive employees in order to complete the change. Another company stated that although they did not let anyone go, they had to wait for certain employees to retire from key positions.

- “We did lose some folks. It was a small percentage, approximately 1-2% of overall employment.” (Transition from Inside to Outside Operations)
- “We definitely had to let people go who did not get on board. Probably less than 5% of management overhead staff and a very small percentage of field personnel.” (New Estimating Software)
- “We definitely had people leave the company. Some retired, some chose to move on, and some we chose to let go.” (Management Team Realignment)
- “In some cases you will have to let people leave your company when they refuse to comply with the change. Someone adamantly opposed will poison your company.” (Prefab)
- “When some people resist, there can be a temptation to coddle them, to talk it through, to just work through it all. In reality, sometimes the best thing to do is just let the person go.” (Prefab)
- “We had one individual who resisted strongly so we had to wait for them to retire.” (Paperless)


**GENERATIONAL DIFFERENCES**

Several contractors noted that generational differences of employees within their companies had to be considered from an organizational change perspective. Younger generations were almost universally thought to be more open to change for several reasons: greater familiarity with computers and technology, less ingrained habits that needed to be “un-trained,” an eagerness to learn new skills to advance during their early career years. Importantly, the lack of knowledge of traditional practices meant that the change was less of a shock for younger employees.

**Younger Generations may be more Open to Change:**

- “We started with younger field personnel to beta test because they are more pliable and willing to work through any bugs that are encountered.” (Payroll Automation)
- “Older field personnel may be more reluctant to change, but there are still some who will embrace new technology.” (Payroll Automation)
- “The most enthusiastic responses came from our younger PMs with little-to-no field experience as electricians who had come through Construction Management undergraduate programs or other routes.” (Prefab)

**Younger Generations are not as stuck in their habits:**

- “Based on career stages, the more seasoned person has more ‘unlearning’ to do. They also have tried-and-true procedures so they are not going to put themselves in a position to make a mistake or get bogged down by doing something different.” (Payroll)
- “Our younger employees got right on board. A big part of this is they don’t have a pre-conceived picture about how things are supposed to be.” (Prefab)

**Younger Generations are in the “Learning Mode” of their careers:**

- “Younger folks are very accustomed to being raised with technology. They are also in a learning mode based upon their early career stage.” (Payroll Automation)

**Younger Generations are more proficient with computers and technology:**

- “We hired an external change consultant. They told us: ‘Don’t give mobile technology to anyone over the age of 45 because they won’t be proficient enough, and this will drag everyone else down.’ Our company had never even thought about this. So we started with the young guys and let the older generation continue doing what they were already doing. It has gone well.” (Paperless)
BIGGEST SURPRISES

- “Our biggest surprise was the overall acceptance of the change. We feel it has been a success for our company.” (Transition from Inside to Outside Operations)
- “We were pleasantly surprised by how fast our foremen bought in.” (Payroll Automation)
- “We were surprised with how well prefab went and how well our field staff adopted and implemented it. After we saw how well it went, wish we had done it 5-10 years earlier!”
  “We were pleasantly surprised with how innovative and clever our field people could be when given the opportunity. They came up with prefab solutions we never anticipated.”
CONCLUSION

Organizational change is not a singular event or activity. It is an on-going process that requires an average of six years and occurs in several key phases. Electrical contractors must plan how to implement their change effectively, execute pilot tests on a manageable scale, and then expand the practices consistently across the company. Only then can a contractor ensure that the change becomes permanently adopted into the company’s operations or, more accurately, establish a new “normal” that will then inspire future changes and innovations.

There are specific practices proven to help electrical contractors implement organizational changes more effectively. Each of the top seven change management practices identified within this study represents learnable skills, meaning the practices can be taught in a manner that assists contractors to apply these practices effectively within their own organizations. The research findings and lessons learned from the interviewed contractors provide a useful future resource for companies to understand how to apply these change management practices effectively for various types of organizational change initiatives.

Resistance to change is unavoidable but can be managed. It is not unusual for a company to release problematic employees in order to get a change implemented. This is particularly true when highly resistive individuals hold key positions within the company. Generational differences among employees can also cause resistance to change. But, generational differences also highlight certain employees who may be more open to change – which then can build “contagious enthusiasm” to support the change throughout the company.