How Can I Justify Quality Assurance in AV Technology? (For the AV Company)

One would think that common sense would dictate that it makes sense to spend money to avoid mistakes rather than to correct them. Nevertheless, Quality Assurance most often costs more than anticipated. Yet it is too often less than it should cost to get the job done correctly and without headaches and damaged reputations.

When adequate quality assurance is applied, the project will be completed at its realistic completion date, and be within budget. It is essential to good project management on any construction job.

Philip Crosby defined the Cost of Quality as:

\[ C_{\text{Cost of Quality}} = C_{\text{Cost of Quality Appraisal}} + C_{\text{Cost of Correcting Poor Quality}} \]

Let’s consider the second term on the right with regard to:

1. Short term returns
   a. We get paid quicker when the job is done correctly and on time.
   b. We avoid costs like ordering the wrong product, then requiring expedited shipping costs to ship the right product to the field at the last minute.
   c. We catch mistakes in the Design Review stage when they are cheaper to correct, rather than installing the wrong product and requiring a re-engineering of the system to make the correction.
   d. We have fewer revisions on the as-built drawings, saving drafting hours.
   e. We avoid “nickel-and-diming” the customer, losing good will and adding administrative costs.
   f. We perform the required tasks more efficiently when we have trained motivated specialists, with all the instrumentation and tools required, and all the materials they need to complete their tasks. This allows the same staff to complete more projects in a pay period and therefore generate more revenue in that period.
   g. We spend less time on the phone or in front of a client getting a dressing-down for failures to perform.
   h. We use fewer materials for the same production.
   i. We track hours so that we know which sub-tasks require more resources to complete a project faster before they cause delays.
   j. Zero defects mean zero punch-lists, and we don’t have the service department completing installations.
   k. People are more motivated when they do good work that pleases the client. This translates to the team focusing on fixing the problems instead of fixing the blame.

2. Long-term returns
   a. People are more motivated when they do good work that pleases the client. That translates to lower turnover, less HR disputes, and a higher level of maturing and institutionalizing the organization.
   b. Documented Quality Assurance procedures means new personnel are easier to train and acquire skills.
   c. Regularly pleasing the client means the clients become your sales force, passing the word of your company’s good work with much more credibility than your marketing personnel can possibly deliver it.
   d. Better cash flow from efficient operations means that you improve your vendor relationships, providing motivation for vendors to work closer with you.

3. What is the risk that I will not deliver? Higher than ever these days, considering the following:
a. Technology is changing so fast, that my personnel are never fully trained
b. Being the last trade into the space, we are left with little or no “wiggle room” to get the job done, adding intense pressure to complete the project.
c. Manufacturers’ products are not fully tested for my applications, draining resources in the shop and in the field.
d. Manufacturers’ products may not show up when they were promised, putting our delivery into a tailspin.
e. The client’s needs may not have been adequately defined.
f. The roles may not have been adequately defined or communicated to the project team (i.e., who provides the low voltage cable? etc.).
g. There is always miscommunications, as in the “telephone game”, when the client’s needs are passed from designer, to salesman, to an engineering and drafting department, to a shop supervisor, to an operations team, to a lead field technician, to service personnel, etc.
h. When the quality of our work is also heavily dependent on so many other organizations properly doing their work (architect, construction manager, electrical contractor, millworker, etc.)

4. What is everyone else doing? Isn’t it far better to ask, “What are the successful companies doing?”
   a. QA, and specifically the checklists employed in AV9000 have been used by many companies and have proven to shrink punch lists and improve the speed and quality of installations since 2004. They are being accepted more and more.
   b. Companies that focus on quality assurance in order to please the customer and provide for continual improvement will be more successful. There is overwhelming evidence that the rewards are spectacular when companies have a total commitment to achieving superior quality and customer satisfaction across all company functions and processes.

5. How can I put this in terms of dollars and sense? The Cost of Poor Quality may be often hidden, but not invisible. To get a feel for it, choose an event that cost the company more than it should in wasted time. Then:
   "Track the hours in question, and who expended the hours (employee, executive, etc.)
   "Take the total compensation for the employee or executive, salary and benefits, or in other words the entire annual cost for the individual. Divide this by 2,000 (the average hours worked per year not including vacations or holidays). This is the cost per hour the organization pays for this individual.
   "Multiply the two together. This is the total cost impact for the event."