



Case study for ISO 9001:2015 transition in a construction company

WHITE PAPER

Table of Contents

- Executive summary..... 3
- Introduction 3
- Briefly about the company 3
- Defining the timeframe and options for the transition..... 4
- Developing a Project Plan for the transition 5
- Transition project..... 6
- Certification audit 12
- Conclusion..... 13
- Sample documentation toolkit 13

Executive summary

With the release of ISO 9001:2015, companies have been given three years to finish their transition to the new standard. All organizations currently certified against ISO 9001:2008 will need to transition to the new requirements by September 2018. This means that after the end of September 2018, a certificate based on ISO 9001:2008 will no longer be valid.

This case study will show you how a mid-size construction company started and finished the transition project, and the challenges it faced during the project.

Introduction

Time is the most important factor for making the transition from ISO 9001:2008 to the latest 2015 revision. In order to transition successfully, the company needs to start on time and avoid waiting until near the deadline. Waiting until the last minute will leave less time to correct problems – increasing the chances of not being certified on time. It is important to transition early, to reduce the risks and costs to your business.

The case study we are about to examine will show you the timeframes and the necessary activities to be done for a successful transition.

Briefly about the company

The company, let's call it XYZ Company, is constructing buildings and roads. It has 500 employees and conducts its business at different locations. XYZ Company implemented ISO 9001:2000 in 2002, and because the 2008 version of the standard didn't bring too many changes, the company kept the existing documentation and only made the changes to reference the new standard.

When the standard was implemented for the first time, the company had only 50 employees, but since then, it has grown significantly, expanding the type of business and number of locations. Now, the company has three main divisions: building construction, road construction, and engineering. The existing Quality Management System is process-based and there are no requirements that are excluded from the scope of the QMS.

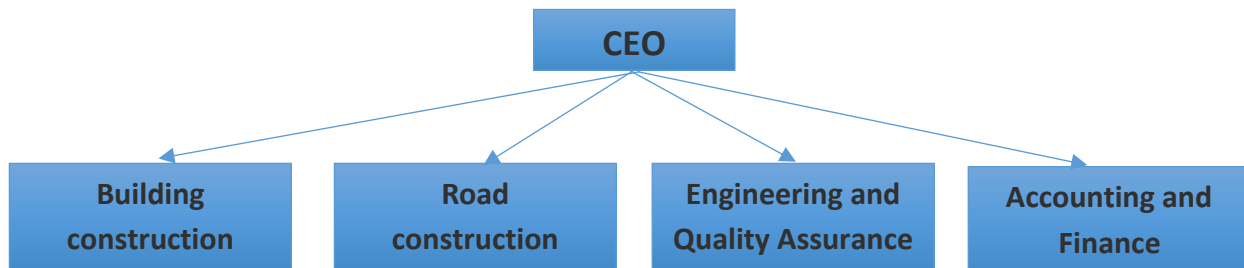


Figure 1: Organizational chart of XYZ Company

Defining the timeframe and options for the transition

The next surveillance audit for ISO 9001:2008 was scheduled for June 2016, leaving only three months for the transition project. Considering that the Quality Assurance Manager was the Management Representative for ISO 9001 and the only person who was dealing with the QMS, his suggestion was to align the QMS with ISO 9001:2015 for the recertification audit in the next year, leaving him enough time to acquire know-how for the transition project. His suggestion was to do the transition by himself in order to save the company some money.

Although the CEO liked the idea of saving money, his concern was that the Ministry of Defense, as their main customer, would not let them prolong the transition because they had already insisted on aligning the QMS of the company with ISO 9001:2015 as soon as possible. On the other hand, the company recently had big investments in equipment and had low cash flow, so hiring a consultant was not an option.

The constraints, in terms of time and finances, required a creative approach to the problem, so the top management of the company decided to leave the decision about beginning the transition project for later and tasked the Quality Assurance Manager (QAM) with finding a fast, cost-effective solution.

After a few days of “googling” and research, the QAM approached the top management with a solution. He suggested utilization of one of the numerous solutions available online, and insisted on higher engagement of relevant people in the project. His idea was to employ “ready-to-use” documentation templates, and to run the transition as a project by assigning responsibilities for certain activities to the relevant people. In this way, they would spare some time on technicalities and multiple people could finish different activities at the same time. (For more information on the timeframe needed for the implementation, see: [How long does it take to implement an ISO 9001-based QMS?](#))

Developing a Project Plan for the transition

The CEO was chosen to be the sponsor of the transition project, considering the importance of the transition for the company, and the QAM was the Project Manager.

The first step for the Project Manager was to determine how much work was ahead, so he decided to conduct a gap analysis to determine to what level the company was already compliant with the standard, and what needed to be done to achieve full compliance. Then, he needed to make an estimate and see how many people he really needed on the project. (For more information about the gap analysis, see: [Should you use a gap analysis in your ISO 9001 implementation?](#))

The [gap analysis](#) showed that there were many documents to be updated in order to be aligned with ISO 9001:2015, and some additional processes needed to be implemented, such as determining context of the organization and addressing risks and opportunities. Also, during the gap analysis, the QAM identified many areas of the QMS that could be optimized, although there were no changes in requirements.

According to the gap analysis findings, the QAM assembled a transition team that included heads of each department and responsible persons for each process in the company. Each was given their role in the project and assignments for different tasks; the deadline for the project was June 2016. The tasks included writing new documents, updating old ones, and updating and developing new processes.

Activities related to clauses 4, 5, 6, and 7 were assigned to the QAM and the top manager, while the rest of the team dealt with the clauses of the standard related to their processes.

Transition project

The QAM presented the top management and the transition project team with Advisera’s 12-step transition methodology. Each of the steps in the methodology was assigned to the relevant person. For more information about the transition methodology, see: [How to make the transition from ISO 9001:2008 revision to the 2015 revision](#).

1) Determine context of the organization

Considering that determining context of the organization was a new requirement and the QAM didn’t really know what to do or where to start, he decided to call the top management and the transition team to participate in determining the context.

They decided to approach the requirement with a SWOT analysis. Each person in the top management and the transition team would conduct the analysis independently, and the results would be merged into a single document afterward.

Strengths	Weaknesses
<ul style="list-style-type: none">• Modern equipment• Competent employees• Long-term contracts and steady income• Experienced employees	<ul style="list-style-type: none">• High dependence on one customer• Employee shortage• ISO 9001 certificate according to old version of the standard• Small number of nongovernmental contracts
Opportunities	Threats
<ul style="list-style-type: none">• Getting higher number of nongovernmental contracts• Increasing competitiveness by getting ISO 9001:2015 certificate• Expanding contract with Ministry of Defense	<ul style="list-style-type: none">• Losing contract with Ministry of Defense• Failing to meet deadlines for projects due to shortage in manpower• Failing ISO 9001:2015 certification

Figure 2: SWOT analysis

For more information about determining the context, see: [How to identify the context of the organization in ISO 9001:2015](#).

2) List all interested parties

As a part of determining context of the organization, the same team was involved in identifying interested parties. They focused only on the interested parties and grouped them according to their requirements. Because some interested parties were more important than others, they decided to record these as separate entries in the list of interested parties.

Interested party	Needs and expectations	Responsible person
Ministry of Defense	<ul style="list-style-type: none"> Meeting deadlines ISO 9001:2015 certification 	Building Construction Manager Quality Assurance Manager
Ministry of Labor	Occupational Health and Safety regulations	Building Construction Manager Road Construction Manager
Ministry of Commerce and Transportation	Regulations for road construction	Road Construction Manager
Subcontractors	High-quality and timed provision of raw materials	Purchasing Manager
Employees	Adequate working environment and personal protective equipment	Building Construction Manager Road Construction Manager Purchasing Manager

Figure 3: List of interested parties

As an addition to the list of interested parties, the company decided to add a responsible person for each need and expectation. For more information about interested parties, see: [How to determine interested parties and their requirements according to ISO 9001:2015](#).

3) Determining the scope of the QMS

The company hadn't changed the scope of the organization since the first implementation of the standard, because the projects related to the Ministry of Defense were related only to building construction, so the scope of the QMS was limited only to this and other relevant departments.

However, the company aimed to expand its contract with the Ministry of Defense to also cover road construction. In order to seize this opportunity, the company needed to expand the scope of the QMS to include the road construction process.

For more information about the scope of the QMS, see: [How to define the scope of the QMS according to ISO 9001:2015](#).

4) Demonstrate leadership

Meeting the requirements regarding leadership was always tricky, because most of these requirements should be met through actions rather than documentation. The top management of the company never really had time to get involved in the QMS, and their lack of knowledge on the topic prevented the top management from releasing the full potential of the QMS in the company.

Having a chance to implement the standard by themselves, each manager from the company got a better understanding of the standard and therefore got better insight on how the standard could help them in their line of work. The Quality Policy was updated, through a joint effort from the top management and the transition team, to meet all requirements of the standard. After the final approval of the CEO, it was published on the website and read to the employees.

For more information about leadership requirements, see: [How to comply with new leadership requirements in ISO 9001:2015](#).

5) Align QMS objectives with the company's strategy

Because the top management didn't play an important role in the QMS in previous years, the objectives were written mostly by the QAM, who usually just copied the objectives from the previous years. The objectives were always written in a way that allowed easy fulfillment; so, on the surface, all looked good.

Now, the top management decided to give it a shot and define real objectives for the QMS, challenging both the middle management and the company itself. Involvement of the top management in defining quality objectives ensured that they were aligned with the company's strategy and general direction.

The new version of the standard requires a new approach to defining objectives; besides defining SMART objectives, the company must also define plans for achieving those objectives. The QAM developed the framework for planning achievement of the objectives; for each objective, the plan included defining the responsible person, a set of activities that would lead to achievement of the objective, necessary resources, and deadlines.

QMS objective	Plans for achieving the objective				
	Deadline	Responsibility	Action to achieve the objective	Resources needed	Evidence of the objective achievement
Decrease the number of nonconformities on construction sites by 20%	December 2016	Building Construction Manager	Apply operational controls and perform regular trainings for the employees	Human resources	Registry of nonconformities
Expand contract with Ministry of Defense (MoD) to include road construction	September 2016	Sales Manager	Get ISO 9001:2015 certificate; Apply to MoD tenders	Human resources; \$1000 for know-how for the transition; \$10,000 for certification	New contract with MoD
Increase customer satisfaction by 20% compared to last year	December 2016	Road Construction Manager	Meet all deadlines in the project through enhanced project planning	Human resources	Performance of road construction process

Figure 4: Quality Objectives and Plans for their Achievement

Once the objectives and plans for their achievement were defined, the QAM presented them to the relevant people in the company.

For more information about defining quality objectives, see: [Aligning quality objectives of the QMS with the strategic direction of the company](#).

6) Assess risks and opportunities

Considering that all relevant people in the company participated in determining context of the organization, the risks and opportunities became clear from the start. Due to the short amount of time for the transition project, the transition team decided not to define methodology for addressing risks and opportunities, but to arrange a brainstorming session with the top and mid management and talk about the risks and opportunities in the company as a whole, and at the process level. The team decided not to write a [procedure for addressing risk and opportunities](#), but rather to only create a [Registry of Key Risks and Opportunities](#), which contains information about the risks and opportunities, risk owners, and details about actions to be taken to address the risks and opportunities.

As an input for the identification of risks and opportunities, they used the previously determined context of the organization, records about previous nonconformities and customer complaints, and customer satisfaction survey results. This allowed them to identify all risks and opportunities relevant to the QMS and to distinguish them by their significance to the company. After the significant risks and opportunities were defined, they made plans for addressing risks and opportunities in a manner similar to their plan for achieving quality objectives.

For more information about risks and opportunities, see: [How to address risks and opportunities in ISO 9001](#).

7) Control documented information

The company had one procedure for document control, and another one for record control. They were rather long, with an overly robust document coding system and approval and withdrawal process. The rules for document and record control were too complicated and rarely used, which often led to noncompliance and nonconformities in the past.

Having in mind the amount of documentation the company used on a daily basis, the QAM decided to keep the [Procedure for Document and Record Control](#); he just updated it to meet the requirements of the new standard and merged the two existing procedures into one.

For more information about document management, see: [New approach to document and record control in ISO 9001:2015](#).

8) Operational Control

The existing QMS was created according to the “document all you do” approach, and the key processes were explained with a great amount of documented procedures and work instructions. Soon, they

realized that replicating the same approach would take too much time for the processes to be introduced into the scope of the QMS. The only way to resolve this issue was to try a different approach.

The QAM decided to look into the standard and see what exactly the standard required, instead of just copying the old approach. He decided to first determine the requirements for the products they provided, and sufficient information already existed in the QMS documentation. Then, with the help of relevant process owners, he decided to define the criteria for each process, meaning defining the activities, monitoring and measuring, and resources. Considering the level of competence and experience of the employees working in each process, the QAM and the process owner decided what documented procedures and work instructions were really needed, and what could be discarded.

Because most of the employees had worked in the company for a long time, they didn't really need too many documents. Most of the work instructions turned out to be redundant, because the employees had sufficient levels of experience and knowledge to manage their responsibilities without such written instructions; on the other hand, trainings were regularly delivered to the employees to ensure that they were competent for the work they did. The QAM and the process owners observed the processes and determined which activities were too complex, and where the nonconformities were most likely to occur, and decided to have work instructions only for such activities. In the revised QMS, the processes were documented by using [Quality Plans](#), where they defined the activities, resources, responsibilities, monitoring and measuring activities, and reference documents for each process. Considering that the construction of buildings and roads were the most important processes, the QAM and the process owners decided to document a [Procedure for construction process](#) for these two processes.

9) Review the design and development process

The design and development process needed significant updates to become aligned with ISO 9001 requirements regarding design and development. Very often, the engineering department was at fault for delays and failure to meet deadlines. The design and development process was too complicated and lacked the appropriate controls to ensure delivery of quality outputs.

The process owner was aware of the issues and readily accepted the task of updating the process. He started from planning the design and development and defining all inputs for the planning, from considering the nature, duration, and complexity of the design and development activities to defining what documented information would be needed to demonstrate that design and development requirements had been met.

An effective design and development process required determining the requirements essential for the specific types of construction to be designed and developed, design and development process controls, and outputs. The design and development process was often interrupted by frequent changes in requirements, so the process owner decided to document in detail how the changes would be identified, reviewed, authorized, and executed, including activities to avoid adverse effects from the changes.

For more information, see: [The ISO 9001 Design Process Explained](#).

10) Control of external providers

The company had two types of external providers: suppliers and subcontractors, and both groups had been a source of mishaps on the construction sites. Suppliers often didn't provide MSDS (Material Safety Data Sheets) or provided the wrong type of raw materials, while subcontractors had many accidents on the construction site and failed to comply with health and safety regulations, which led to increased costs of construction and a substantial number of fines issued by authorized inspection bodies.

The purchasing process desperately needed revision even without the transition. The purchasing manager wasn't able to handle the process update alone, so the QAM offered to help. First, they decided to systematize and update the requirements for externally provided processes, products, and services in order to ensure that they conformed to the requirements of the company.

They determined controls to be applied to suppliers and subcontractors to ensure that the provided products and services were compliant with previously defined requirements. For suppliers of raw materials, they defined a requirement for providing MSDS sheets as a condition for accepting the raw materials; and for subcontractors, the purchasing manager and the QAM defined a set of rules and work instructions to ensure that they were compliant with occupational safety and health regulations, including regular trainings and awareness-raising sessions.

For more information, see: [How to control outsourced processes using ISO 9001](#).

11) Performance evaluation

The CEO always wanted to have a system of monitoring and measuring that could provide information on the overall condition of the company and process performance. Internal audits were perceived to be an overly robust and complicated approach, because they took too much time and effort, and because he really didn't need such comprehensive reports. But, he needed some information on these topics at a more frequent pace.

The QAM developed key performance indicators (KPI) for each process to determine its performance, and the CEO required reports on the process performance to be produced on a monthly basis. This is not a requirement of the standard, but it had proven itself as a useful tool for getting a clear picture on what was going on in the company.

For more information, see: [How to define Key Performance Indicators for a QMS based on ISO 9001](#).

12) Measuring and reporting

The quality assurance was part of the engineering department, and it had always consisted of only one person. The QAM emphasized that he needed help in this area, especially when it came to the internal auditing and preparing reports for the top management. The CEO approved [internal auditor training](#) for all process owners in order to speed up the internal audits, and also to avoid situations where the internal auditor audited his own work. (For more information, see: [Five Main Steps in ISO 9001 Internal Audit](#).)

The system slowly started to fall into place, and after monitoring and measuring key performance indicators, customer satisfaction, and performance of suppliers and subcontractors, the inputs for effective management review started to become evident. After the internal audit was conducted and an [internal audit report](#) was issued, all necessary data for the management review was ready.

Certification audit

The results of the internal audit and management review were satisfactory and demonstrated success in meeting the requirements of ISO 9001:2015. The CEO felt much more confident and decided to contact the certification body even earlier than was defined in the project plan. To his surprise, their old certification body hadn't yet gained accreditation for ISO 9001:2015. So, they needed to hire another certification body only because they needed the certificate as soon as possible.

After creating a survey and gathering offers from different certification bodies, the QAM presented the CEO with the three best offers. The CEO decided to hire a local certification body that had received its accreditation recently and was eager to do the certification audit as soon as possible. (For more information, see: [How should you pick an ISO 9001 certification body?](#))

The certification audit passed with a lot of nervousness, but the certification auditors didn't have any major remarks on the system and after resolving some small nonconformities, the company got the certificate.

Conclusion

The transition was a success and it brought many unexpected improvements to the existing Quality Management System. Adopting the new standard early sent a clear message to existing and prospective customers – that the company was taking a leading, innovative, and proactive approach to quality management through new management systems.

Clearly, it is better to start working on the transition sooner, rather than later, to gain early benefits of the new standard and to improve business performance.

Sample documentation toolkit

You can download a preview of the [ISO 9001:2015 Transition Documentation Toolkit](#). This will allow you to see a sample of the policies and procedures required to make the transition to the ISO 9001:2015 standard and see what changes should be made to your existing documentation.



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