

The Three Keys to Six Sigma Success



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Introduction

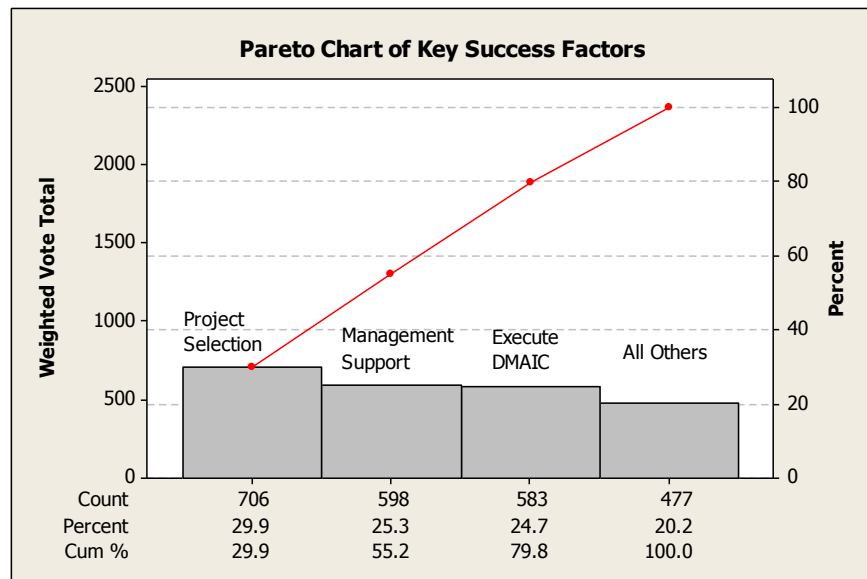
Let's say you're leading a Six Sigma project. You find it exciting and challenging, even a little stressful. Your company has invested a great deal of time, effort, and money in its Six Sigma program. Expectations for your project are high: challenge the status quo, transform the process, and boost the bottom line. Naturally, you ask yourself, "How can I make sure my Six Sigma project will be successful?"

Ask 10 experienced Six Sigma practitioners that same question and you're likely to get 10 different answers. But, what would happen if you asked that question of 100 practitioners? 200? Would common themes emerge? Would some concepts predominate? Could you and your company capitalize on them?

Minitab surveyed nearly 200 Six Sigma practitioners at all skill levels from major companies across the U.S. and discovered three key principles for Six Sigma project success:

- Pick the right project
- Get good management support
- Execute the DMAIC method

This **Pareto chart** shows 80% of the survey responses was concentrated in these three categories. The remaining 20% was distributed among 36 other success factors.



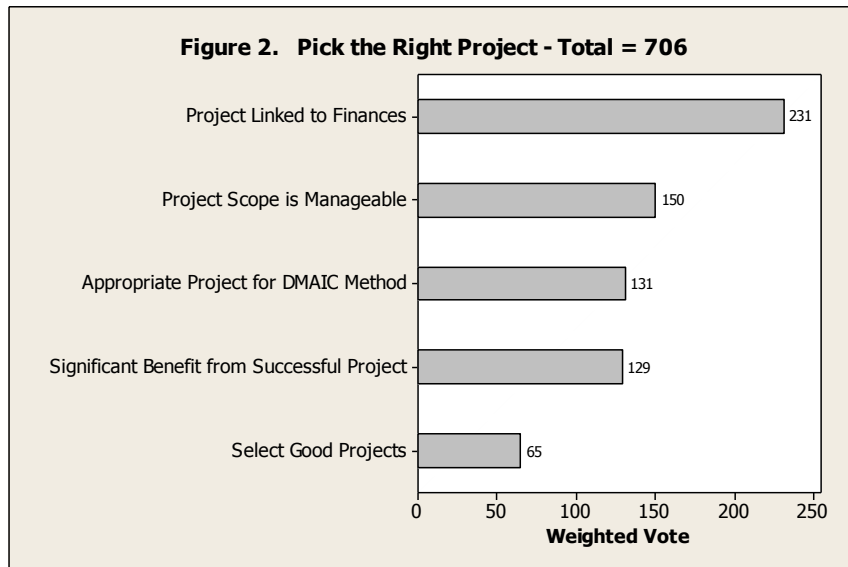
This document explores these three principles and demonstrates how the unique capabilities of **Quality Companion by Minitab®** and its essential utility, the **Quality Companion Dashboard**, can help you select projects that are appropriate for the DMAIC method and secure valuable leadership support.

Quality Companion – it's the best thing since Minitab®.



Pick the Right Project

The widely publicized, million-dollar savings of Motorola, Xerox, and General Electric might lead a newly trained Six Sigma practitioner—from Green Belt to Champion—to believe that implementing Six Sigma is a guarantee of success. However, experienced Six Sigma team members tell a different story. They know first-hand that selecting the *right project* is a critical, early step to success.



What is the *right project*? The survey results above indicate that a project’s connection to finances—to a company’s bottom line—is a very important factor in the equation. When you can effectively establish and communicate a project’s favorable impact on company profits, you help reinforce its potential benefits.

Analyzing financial information is an important step to take early in a Six Sigma project.

In Quality Companion, a Project Financial Analysis can help you quickly estimate your gross pre-project savings and report your final figures once you’ve implemented a solution.

You can add and delete rows of data depending upon reporting expectations and then save those changes as a standard template.

Project Financial Analysis - [Transactional]

Cost of Goods Sold Reduction	Estimate (\$/Mon)	Final (\$/Mon)
Direct labor	\$55,000	\$57,000
Variable overhead	\$15,000	\$18,000
Material		
Customer concessions		
Total	\$70,000	\$75,000

Support and Fixed Overhead Reduction	Estimate (\$/Mon)	Final (\$/Mon)
Reduction of indirect staff (salary and benefits)	\$7,000	\$11,000
Reduction of leases, fees		
Reduction of maintenance costs		
Total	\$7,000	\$11,000

Section of a Quality Companion Project Financial Analysis

A second factor is the size and focus of your project. The expectation of tremendous gains from Six Sigma often leads to initiating projects too large in scope to be manageable. Of the Master Black Belts surveyed, many warned about projects with a scope equivalent to “boiling the ocean”. The truly successful project is large enough to significantly improve the process, but still small enough to be manageable.

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A SIPOC is a high-level process map that defines the scope of a process and helps identify potential projects by isolating areas that need improvement.

SIPOC	
Prepared By:	Date:
Sue Jordan	5/1/2008
Project:	
Reduce Claims Cycle Time	

How to fill out the SIPOC

A SIPOC helps answer questions about where a process starts and ends, its major steps, primary inputs and outputs as well as the key internal and external customers and suppliers.

Suppliers	Inputs		Process	Outputs		Customers
	Description	Requirements		Description	Requirements	
Hospitals	Medical claim	Completeness	Receive claims package	Accurate amount	Hospitals	
QA	QA completeness stamp	Date/time stamped	Check for completeness	Timeliness		
			Process claim	Confirmation email	Hospitals	
			Add claim to mainframe database	Claim data	No errors or missing data	
			Compile all claims at end of shift		IT	
			Check for data errors			
			Generate check			
			Generate confirmation e-mail			

Quality Companion SIPOC

A SIPOC also helps identify whether the project's objectives will require too large a change to be achieved.

Finally, choosing a project most likely to benefit from the DMAIC approach is essential to success. That is, a project with a measurable defect or one that would allow any changes to the process to be measured accurately. A project may be important and even beneficial for your company, but may not meet the criteria to be a Six Sigma project. The added challenge may be that you have dozens—if not hundreds—of projects to choose from. Where do you start?

Project Risk Assessment

Scope / Definition of Project

Weight	Evaluation Criteria	Answer	Risk Score
1	The project has a clearly identified customer	No	10
2	The project has a clearly definable defect	Yes	2
9	The defect can be effectively and accurately measured	Probably	27
2	The defect metric can be defined at the opportunity level	Maybe	8
1	Costs can readily be associated with the defect	(choose)	*
1	Defects are of an ongoing nature	(choose)	*
1	The process to be improved has reasonably high output volume	Yes	*
1	The project can be completed in a timely manner	Probably	*
1	The project has only one defect (one DPMO)	Probably Not	*
1	The project will involve only one product	No	*
1	The project will involve only one product	(choose)	*
1	Project improvements will not depend on modifying operations outside of	(choose)	*

Section of a Quality Companion Project Risk Assessment

Consider the powerful combination of a Project Risk Assessment and Project Prioritization Matrix.

A Project Risk Assessment will support your evaluation of whether a potential project can be brought to successful completion on time. Quality Companion's Project Risk Assessment provides you with a standard set of evaluation criteria for any Six Sigma Project.

Once you've established the level of risk, a Project Prioritization Matrix may be used to logically select optimal projects.

The Matrix helps prioritize a project pipeline according to the criteria that are important to your organization so that you can select the project which will return the greatest value to the company.

A total value for each project is calculated and plotted against an ease of completion to determine which projects have the most value for the effort expended.

Project Prioritization

			Importance of Each Criteria					
			8	4	2			
			Customer Satisfaction	Financial Benefit	Portability			
Selection Criteria								
Project ID	Location / Process	Project Name				Weighted Value by Project	Ease of Completion	Value * EOC
a	Claims processing Claims division	Reduce claims cycle time	9	4	7	102	7	714
b	Claims processing Claims division	Reduce incoming claims errors	2	5	8	52	3	156
c	Claims processing Claims division	Reduce outgoing claims errors	5	5	5	70	5	350
d	Claims processing Claims division	Reduce remote transfer ratio	1	6	7	46	2	92
Weighted Effect on Each Criteria			136	80	54			

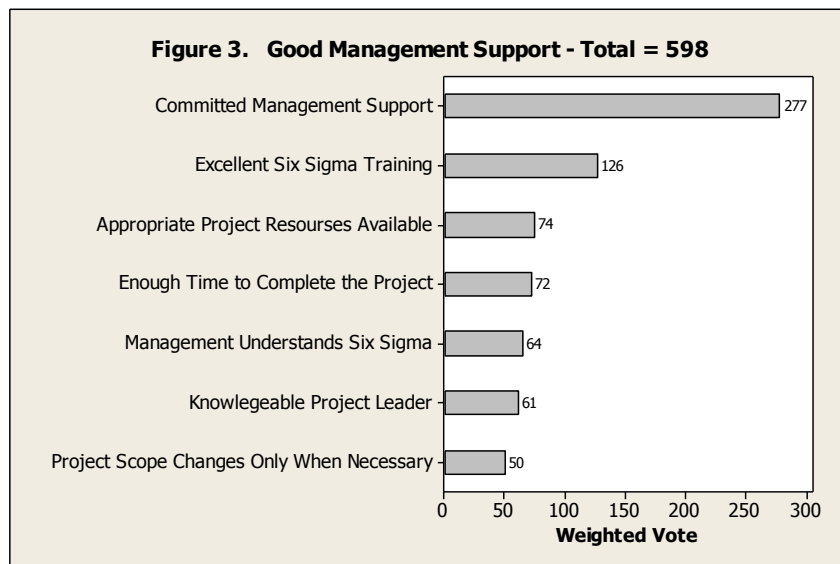
[1 = Hard]
[10 = Easy]

Section of a Quality Companion Project Prioritization Matrix

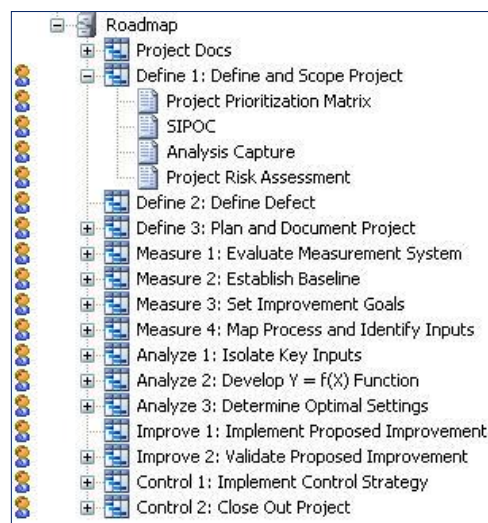
Good Management Support

Essential support from corporate management goes beyond providing Six Sigma teams with the needed resources (time, money, people, etc.). Management committed to a Six Sigma project ensures ongoing comprehensive communication throughout the entire organization for the life of the project—beginning to end. Who is involved? What's the goal? Can you meet the goal? What can each employee do to help?

Our survey of 200 Six Sigma practitioners identified seven factors that, in combination, are the best definition of what it means to manage teams—and manage them well. Good management is ready to provide resources, time, training, understanding and the willingness to support the need for limits.



As good management support includes supplying their teams with the right training and tools, many Six Sigma practitioners are discovering that the key tool they can provide is Quality Companion. Its all-in-one design allows project teams to rely on a single application to organize, standardize and execute Six Sigma projects.



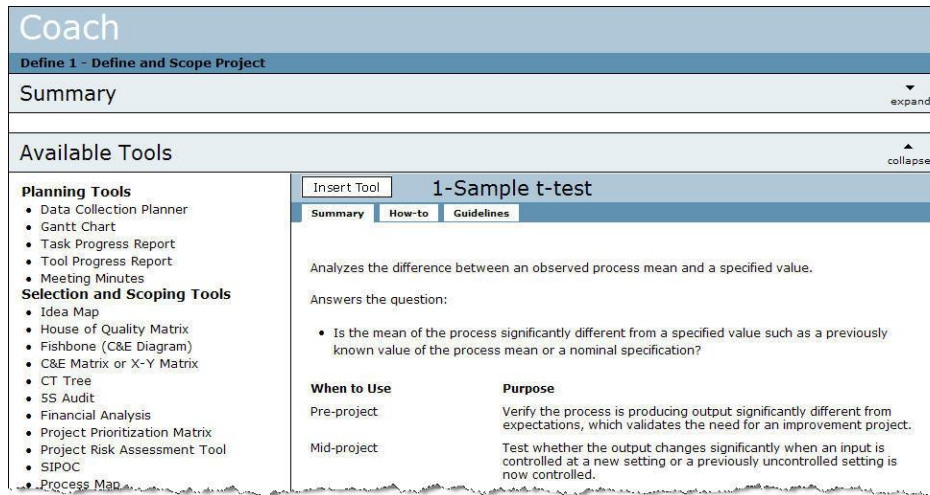
Quality Companion's Roadmap™ is a launchpad for project-based soft tools and forms. Each resource can be added to the Roadmap within discreet phases to keep teams on track and on time.

The customizable Roadmap is delivered with a DMAIC template to get you started. If your team has additional steps, simply add them and create your own business template for future projects. The Roadmap helps guide team members to do the right things at the right time.

Six Sigma training is intense and complex. What makes sense in the classroom may be lost when trainees return to work. On-the-job guidance and reminders of Six Sigma principles would be helpful to management, project leaders, and team members.

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Quality Companion Coaches offer on-demand guidance for built-in tools and Roadmap phases as well as support in completing data analysis functions in Minitab Statistical Software. Written by Six Sigma experts, Coaches provide just-in-time support to all levels of Belts whenever they need it.



Portion of a Quality Companion Coach on how to Define and Scope a project

In return for increased and ongoing support, management expects results. Experts in the implementation of Six Sigma, Ron Snee and Roger Hoerl, see project tracking and review as critical to any Six Sigma effort¹. Project details—and snapshot status information—should be presented concisely and in a standardized format.

Quality Companion's Presentation tool allows you to quickly and easily create a snapshot of a project at a specific point in time and turn it into a slideshow within Quality Companion or export it all to PowerPoint. The Presentation may include data, tools, pictures, logos and any content that you can copy and paste.

The free Quality Companion Dashboard utility provides a summary view of multiple Quality Companion project files for stakeholder review.

The Dashboard aggregates project details including financial data and each project's progression toward goals and displays them on one screen. Customize columns and use filters to view only the data in which you are most interested.

The Dashboard is an essential tool that offers a quick and easy way to assess your entire Six Sigma deployment.

The screenshot shows the 'Quality Companion Dashboard' interface. It includes a 'Summary' section with financial data and a 'Projects' table. The 'Summary' section shows 8 projects in the folder list, updated on 4/4/2008. The 'Projects' table lists various projects with their leaders, due dates, and financial metrics.

Summary						
Projects	Finance (Estimate)		(\$)	Finance (Final)		(\$)
All Projects	In Progress:	Avg over 12 mo.	Completed Projects	Avg over 12 mo.		
Total:	8	Hard Savings:	1,808,000	Hard Savings:	26,375,000	
Completed:	3	Soft Savings:	21,800	Soft Savings:	30,000	
In Progress:	5	Implementation Costs:	122,200	Implementation Costs:	182,000	
Past Due:	3	Net Savings:	1,685,800	Net Savings:	26,193,000	
Average Duration(days):	75.67			Final - Estimated Net Savings:	22,829,000	

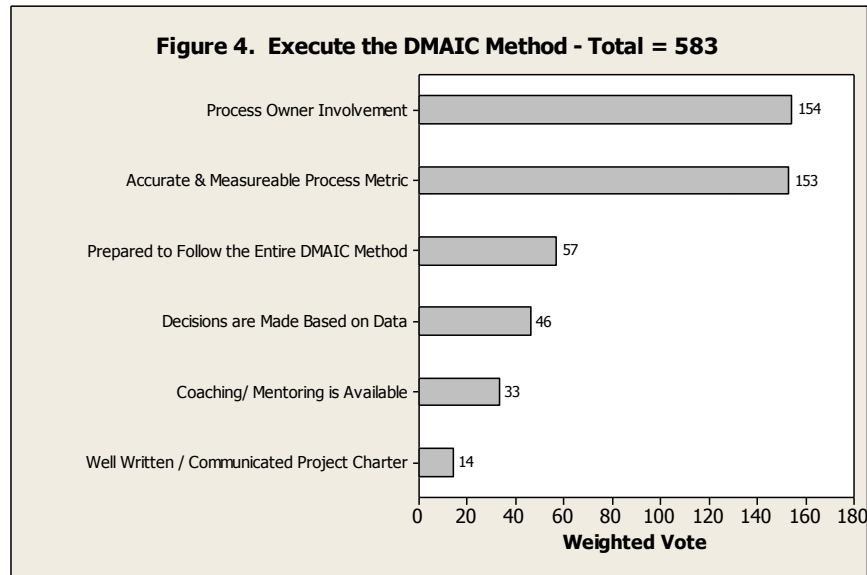
Projects						
Project Name	Project Leader	Due Date	Zbench(ST) Baseline	Zbench(ST) Final	Hard Savings (Estimate)	
CT Scan Throughput	Shelly Johnson	2/29/2008	1.70	2.60	250,000	
Customer Identity Verification	Sailor Ripley	12/31/2008	1.80	0.00	750,000	
Damaged Inventory	Cyril Playfair	3/31/2008	2.70	0.00	200,000	
Electric Load Forecasting	Dorothy Vallens	3/31/2008	0.75	1.79	250,000	
Improving Engine Disassembly	Norma Jennings	3/20/2008	-1.30	2.10	3,000,000	
Membership Renewal Rate	Harry McKnight	3/28/2008	1.30	0.00	12,000	
Wave Solder Process Improvement	Sean Thornton	4/30/2008	3.20	0.00	300,000	
Website Response Time	Mick Harvey	3/28/2008	-1.07	0.00	546,000	

Request the Quality Companion Dashboard

¹Snee, R. D. and Hoerl, R.W., Leading Six Sigma, A Step-by-Step Guide Based on Experience with GE, and Other Six Sigma Companies, FT Prentice Hall, Upper Saddle River, NJ, 2003.

Execute the DMAIC Method

Six Sigma works if you know where you're going. The DMAIC method is the roadmap of choice among many Six Sigma practitioners because it provides an established route to follow. The bar chart below lists some of the vital keys to success associated with the DMAIC method:

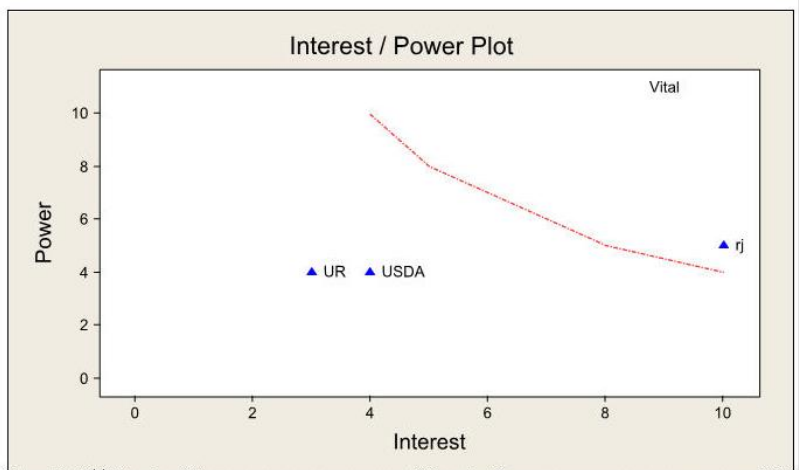


All these inputs are important to the DMAIC method and, ultimately, the success of your project. Leveraging these fundamentals should serve you well.

Active process owner involvement is best secured and supported with a well-written Project Charter that defines your project and ensures understanding of your goals across the organization. To build even further on that support and understanding, consider using a Stakeholder Analysis.

A Stakeholder Analysis will help identify the key supporters (those who are active, interested, and powerful) that can help advance the project so that you may keep them informed while you leverage their support. Also, it can help identify the key opponents that could negatively affect the project so that you can attempt to address their needs or objections.

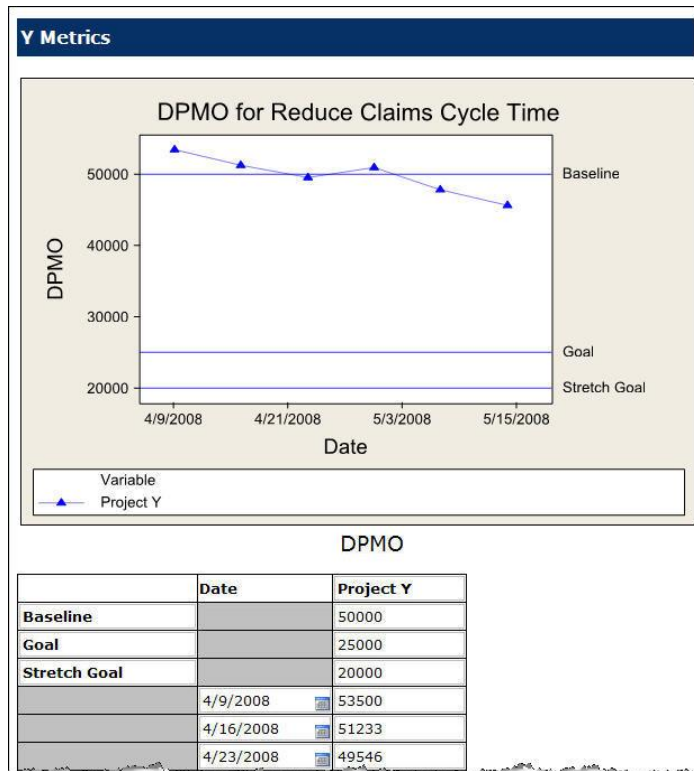
Stakeholder Analysis								
Stakeholder Categories	Relevant Stakeholders	Code	Attitude	Activity	Attitude Rating	Power	Interest	Power Rating
Direct Management	Ralph Johnson	rj	10	10	100.00	5	10	50.00
Final Customer	USDA	USDA	0	1	0.00	4	4	16.00
Workforce	Union Rep	UR	6	8	48.00	4	3	12.00



Portion of a Quality Companion Stakeholder Analysis

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Decision making based on data—at the core of the DMAIC method—is a two part process. First, identify an accurate and measurable process metric. If you don't have the right metric, how will you know if your project is progressing? This metric must be important to the entire organization, not just the project team.



Portion of a Quality Companion Y Metrics tool

The Y Metrics tool in Quality Companion helps communicate the key measure of your project's progress to all levels of your organization. The Y Metrics Baseline level, goals and project milestones are just one click away within the Quality Companion project file.

Second, determine which X's drive the Y metric with careful data collection and analysis. Quality Companion's Analysis Capture Tools help you implement the results of your data analysis.

Additionally, tools designed to collect team members' experiences and new ideas such as process maps, brainstorming tools and cause-and-effect diagrams are an important part of data-based decision making. Quality Companion makes these knowledge-based tools easy to create, easy to understand and readily accessible.

Finally, Snee and Hoerl² advise against the urge to skip a step in the DMAIC process. While you probably won't need to use every Six Sigma tool as you progress, you should still meet the requirements of each step along the way. Understanding the concepts behind Six Sigma and how to carry out each step is important to completing the DMAIC method.

Conclusion

Successful completion of your Six Sigma project is not guaranteed, but it shouldn't be a mystery either. The voice of experience advises you to focus on three key principles: pick the right project, get good management support, and execute the DMAIC method. As identified by practitioners across the U.S., these three principles comprise nearly 80% of why Six Sigma projects succeed; and Quality Companion provides the organization, tools and guidance you need for a successful Six Sigma program.

Visit www.QualityCompanion.com to view a [five-minute Tour](#), download a free [30-day Trial](#) and see how Quality Companion by Minitab can help you execute your Six Sigma projects.

² Snee, R. D. and Hoerl, R.W., "Six Sigma, Beyond the Factory Floor", FT Prentice Hall, Upper Saddle River, NJ, 2004, p207.