

Chapter 1 : James Madison University - Lean Six Sigma

Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process -- from manufacturing to transactional and from product to service.

Lean Six Sigma is a powerful, deployment strategy for business process improvement in order to increase efficiency and effectiveness. The key principles used include: It is a rational decision-making approach to business process improvement. Each level of the organizational hierarchy has roles and responsibilities. They understand problem-solving, data collection, data interpretation, variation, process capability, and cost analysis. Green Belts often assist Black Belts on larger initiatives and lead smaller-scale projects. Black Belts are expected to identify opportunities, lead initiatives, and coach Green Belts. Master Black Belt responsibilities include training and mentoring Black Belts and Green Belts, helping prioritize initiatives, and selecting or chartering high-impact projects. Champion Lean Six Sigma Champions provide support, resources and remove road-blocks during projects. Champions have an understanding of six sigma methods, measurements, and business processes. Improvements can only happen with a champion. Typically your employer will serve as your project champion. Lean Six Sigma Green Belt With Lean Six Sigma Green Belt certification, you will be prepared to support organizational change through project management, communication, and technical process improvement. After earning your Six Sigma Lean Green Belt certification from JMU, you will be able to quantify deliverables to an organization in terms of cost, quality, cycle time, or safety improvements. A project begins with a problem requiring a solution. The work completed in the Define stage is based on identification of the problem. Brainstorm, and then ultimately select the most appropriate solution to your problem. Apply your solution to test its effectiveness. To ensure our graduates are qualified for employment after earning a Lean Six Sigma certificate and are prepared for the challenging education in this program, we require: Either at least four years of professional work experience OR a four-year degree in any field, and: For example, we use the Case Study approach for assignments based on real business world issues. Participants will often work in teams on the scenarios and activities. Green Belts are capable of leading projects that are smaller in scope i. Lean Six Sigma Black Belt Lean Six Sigma Black Belt certification from JMU demonstrates to an employer that you are trained in advanced problem-solving skills and the statistical tools necessary to effectively lead process improvement. Implement Six Sigma philosophies, principles, and related systems and tools; describe their impact on various business processes Recognize organizational roadblocks and use change management techniques Define benchmarking and utilize various financial and other business performance measures Identify customer requirements and describe the impact that Six Sigma projects may have on various types of customers Demonstrate understanding of project charter elements and use various tools to track progress Demonstrate basic understanding of data collection techniques, process elements, and process analysis tools Perform hypothesis testing and analyze results Design experiments and analyze results Develop control plans and use various tools to maintain and sustain improvements Assign team members roles and responsibilities Value The value of enrolling in our online Lean Six Sigma Black Belt course extends beyond the all-inclusive program format. Along with passing the final exam, you must complete a project in order to demonstrate your ability to apply Black Belt principles. These two components will prepare you to effectively apply Lean Six Sigma Black Belt concepts at your respective company. Not sure if you will have a project idea for class? A Lean Six Sigma Black Belt from JMU communicates to an employer that you have been trained in advanced problem-solving skills and the statistical tools needed to effectively lead process improvement projects. The format of this course is well suited for those who want to further their development while continuing to work full-time. He has taught over students and employees in academia and companies. Ben holds a Ph.

What Is Six Sigma? Six Sigma is a set of methods and tools to improve business processes. The practice provides a data-driven, statistical approach to identifying defects, determining their causes, and improving the process to avoid continuous create errors and defects.

Learn from experts every month for free Valuable information direct to your email Easy to read and you can cancel anytime This iframe contains the logic required to handle AJAX powered Gravity Forms. About Six Sigma Welcome to 6Sigma. Six Sigma is a methodology used to improve business processes by utilizing statistical analysis rather than guesswork. This proven approach has been implemented within a myriad of industries to achieve hard and soft money savings, while increasing customer satisfaction. We can help your company determine the right individuals for training and how to choose potential projects. Processes are improved by controlling variation and understanding the intricacies within them. This results in more predictable and profitable business processes. Champions Are Company executives who lead Six Sigma by backing projects. Individuals who receive instruction regarding the basic principles of Six Sigma and its methodology. Those who implement and back the introduction of Six Sigma within the firm. Those who will advise and instruct Green Belts and Black Belts. Professionals with widespread project management knowledge. Masters of Six Sigma Methodologies with proven track records. Individuals with an advanced understanding of the Statistical Tools used within Six Sigma. Prospective leaders of a corporation. Individuals who receive one-week to four-week training sessions that provide them with an opportunity to progress through his or her project as the skills are learned. Individuals who successfully complete all required training, exams, and a live project. This training will include an extensive look at statistical methodologies. Six Sigma Projects – Nonprofit Example Project The project should be a process or problem that is not functioning properly without a clear reason. This will vary based on company size. Using the Six Sigma road map and the DMAIC method as a guide, this 4 to 6 month project should result in improved organizational knowledge and financial savings. The finance or accounting department should sign off on any Six Sigma project savings.

Chapter 3 : About Six Sigma | Six sigma Training and Certification | 6 Sigma

Six Sigma (6σ) is a set of techniques and tools for process www.nxgvision.com was introduced by engineer Bill Smith while working at Motorola in Jack Welch made it central to his business strategy at General Electric in

Take the free tour Learn All About Lean Six Sigma Companies that make use of the Six Sigma Training method get to know that a lot of the defects are usually made at the time a process is designed. As the processes of the companies start to go over the initial few sigma, they come across a problem where redesigning a few or all of the processes are required. This is an approach to design company processes and procedures from the start to make certain that they produce quality services and products that meet or exceed the expectations of the customer. This kind of training teaches an organized approach that decreases value stream waste. It does not just consider defective products, but also other kinds of problematic re-work. It recognizes overproduction, defects, movement of people that is unnecessary, unnecessary processing, inventories, waiting, unnecessary goods transport, and designing of services and goods that do not meet the requirements of the customer. This course involves the concepts of the DMADV method which stands for define, measure, analyze, design and verify. This method will result in product designs that continuously meet the requirements of the customer, desired release dates, target costs and manufacturing needs. You will have a lot of advantages as a certification graduate of this course. It will not just affect your career but also your entire life. To start this transformation, customer specifications for services or products are identified. It is important to realize that these are dynamic and the capacity to complete altering requirements is a milestone of an organization that works on this technique. Team members will then evaluate how to change organizational assets like materials, technology and employees to meet customer specifications. This step determines what changes will work and what will not work. By focusing on the redundant and ineffective processes, this form of consulting helps in the development of innovative solutions. This training method allows creative solutions and makes processes flexible, efficient, consistent and effective. Company processes are in a better position to live up to the client specifications. To find out if changes have resulted in better performance, it is crucial to quantify the results. When you compare performance and strategy concentration, understanding overall productivity will be clear. This measurement makes certain that process alterations meet the set standards for a service goal of consistent improvement. These are some of the ways in which Lean Six Sigma can be helpful for improving the entire performance of designing and the working of an organization. A lot can be evaluated with the help of this technique.

Chapter 4 : Six Sigma Definition - What is Lean Six Sigma? | ASQ

Warren Brussee is a Six Sigma Green Belt with a decade of experience implementing and training Six Sigma. He spent 33 years at General Electricâ€•ground zero for popularizing Six Sigmaâ€•and currently consults and teaches on the topic.

A collaboration of years of proven management strategies developed into one clear and concise management program with one goal in mind, to improve the outcome of any company, whether that be a company whose goal is to provide the best customer service or the best products, the process is the same and is very simple. The Six Sigma Training Program believes in three primary principles for creating success: Business success is highly reliant upon reducing the amount of variation that you have in your business process. Manufacturing and business processes have characteristics that can be clearly measured, analyzed, controlled and improved upon. Achieving sustained quality improvement is the result of the entire organization working together for a common goal, especially onboard need to be the members of top level management. Although a combination of several different ideas, Six Sigma Training is set apart from the rest. Primarily the things that set 6 Sigma apart include: Decisions that are based on verifiable data and not the result of assumptions and guesswork. A focus on attaining measurable and quantifiable financial returns from any Six Sigma project. A specific multi tiered infrastructure which creates a role for every person in the company to help implement the Six Sigma plan on their own level. An increased emphasis on strong and passionate leadership and support. Honestly, both methods are excellent ways to get Six Sigma training. These days with so many people moving from traditional schooling to online schooling, it seems to be a very popular way to get 6 Sigma certified. Some people however prefer learning in a traditional schooling environment and that is also a very effective way to learn the 6 Sigma principles. Online training courses are a little easier to schedule in for employees around work and their other commitments. Other benefits of doing the training sessions online is that it usually decreases the companies overhead expenses for the training program and also seems to allow for a faster paced learning environment. The online training program is self paced and therefore allows more individualized instruction, because if an employee needs to spend more time on one section and less on another, they can do so with ease, and without holding up the group as a whole. Six Sigma has both management components and technical components. Using this dual approach allows for everyone to have a role in making the Six Sigma plan a success. The management side focuses on using the management system to line up the right projects and match them with the right individuals. Management also focuses on getting the right goals and process metrics to ensure that projects are successfully completed and that these gains can be sustained over time. The technical side focuses on enhancing process performance using process data, statistical thinking, and methods. This focused process improvement methodology has five key stages: Define, Measure, Analyze, Improve and Control. Define is to define process improvement goals that are consistent with customer demands and company strategy. Next measure the key aspects of the current processes that your company is using and collect relevant data about these processes and current results. Then analyze the data to verify cause and affect relationships, be sure to consider all possible factors involved. Then improve or optimize the process based upon data analysis using techniques like Design of Experiments or observational study. The last step is to control to ensure that any deviations are corrected before they result in defects. During this step you will also set up pilot runs to establish process capability and will continuously monitor the process. All tools statistical or not are linked and sequenced in a unique way that makes 6 Sigma both easy and effective to use. The basic approach focuses on the identification of the key process drivers variables that have the largest effect on output and relies on software such as Minitab for statistical calculations. The great thing about six sigma certification is that it is perfect for all businesses, whether you are a large corporation producing a product or a small business that specializes in customer service. Six Sigma Training will help your business improve productivity and increase the bottom line. The different levels of Six Sigma Certification give each and every employee the chance to contribute, which in essence allows everyone to be part of the solution to the businesses problems. This not only creates a feeling of team work and unity, but also allows each and every

employee to realize they are valued by the company.

Chapter 5 : An Overview of Six Sigma

A Lean Six Sigma Master Black Belt is known as sensei, and focuses more on shepherding Lean practices than on Six Sigma practices. Black Belts lead improvement projects full-time, and focus on the methodologies and perform statistical analyses.

The fact that they offer free access to their study materials shows just how confident they are that their course will help you get your Six Sigma certification. With only a few competitors offering certification, MSI stands with a small crowd for course and certification. The cost of certification is also included in the course, making the total cost of the MSI program very reasonable. They even mail you a copy of your certificate. And your transcripts will always be available for future employers. All of the training is online and structured in flexible manner, allowing you take the course at your own pace. You can speed through it if you have the time or map it out over the course of a year. The course expires one year after purchase, giving you plenty of time to complete the course. They are also one of the rare few Six Sigma prep courses to offer certification at the end. Something that is hard for students to find that GreyCampus offers for their customers is a comprehensive course that combines the curriculum for both Green Belt and Black Belt courses. This package provides students with a complete education in these certs with a healthy amount of PDUs accompanying it. In addition to providing students with the educational tools to pass the Six Sigma exams, GreyCampus even goes so far as to provide students access to take the exam immediately when they finish the program. Depending on what course the student is enrolled in, they will have the option of taking a certification exam that is up to the standards of either the ASQ or the IASSC. Many Six Sigma prep programs will simply offer access to personal study materials such as practice tests or textbooks, with a few pre-recorded lectures thrown in. GreyCampus offers these features as well in their Online Self Learning program; however, what really sets them apart from other educational resources is their other packages that incorporate live instruction from an experienced Six Sigma professional. Although the Traditional Classroom package offered by GreyCampus for both Green Belt and Black Belt prep courses is an excellent educational resource for students, the availability of these physical classrooms is limited. The instructor-led course from GreyCampus is a fantastic resource for aspiring Six Sigma students, although its availability is limited for some locations. Bonus points for providing Green and Black Belt study. Simplilearn Six Sigma Course Rank: With so much to cover in learning Six Sigma methodologies, it can be hard to self-assess your knowledge, but not with Simplilearn. Simplilearn includes four simulation exams as part of the course. Each one has been carefully crafted to simulate the actual exam with as much accuracy as possible. This is especially helpful for those that suffer from testing anxiety. Simplilearn features an amazing toolkit of modular design that breaks down the methodology from Six Sigma into modules that are easy to consume. Each module features the most up-to-date tools real world implementation. The lessons mirror the principles of waste reduction, a main component of Six Sigma. Exam Fee Not Included: On the bright side, the package is offered at a competitive rate that takes this into account. Simplilearn lives up to its name by designing their course in a modular fashion, allowing students to learn simply. With over 60 quizzes and a handful of simulation exams, this is an easy and effective study course.

Chapter 6 : What is Lean Six Sigma? - www.nxgvision.com

The Six Sigma methodology is defined by 5 DMAIC steps. DMAIC is the acronym for Define - Measure - Analyze - Improve - Control.. In addition to the 5 DMAIC steps, there is also a step zero that occurs first.

There are tons of consultants, job offers, projects, and articles about Lean Six Sigma. In this post, I would like to talk about where Six Sigma comes from, its difference from lean manufacturing, the reason for its popularity, and its shortcomings. As such, it was a latecomer to the wave of quality control methods and tools that originated during World War II, like statistical process control, Total Quality Management, Zero Defects, and others. The graph below shows the likelihood of Six Sigma being mentioned in books. It started around with Motorola and really took off in with GE. Many quality measurements do have a normal distribution. The distance from the center of the distribution is measured in standard deviations, or Sigma. Six Sigma simply requires the tolerance limits to be at least six standard deviations away from the center. The graph below shows a blue standard normal distribution, with one standard deviation and six standard deviations shown. This is an ideal six sigma distribution, where the tolerance limits are six sigmas away from the center. Six Sigma Distribution In this case, This gives a total of only 0. However, Six Sigma realized that the mean is not always necessarily in the middle of the tolerance limits to begin with. Even if they are in the middle when measured, they may shift over time. Hence they allowed an additional shift of the distribution by 1. Therefore, the distance to the closest tolerance limit may be only 4. Six Sigma Distribution with 1. There are a number of reasons why I believe it does not work. First of all, why Six Sigma? Why not five or seven? Same goes for the 1. I think the main reason is that the phrase Six Sigma is catchy. Six Sigma simply sounds better than Five Sigma. Additionally, this also sets a very high demand on quality. But overall, the demands are very unrealistic, which brings me to my next point. Unrealistic Demands The only one in the US? The demands of Six Sigma are simply unrealistic. With the original Six Sigma requirements, If you apply this requirement to the population of the United States of This means, for example, less than one person in the US would be hospitalized. Or, less than one person in the US would be incarcerated. It is easy to see that this is a very unrealistic demand, no matter whether we talk about people or products. However, nowadays Six Sigma demands are truly only 4. This means almost two thousand times more defects than before. Yet, taking the US population as an example again, only about 1, people would be hospitalized or incarcerated in the US. Still highly unrealistic in my opinion. For reference, there are almost one million hospital beds in the US, of which around 0. This is the equivalent of 3. If you prefer the incarceration rates example, there were 7. This is the equivalent of 2. No Consideration of Cost-Benefit Pacemaker and plastic fork: Six Sigma also completely ignores the relation of costs vs. To achieve even a relaxed 4. Is it worth it? This depends heavily on the product, the market expectations, and the competition. A pacemaker should work reliably for a long time. Failure of the pacemaker can mean death, or at least a major operation to exchange the product. Hence the cost of a defect is rather high, and it may be sensible to set high quality requirements. On the other hand, a plastic fork is a cheap and disposable utensil. If it breaks, it usually does not harm anybody and is easily replaced. Hence the cost of a defect is rather low. It is possible to make stronger forks, but this comes at a price. Yet plastic forks are purchased exactly for their cheap price and disposable nature. Therefore it makes no sense at all to have high quality requirements on plastic forks. Six Sigma, however, makes no differentiation regarding the cost of defect or the trade-off between the price for quality and the cost of defects. There is also no mentioning of the time to market, which is also influenced by quality improvements. If there is no cost-benefit trade-off, everything including the plastic fork should have Six Sigma i. Stupid Reliance on Numbers Six Sigma is based merely on tolerance limits and standard deviations. However, merely complying with the tolerance limit does not necessarily mean that the product is good. The tolerance limits may be wrong. Combinations of limits within tolerance may in sum be outside a tolerance " or a critical aspect may not be measured or even be measurable, and has no tolerance limit. Six Sigma has the highly dangerous belief that if the numbers match, then everything is fine. This goes contrary to my lean experience that only the real product counts, and relying on numbers will go haywire. Motorola was going downhill, falling behind Nokia in and

being split in two in Another company, 3M, significantly reduced Six Sigma because it was stifling creativity. CNN did some analysis of Fortune companies. Overall, many companies are reducing or have stopped their Six Sigma efforts. Please note that by this I mean the original Six Sigma standard deviation approach above, not the Lean Six Sigma described below. However, since then Six Sigma has expanded its scope. The Six Sigma community incorporated the approach of lean manufacturing and its toolbox, rebranding it as Lean Six Sigma. This lean approach comes originally from Toyota, and lean manufacturing is nothing else than an often flawed and misunderstood implementation of the Toyota production system. In my opinion, the Lean Six Sigma approach focuses too much on the methods and too little on the outcomes, hence I believe it is less useful than normal Lean. In any case, Six Sigma is not the only one trying to get in the steering seat of the lean manufacturing bandwagon. However, Six Sigma is by far the most successful organization doing so, since they had a stroke of genius. In , Six Sigma trainer Dr. Mikel Harry came up with a new, catchy name for his trainings: Six Sigma Black Belts. You are now almost a Bruce Lee of lean manufacturing. In any case, its allegory to martial arts made Six Sigma trainings quickly become popular. Courses for black belts sold like hotcakes. Nowadays, there are a number of different belts you can earn, from beginner to champion level:

Six Sigma started as quality control. I have the feeling the underlying idea was a "more is better" approach, where they simply increased the demands on quality and increased the requirements on tolerance levels. Many quality measurements do have a normal distribution. The distance from the.

The faster they can generate revenue the better. In fact, more and more customers expect and even demand perfect quality, which can be a challenge, especially for a startup. For a manufacturing startup to be successful, there are a multitude of tasks that need to be completed at the right time and in the right way. Opportunities for errors are high, and they increase as the entrepreneur hires more employees and adds multiple shifts. Is it possible to keep the entrepreneurial energy and excitement around a new business concept that resulted in funding? Six Sigma, when properly applied, helps all types of organizations do just that. What Is Six Sigma? Every manufacturing business, large or small, faces competitive pressures to lower costs and reduce "variability," or defects. Six Sigma is a production philosophy that uses data, processes, and tools to nearly eliminate defects and bring performance close to perfection. Specifically, achieving Six Sigma means that no more than 3. The name itself is the statistical measure that describes that defect rate. So, Six Sigma refers to six standard deviations between the mean of a process and the specification for whatever output is being measured. Specifications are determined by customers. Identify, define, and pinpoint where variability might be occurring. Outline and develop various data metrics, including value-added and non-value-added steps in the work process. Customers do not mind paying for processes that truly add value. Use data and other tools to determine variation and to analyze its causes. Mistake-proof the work processes with the help of tools and technology. Monitor and control the new process to ensure the organization does not backslide to creating variability again. Highest Quality at the Lowest Cost Six Sigma drives an organization toward the goal of finding the lowest cost for the level of quality needed, with quality being defined by the customer. The objectives of the lean enterprise are to correctly specify value to the ultimate customer and to analyze and focus the value stream so that it does everything from product development and production to sales and service in a way that actions that do not create value are removed and actions that do create value proceed in a continuous flow as pulled by the customer. Determining value-added processes relies on understanding the customer and what the customer is willing to pay for. However, while actions can be taken to "lean" an organization, if a work process is not stable, the performance of that process will vary. Such variances will unfavorably impact quality, cost, cycle time, and delivery. In addition, an associate should be selected and trained as a Six Sigma Black Belt. A Black Belt coaches project teams and is proficient in using extensive analytical tools, including customized software, to yield marked organizational improvements. Collaboration is critical to the Six Sigma process and will help initiate employee input and buy-in. A project team comprised of relevant process owners customers, administrative associates, and suppliers, for example should be identified and directed to focus on a problem area. The team members must be allowed to let the Six Sigma project guidelines point them to the area where focus is needed. Tips for Success The long-term philosophy of Six Sigma is to eliminate all non-value-adding activities within the manufacturing process. This journey is one of continuous improvement and must be focused so that its implementation does not overwhelm the organization. Here are key points for entrepreneurs to keep in mind as they implement Six Sigma efforts: Build the case for change. Involve all levels of the organization and leverage the strengths of your organization and culture. Ensure employees are recognized and rewarded for bringing challenges in the process to the forefront. Do not let Six Sigma become so big that it keeps team members from speaking up honestly when it is not working. Seek out the right team. Select individuals to serve as Black Belts who not only have the appropriate technical expertise but also have the amount of respect needed to work with employees at all levels. Create the right foundation. This type of culture lacks the right foundation for Six Sigma to be successful. Select the right projects. Identify carefully which projects require this level of analysis and take time to define the necessary level of return. Use "gate" reviews that involve all team members. This approach helps to create ownership and maintain employee focus during various stages of the process.

Communicate and visibly celebrate successes. Communicate openly and encourage associates to communicate openly, too. Successes, even minor ones, should be visibly celebrated. Conduct extensive training first with those directly involved in implementing the Six Sigma process and then expand to train all associates in the basics of Six Sigma. With such a highly competitive global business environment, implementing Six Sigma through stakeholder collaboration and involvement is critical to positioning your organization to thrive in the future.

Chapter 8 : What Is Six Sigma?

Lean Six Sigma is a method that relies on a collaborative team effort to improve performance by systematically removing waste and reducing variation.

Differing opinions on the definition of Six Sigma: Philosophyâ€” The philosophical perspective views all work as processes that can be defined, measured, analyzed, improved and controlled. Processes require inputs x and produce outputs y . If you control the inputs, you will control the outputs. Set of toolsâ€” The Six Sigma expert uses qualitative and quantitative techniques to drive process improvement. A few such tools include statistical process control SPC , control charts , failure mode and effects analysis , and process mapping. Six Sigma professionals do not totally agree as to exactly which tools constitute the set. DMAIC defines the steps a Six Sigma practitioner is expected to follow, starting with identifying the problem and ending with the implementation of long-lasting solutions. Metrics â€” In simple terms, Six Sigma quality performance means 3. What is lean Six Sigma? Lean Six Sigma is a fact-based, data-driven philosophy of improvement that values defect prevention over defect detection. It drives customer satisfaction and bottom-line results by reducing variation, waste, and cycle time, while promoting the use of work standardization and flow, thereby creating a competitive advantage. It applies anywhere variation and waste exist, and every employee should be involved. The demarcation between Six Sigma and lean has blurred. Six Sigma focuses on reducing process variation and enhancing process control, whereas lean drives out waste non-value-added and promotes work standardization and flow. Six Sigma practitioners should be well versed in both. Integrating lean and Six Sigma Lean and Six Sigma have the same general purpose of providing the customer with the best possible quality, cost, delivery, and a newer attribute, nimbleness. There is a great deal of overlap, and disciples of both disagree as to which techniques belong where. The two initiatives approach their common purpose from slightly different angles: Webcast series on lean Six Sigma Tools.

Chapter 9 : Learn All About Lean Six Sigma - Six Sigma Online

60 percent of all Six Sigma projects fail and percent of lean projects fail to achieve the desired results. Why does this happen? Why does this happen? Whenever a new Lean or Six Sigma project is started there is always an initial wave of momentum and excitement.

Waste[edit] Waste is defined by Mr. Each one is defined below: Over production is excess amount of product that is produced. Idle time waste, or wait time waste, is down time that is spent waiting for a product to be created. The delivery waste, or transportation waste, is the time spent getting the product shipped to the recipient. Waste in the work, inventory, and operations is time spent loosely and does not make money. Waste in the work is also known as extra-processing waste, and waste in operations is also known as motion waste. Rejected parts waste, or defects waste, is when certain pieces should be thrown out or reworked because they are not within tolerance. Lastly, we have non-utilized talent waste which is when a person that is untrained for a position is put there to try and complete work. Six Sigma seeks to improve the quality of process outputs by identifying and removing the causes of defects errors and minimizing variability in manufacturing and business processes. Synergistically, Lean aims to achieve continuous flow by tightening the linkages between process steps while Six Sigma focuses on reducing process variation in all its forms for the process steps thereby enabling a tightening of those linkages. In short, Lean exposes sources of process variation and Six Sigma aims to reduce that variation enabling a virtuous cycle of iterative improvements towards the goal of continuous flow. The training for Lean Six Sigma is provided through the belt based training system similar to that of Six Sigma. The belt personnel are designated as white belts, yellow belts, green belts, black belts and master black belts, similar to judo. Lean Six Sigma organization structure For each of these belt levels skill sets are available that describe which of the overall Lean Six Sigma tools are expected to be part at a certain Belt level. These skill sets provide a detailed description of the learning elements that a participant will have acquired after completing a training program. The level upon which these learning elements may be applied is also described. How Lean and Six Sigma come together[edit] Lean six sigma organizes lean and six sigma to cut production costs, improve quality, speed up, stay competitive, and save money. From six sigma they gain the reduced variation on parts. Also, lean focuses on saving money for the company by focusing on the types of waste and how to reduce the waste. The two coming into lean six sigma to better each other creating a well balanced and organized solution to save money and produce better parts consistently.