

History of the Six Sigma Black Belt Naming Convention

Written by Kirsten Terry for iSixSigma March 20, 2010

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Motorola, the company that holds the Six Sigma trademark, says the data-driven defect-reduction process has saved the company more than \$16 billion over the past 15 years. Six Sigma has generated similarly stunning results at companies here and abroad in the manufacturing, transactional, and service sectors. All businesses — regardless of sector, size, or project — link their success to one factor. In Six Sigma parlance, it's the Black Belt.

The term Black Belt refers to project leaders, skilled in the use of statistical methods and interpersonal communication, and dedicated to using Six Sigma methods to ensure customer satisfaction. Green Belts require less training than Black Belts and take responsibility for leading fewer projects, while Master Black Belts spend nearly all of their time consulting, mentoring, and training Green Belts and Black Belts.

Not surprisingly, the term Black Belt has its roots in the exotic realm of martial arts. Like a person skilled in the Oriental sport of karate, the Six Sigma Black Belt is self-assured and knowledgeable, the result of intensive training and real-world experience. The Six Sigma Black Belt is disciplined, purposeful, and decisive, able to lead highly focused efforts aimed at improving a company's bottom line. And, to ensure continued improvement, the Black Belt works affirmatively to identify and mentor new Black Belts.

The evocative term is not without its detractors, however. For some, martial arts is synonymous with violence, attack mode, and bravado, all of which run counter to the term's intended meaning: a methodically executed self-defense. Some companies have changed the names of their process improvement change leaders to move away from these images. Raytheon, for example, has replaced the words Black Belt with Expert, as in Six Sigma Expert and Six Sigma Master Expert. Mount Carmel Health System refers to Black Belts as Guides, and Master Black Belts as Master Guides. Countrywide Financial Corporation has left the Six Sigma and Belt terminology completely behind; instead, they refer to Master Black Belts, Black Belts and Green Belts as Gold, Silver, and Bronze certification levels, respectively. The Vanguard Group has even gone as far as to call their process improvement efforts "Unmatchable Excellence," although much is based on the Six Sigma methodology.

While the late Bill Smith, a Motorola senior engineer and scientist, commonly gets credit for initiating the Six Sigma concept, the wordsmith who originated the belt argot is Dr. Mikel Harry. In 1986-1987 Harry, on authorized sabbatical from Motorola, spent three months at the Unisys Salt Lake Printed Circuit Facility, where he worked as a technical consultant with Unisys facility manager Clifford Ames. Harry's mission was to solve a costly circuit board production problem.

According to Harry, once the problem was solved, Ames asked him to train others at Unisys. Harry referred to those he trained as process characterization experts, the term he had previously used for trainees at the Motorola Government Electronics Group. Harry remembers brainstorming with Ames to come up with something a little catchier. When Harry suggested Black Belts, Ames responded enthusiastically: "That's sexy! I can sell that." And the rest, as they say, is history.

Because a team approach is the norm among Motorola scientists and engineers, the belt-naming convention may appear to some to have occurred over time and osmotically among Motorola executives. However, Harry cites contracts, reports, and other artifacts that document the terminology's introduction and implementation. The belt terminology, first articulated in a 1988 contract between Unisys and Harry, appears that same year in strategy papers from the first Unisys Black Belt trainees. Harry says he formally introduced the terminology to Motorola in a 1989 white paper, *A Strategic Vision for Accelerating The Implementation of Six Sigma at Motorola*, a paper he prepared for then CEO Robert Galvin.

By the early 1990s, the Black Belt nomenclature was hot. Recently retired Quality Director John Lupiensi complements Harry's version of the origins of Black Belt terminology in a time line Lupiensi prepared for a 1990s Motorola Six Sigma presentation. Lupiensi, who participated in Motorola's first Quality Council meetings with Bill Smith and Jack Germain (Motorola's first Vice President of Quality), says the Black Belt program began in 1990 with the organization of a DOE symposium committee. Additional Motorola employees who were present at this time verify these facts.

The following year, Harry established Motorola's Six Sigma Research Institute, which he had proposed in his 1989 Strategic Vision white paper, and served as its founding Director and a senior member of the technical staff. The Institute, a research and testing site, offered a reasonable alternative to the factory floor for simulations and statistical problem solving. As the Institute's Director, Harry relied on the Black Belt framework to move Six Sigma methodology across the corporation.

Harry successfully nurtured the Black Belt model, encouraging other companies to implement it in 1992. Harry says he persuaded those other companies — Texas Instruments, IBM, Kodak, Digital Equipment, and Asea Brown Boveri — to share expertise and work with Motorola and the Institute to craft a mutually beneficial training program.

David Hallowell, the Digital representative at that time, recalls the common Black Belt curriculum that the consortium identified, developed and piloted. The statistical part of the body of knowledge was easy to see, but a key insight was the inclusion of a healthy measure of soft skills to deal with the change management, business awareness, and team dynamics critical to real Six Sigma success. The Six Sigma Technical Institute was soon deploying that training for Black Belt candidates. By the end of 1992, the first half-dozen Six Sigma Black Belts had gained recognition in Asia and the United States.

The Black Belt jargon has stuck. In fact, an online Google search for Six Sigma generates a whopping 554,000 keyword matches, many of them about Black Belt training. Just as Six Sigma has outlived early skepticism about its long-term survival, the Green Belt/Black Belt/Master Black Belt designations have emerged as generally accepted business terminology.