

# Applying Six Sigma Techniques to Human Capital Management

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## Introduction

In an increasingly knowledge-intensive and global economy, superior management of human capital – the skills, talents, and knowledge of an organization's employees – is arguably the only sustainable source of competitive advantage for an organization. Yet many firms remain surprisingly unsophisticated in managing their human capital, placing their success, if not their survival, at risk.

Why this lack of sophistication? The reasons are many. They include the dearth of analytic capability within most HR departments, as well as external accounting and reporting requirements that continue to foster “industrial era” mindsets and human capital investment behavior. The problems that result can range from difficulty in retaining key employees to missed opportunities for growing market share and revenue.

Although there is no silver bullet for correcting this situation, there is an important and typically overlooked solution: the development of better systems for measuring how an organization's human capabilities contribute to its business outcomes. Developing such systems for an organization is neither difficult nor expensive. All that is required is more creative and clever use of a standard HR tool – the employee survey. How to use employee surveys more cleverly? By borrowing a few basic analytic techniques from six sigma, it is possible to identify, with considerable precision, the unique people-related drivers of an organization's business results.

At this point, we can almost hear you thinking one of three thoughts:

1. “Holy cow! Six sigma is a big pain, what with all of those Black Belts running around with their fishbone diagrams, and the monstrous training and certification processes that are involved.” (If this is you, please stick with us. We hope to convince you that it won't be too painful, and that whatever pain you experience will be more than justified by the benefits you enjoy.)
2. “Give me a break! There's no reason why the HR function requires that type of rigor.” (If this is you, you should perhaps stop reading now. This article isn't for you.)
3. “Right on! It's about time. Tell me more.”

(We will – read on.)

## First, A Few Definitions

So, what is meant by “human capital management?” By this, we mean the practices, processes, and systems that are used to manage and develop employees. We have found that these practices, processes, and systems can be classified into one of five major categories – leadership practices, employee engagement, knowledge accessibility, workforce optimization, and learning capacity.<sup>a</sup> A discussion of what we have learned over the past decade of work on the human capital management best practices is available at

<http://www.mcbassi.com/pdfs/HC+OrganizationalPerformanceWhitePaper.pdf>.

And what is six sigma? A popular definition describes it as “a methodology to manage process variations that cause defects, defined as unacceptable deviation from the mean or target; and to systematically work towards managing variation to eliminate those defects. The objective of six sigma is to deliver world-class performance, reliability, and value to the end customer.” It was “originally defined as a metric for measuring defects and improving quality” that “has now grown beyond defect control.” (Definition from Wikipedia.)

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<sup>a</sup> It should be noted that by “management” we mean something much broader than the performance management systems that organizations use to monitor and track employee performance (although such systems are a subset of human capital management, falling within the “workforce optimization” subcategory).

## Using Six Sigma Techniques to Manage Human Capital

The basic idea behind six sigma is very simple. It is to link variations in one phenomenon (in this case, the quality of the processes, practices and systems for managing and developing employees) to variations in another phenomenon (in this case, business outcomes across business units). These techniques helped give rise to the “quality revolution” and have been used to improve product quality for years.

The time is long overdue to begin applying similar six-sigma thinking and methodologies to the process of managing and developing employees. Since employees are a large cost, a tremendous asset, and a critical source of sustainable competitive advantage, “systematically work[ing] towards managing variation” in the management and development of employees is central to an organization’s success.

The objective of six sigma is defined as the delivery of “world-class performance, reliability, and value to the end customer.” In the case of human capital, the end user is the organization as a whole. (And what HR executive worth his/her salt could disagree that this should be their objective?)

So, what would be required to begin in earnest to systematically work towards reducing variation, in order to eliminate the equivalent of “defects” in an organization’s management of human capital?

First, the HR function in your organization needs to move beyond traditional HR metrics to what can be called “human capital metrics,” designed to capture how well people are managed and developed throughout the organization.<sup>b</sup>

As part of this process, it’s time to recognize that HR can make a much greater contribution to the organization if it is placed in position to play a strategic role, rather than its traditional (purely transactional) one. Having the right metrics and analytic approaches will certainly help with this transformation. But the metrics and methodologies, while necessary, are not sufficient.

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<sup>b</sup> By “traditional HR metrics,” we mean those that reflect on the efficiency of the HR function, such as number of training courses offered, or how long it takes to fill a vacant position.

## The Specifics

### The Data

*Best Practices in Human Capital Management:* There is one category of data that is absolutely necessary for applying six-sigma-type analysis to human capital management: measures that can be used to quantify the presence or absence of best practices in human capital management (in other words, the extent to which the management and development of employees deviates from “world-class performance”).

Where does this come from? Pretty simple – design a thoughtful employee survey (more on this later) and ask your employees to respond.

*Key Outcomes:* At least one of two types of key outcomes data must also be available for the analysis (ideally, both would be available):

- Measures of employee engagement/commitment. (This is typically drawn from the same employee survey.)
- Measures of key business outcomes across units: either financial (e.g. sales productivity, profit margins, revenue per employee) and/or non-financial (e.g., safety or customer satisfaction/loyalty). (These measures are typically tracked by the office of the CFO or COO.)

### How to Identify the “Process Variations” That Need to Be Corrected

The questions in your employee survey need to focus on identifying the extent to which best practices for managing and developing employees (i.e., those identified in research literature as predictors of business outcomes)<sup>c</sup> do or do not exist in an organization. Questions that can be eliminated from your survey are those that focus on opinions, beliefs, or issues that have no known relationship to business outcomes.

Once you've administered an employee survey that includes the right sort of questions, it then becomes possible to quantify variations in best practices in human capital management across functions, business units, regions, and job categories. (This tells you where the practices are more or less prevalent.)

The next step in identifying which best practices are most important to focus on (where they're causing the most “defects”) is to statistically link the variations across units on best practices to variations across units in key outcomes (employee engagement, financial or non-financial

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<sup>c</sup> See <http://www.mcbassi.com/pdfs/HCCScorecardOverview.pdf> for what we have learned from the research and best practice literature about the human drivers of business outcomes.

outcomes across units). In other words, determine which best practices are most closely associated with greater success on your key outcomes, and then work to minimize variation across units on those practices. This is the essence of six-sigma-type analysis. It will enable you to distinguish between those human capital management “best practices” that are and are not driving your business results. You need to focus on the former, and not the latter.

Once you’ve identified the best practices that are most closely associated with greater success on your key outcomes, it will be important for you to build measures of these practices into your organization’s ongoing data collection and monitoring processes. These are the measures that belong in your balanced scorecard and/or executive dashboards, rather than the traditional “HR metrics” that are normally used.

## Tools for Examining Statistical Links

There are a variety of statistical techniques available for making the statistical linkage described in the previous section. These range from the simple (looking for statistically significant difference between two units) to the complex (non-linear multiple regression analysis).<sup>d</sup> In general, the greater the “number of units of analysis” (whether it is business units or individual employees) available for statistical analysis, the greater the degree of statistical rigor that can be brought to bear on the analysis.<sup>e</sup>

## Some Practical Considerations

Don’t worry - you don’t need to be an expert on these statistical techniques. All you need is to understand the basic logic of the analysis, and then have a “quant jock” figure out the statistical details. In other words, it is sufficient to be an informed consumer of statistics—it is not necessary to be a producer of these statistics.

You also need to be sure that you don’t allow the perfect to become the enemy of the good. Just because you don’t have the ideal “methodological structure” for identifying the relationship between human capital metrics and business outcomes doesn’t mean that the process outlined above isn’t worth undertaking. By applying logic and bringing

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<sup>d</sup> See, for example, “Examples of Some Key Tools Used” in [http://en.wikipedia.org/Six\\_sigma](http://en.wikipedia.org/Six_sigma).

<sup>e</sup> See <http://mcbassi.com/pdfs/Guide-UsingHumanCapitalInformation.pdf> for a simple “primer” on these techniques.

rigor to bear on this process, you will gain important insights and make significant contributions to your organization's performance.

## Pitfalls to Avoid

There are at least four primary reasons why six sigma analytics have not yet been deployed on a widespread basis as a human capital management tool:

### *1. Bad employee surveys*

Employee surveys that focus excessively on employee satisfaction and/or engagement miss the point. While employee satisfaction/engagement is clearly a necessary means to an end (of producing business results), surveys that focus on it exclusively tend to focus on it as the end, rather than the means. Equally importantly, your employees are by far the best source of information about the practices and processes by which they are managed and developed. Don't miss the opportunity to tap their wisdom.

### *2. One-size-fits-all surveys*

Some consulting firms employ overly simple, one-size-fits-all surveys to help sell their pre-packaged "solutions." Be wary of claims that there are only a handful of questions that need to be included in an employee survey. Work is always required to identify the key human drivers of performance for a given organization at a particular point in its evolution.

### *3. Too much focus on psychology and too little focus on economics*

The psychologists who design many of the standard employee surveys currently in use tend to focus on the individual as the "unit of analysis," and in so doing fail to adequately measure capability at the business unit or organizational level, which is the level at which it truly drives business results. To deploy the six sigma of human capital management, the focus has to be expanded to also include organizational capability.

### *4. Executives who lack intestinal fortitude*

The process outlined above requires leaders that have the fortitude to take an honest look at the organization's strengths *and* deficiencies. Almost certainly each of these is partially the result of those leaders' styles, and the impact of leadership is quantifiable (for good or ill) when six sigma techniques are deployed.

## The Benefits

Over the past five years, we've been working intensively to provide clients with six-sigma-type analysis for their human capital management. Here are the benefits that we've seen emerge from this work:

1. **Better business results:** We have watched clients, from global manufacturing firms to mid-size school districts, that have enjoyed demonstrably better organizational performance that can be directly attributed to improvements in the rigor with which they measure and manage human capital.
2. **Better leadership:** Six sigma analysis can quantify the impact that leadership and managerial capabilities (and development) have on business results. This provides a degree of rigor to the assessment of leadership that has heretofore been missing (and much needed), and serves as a catalyst for improvements.
3. **Leveling the playing field:** By focusing on predictive human capital metrics, the "human side of the business" benefits from the same types of tools, evidence, and rigor as do the operations and finance sides of the business.
4. **Defeating short-termism:** Developing the capacity to rigorously identify the human capital drivers of an organization's performance gets the attention (and respect) of senior executives. It helps to undo a chronic tendency to under-invest in human capital by compellingly documenting the financial and non-financial consequences of doing so.
5. **Providing meaningful input for an organization's balanced scorecard:** The learning and development measures included in most organization's balanced scorecards are woefully inadequate. Meaningful (i.e., predictive) human capital metrics correct this situation.
6. **Launching a quiet revolution:** When six sigma rigor is applied to human capital management, stubbornly-resistant, industrial-era mindsets, processes, and managers are identified. This sets the stage for replacing them with their knowledge-era counterparts.

Before the quality revolution, quality management was at best an art form, and at worst haphazard. Today, rigorous six sigma methodologies are the rule rather than the exception. Their application has become a requirement for businesses operating in an increasingly competitive, global economy.

A comparable revolution is brewing on the human capital management front. As the sources of sustainable competitive advantage continue to dwindle in the face of ever-increasing global competition, superior management of human capital will take on growing urgency.

Managing human capital by instinct and intuition will simply no longer be adequate. Fortunately, the tools (employee surveys) and the methodologies (six sigma analytics) are readily available to substantially improve business results through more rigorous management of human capital.

Significant advantage will accrue to those organizations that become the early adopters of this approach.

## About the Authors

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## About McBassi & Company

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