

“Advanced Manufacturing and Human Performance Measurement— Doing MORE with Lean, Ergonomics, and Six Sigma (LESS)”

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Measuring the impact of any program, especially the monetary impact, is an important aspect of ensuring that the program is doing what it set out to do. Over the past few decades, a number of corporate improvement initiatives or programs have been developed to aid corporations in achieving external productivity excellence, most notably Lean Manufacturing and Six Sigma. While these tools have been shown to impact external productivity, as with most Industrial Engineering initiatives, the internal productivity of the worker has largely been ignored. What is internal productivity? It is the ability of the individual to produce more output with no increase in muscle activity, heart rate, or risk of injury or it is the ability to produce the same amount of output with less muscle activity, heart rate, or risk of injury. Why are we concerned with external and internal productivity? To aid the bottom line. Lean Manufacturing and Six Sigma are two approaches that organizations have recently adopted, and ergonomics can easily be integrated to augment these systems. To this end, ergonomics must be a definable and measurable event or series of events, and we must somehow cost justify our ergonomic endeavors.