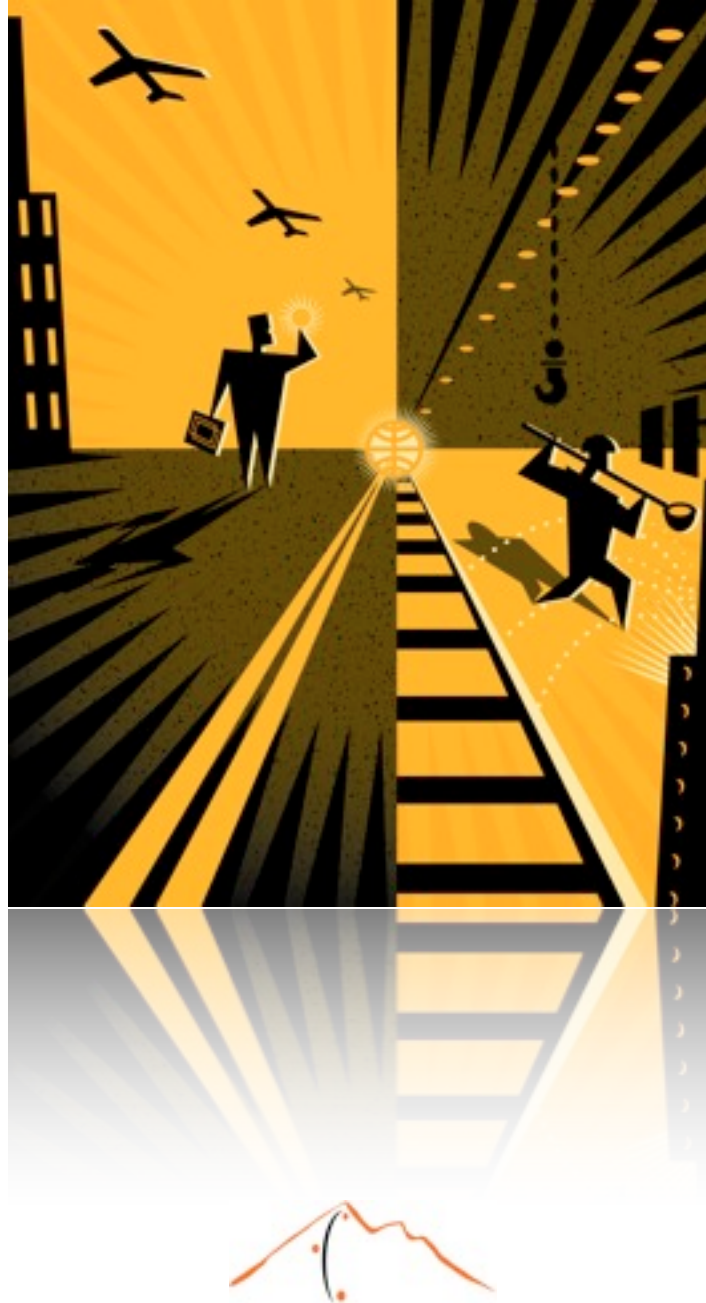


## UN-INDUSTRIALIZE

What the Free Market is Telling Us to Do Next



# UN-INDUSTRIALIZE

## What the Free Market is Telling Us to Do Next

The ink is dry in the history books: the 20th century was about industrializing.

Because of economies of scale in manufacturing, work of all types has been mechanized. Now, instead of burning calories, we burn BTUs. Instead of walking we drive. Instead of farming we shop. Instead of putting on a sweater, we adjust the thermostat. Instead of pickling, we freeze.

Measured by *quantity* of human life, the impact from this transformation is unlike anything seen in human history. Useful machines have played an important role alongside mass literacy and science-based health care in enabling explosions in population, the birth rate, and life expectancy world-wide. On the historical clock (but not necessarily the socioeconomic scale), there is very little difference between so-called developed and developing countries in terms of modern machine use: you can get a taxi or a Big Mac in every country, but there are fewer and fewer nomadic peoples. Even Mongolia's most remote tribesman know how to dial their cell phones. None of us -- Americans, Scandinavians, the Japanese -- can claim to have possessed such a vital and modern skill just thirty years ago.

This article will not judge whether or not the change is a good or a bad one. Instead, it will focus on the transition itself and what it means for markets in the present and near future.

The free market is telling us that the 21st century must and will be about un-industrializing, but not in the ways that you might think. Pickling doesn't appear poised for a rebound.

Machines are not going away. What's different is that today they are often designed, built, and run using the most modern methods, and with greatest consideration for resource realities.

To see how, let's re-introduce the term "Finite Rules," which stands opposite "economies of scale," and which sees value in small, and in making things smaller all of the time, and even (and especially) when large seems like a logical approach. In this way, Finite Rules take lessons from LEAN thinking, in which bottlenecks are always the focus of process improvement.

In LEAN production environments, the ultimate goal is to produce one of something as quickly, as well, and as cost-effectively as you might produce many of something. Once you've done that, you've released capacity (and avoided lost costs like energy) to focus on the next improvement.

It's a completely different way of thinking than economies of scale. One client calls it "economies of *skill*," a sort of productivity nirvana that is so smart and agile that it can operate a full speed at peak efficiency doing different things, all at once, and then minimize effort and energy invested to the lowest possible level when required. When you see a business that understands this, you see one that knows resource limitations and its organization's potential better than any politician ever will.

Businesses that understand Finite Rules are well on the way to un-industrializing. They are unraveling serial processes and replacing them with spatial ones on both the back-end and the front-end of the organization. The vast majority of factories are no longer designed around an assembly line. Instead, modern production is more like a mesh network of specialized production servers (often called cells) that switch on and off, and can flex to do different or new work on demand. And the vast majority of companies that make something have direct, daily, even constant communications with their customers, regardless of how far apart they are.

Before Finite Rules, a business might keep tabs on inventory turns or capacity utilization or market share, all measures that can't account for real limits. On the other hand, organizations



that understand Finite Rules measure and design processes based on the simple mantra: “Do everything we have to do, and nothing we don’t need to do.” This requires laser focus on at least two fundamental metrics: energy and intelligence. Then they use process reduction and simplification techniques to make sure that they get the most out of both.

For example, with careful energy measures and controls, a business can see clear to be most efficient, which enables peak performance over longer periods of time and in more productive bursts. Light and lean systems, both mechanical and human, are designed to make the most of available energy. So everything and everyone, by design, performs at or near peak for the duration of a task. Materials are moved the shortest distance both within the plant, and to the customer. Many tasks are combined to deliberately concentrate energy when and where it is most useful. Value is added continuously, even during movement. (The same is true for ideas.) And energy is often recaptured and reused for other things.

But of all of the advancements contributing to these changes, perhaps the most important is the flow of information, which gives the advantage of knowledge and flexibility and the facts behind actual costs and waste. As information compiles and becomes more granular and comprehensive due to gains in computer power and bandwidth, greater advantage is delivered. With computers, data and skilled people to think about what the data mean, these businesses are becoming the smartest businesses in the world, and they get smarter with each new challenge that they confront. Information, it seems, is the only thing in infinite supply in our world, and it will be used to leverage the things in finite supply. It is important to add, however, that as the flow and the sheer volume of information increases, a new bottleneck comes into view, evident in the recent report: “Factory Jobs Return, but Employers Find Skills Shortage”, NY Times, July 1, 2010<sup>1</sup>. So Finite Rules account for finite talent, too.

Factories aren’t the only businesses applying Finite Rules and un-industrializing. Service businesses like hospitals are learning many of the same lessons, and the result is better health care at a lower cost. The key principles also apply directly in insurance, retail, transportation, construction, design and architecture, and even public infrastructure like water treatment or light rail.

---

<sup>1</sup> <http://www.nytimes.com/2010/07/02/business/economy/02manufacturing.html>

But factories started on the path of un-industrializing first. And they're generally farthest along.

It's ironic that leaders in industry -- the foremost beneficiaries of economies of scale in the last 100 years, have scrapped the concept in favor of sustainability and the knowledge that resources -- energy, people, cash, land -- are finite, and must be treated as such.

This suggests an interesting opportunity and cause for great optimism: in addition to leading the current recovery, businesses that understand Finite Rules and un-industrialize will play a real role in improving not just the *quantity* of life, but the *quality* of life in the long run.

###

- [Nicholas Hayes](#), Partner, FiveTwelve Group, Ltd.

## ABOUT

This essay is part of a larger series reflecting major market swings and their consequences, as understood by the research and consulting firm FiveTwelve Group. We focus on global, regional and local issues, and new opportunities in the 21st century. This series is call The Finite Rules. Read them all at <http://www.fivetwelvegroup.com/blogs>.

