

# Book Report

On

## *The World Is Flat*

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### What careers will be available to our children?

Thomas Friedman's book, The World Is Flat, identifies a number of trends that will dominate the range of careers available to our children. Trends which already manifest themselves today are irreversible and predict a vastly different American jobscape than seen by employees and employers today.

We usually think of outsourcing as taking factory jobs away from the United States, which is now happening at a dizzying pace. But the real threat to the next generation comes from three directions:

Anything that can be digitized can be outsourced.

Jobs will increasingly go to the smartest, cheapest, or most productive worker -- no matter where they are located.

The greatest value will be created through the most friction-free access to markets, goods, and services.

Looking at the United States today, the above factors have already resulted in all or parts of the following job categories to be outsourced to offshore locations:

Software development

Product design and development

Tax return preparation

Stock market analysis

Lost luggage tracking and retrieval

Recruiting

Education and tutoring

Travel reservations

CAT scan interpretation

Travel reservations

Journalism and publishing

Business processes such as customer support, billing and collections, tech support, etc.

And why not? There's very little about these jobs that require the worker to be at the same physical location as other positions in a company or supply chain. Given the ten global "flatteners" outlined by Friedman -- the internet, fiber optic communications, business process software, etc. -- it's clear that jobs will continue to flow to the smartest, cheapest, or most productive workers, and at an accelerating pace, with little respect to where they're located.

Just like the routine jobs, innovation is also being outsourced. American businesses have recognized the talent, education, and passion of potential innovators offshore. Microsoft hires the very top graduate scientists in China to staff their advanced R&D center there. Intel invests in centers of innovation in more than 70 countries. Even major Japanese firms have created R&D centers in China, despite their political differences. The list goes on, with China, India, and the former Soviet Union receiving the greatest volumes of innovation work from the United States. Why is this happening? The talent pool is far deeper offshore, having an order of magnitude more students graduating with degrees that drive innovation. And these graduates are hungry, characterized by a passion for achievement and wealth largely unmatched by their American counterparts.

### How do we deal with this trend?

With pressure on jobs at both ends of the food chain, it's impossible to accurately predict which career fields will be most lucrative for our children. Fortunately, Friedman offers some insights into how the next generation can anticipate their career opportunities and prepare for them.

The remainder of this document consists solely of excerpts from the book, The World Is Flat. In some cases, the excerpts have been summarized rather than quoted verbatim to illustrate Mr. Friedman's primary points while leaving the reader to discover the detail in the book itself.

Each major set of points is headlined by the page numbers within which they can be found in the book.

## Page 276

What do we tell our kids?

My simple answer is this: There will be plenty of good jobs out there in the flat world for people who have the right skills, knowledge, ideas, and self-motivation to seize them. But there's no sugar-coating the new challenge: Every young person today would be wise to think of himself or herself as competing against every young Chinese, Indian, and Brazilian.

In sum, it was never good to be mediocre in your job, but in [the past], mediocrity could still earn you a decent wage. In a flatter world you really don't want to be mediocre or lack any passion for what you do. Because in the flat world there is no such thing as an American job. There is just a job, and in more cases than ever before it will go to the best smartest, most productive, or cheapest worker - wherever he or she resides.

## Page 15

No matter what your profession – if you are an American – you better be good at the touchy-feely service stuff, because anything that can be digitized can be outsourced to either the smartest or cheapest producer or both.

Everyone has to focus on what exactly is their value-add.

## Page 21

The debate about work going to India, China, and Mexico is actually no different from the debate once held about submarine business leaving Connecticut or shoe work leaving Massachusetts or textile work leaving North Carolina. Work gets done where it can be done most effectively and efficiently. That ultimately helps [Americans] more than it helps [the outsourcing countries]. It helps because it frees up people and capital to do different, more sophisticated work .....

Every person ..... must tend to his or her own economic destiny, just as our parents and grandparents in the mills, cobbler shops, and factories did.

## Page 280

What's happening to the middle class:

Type 1: Highly specialized, whose function cannot be outsourced -- brain surgeon, cancer researcher, composer, author, entertainer, athlete, etc. -- which have a global market for their goods and services, commanding global wages.

Type 2: Totally localized and anchored, providing personalized service -- barber, chef, plumber, garbage collector, dentist -- whose wages are set by local forces of supply and demand.

Type 3: Old middle class now under pressure from the flattening of the world -- assembly line, data entry, securities analysis, accounting, certain forms of radiology -- which has not yet grasped the intensity of global competition for their jobs and has not invested in re-skilling themselves.

To get and keep the new middle jobs, you need certain skills that can make you at least temporarily special, specialized, or anchored, and therefore at least temporarily, untouchable. In the new middle, we are all temps.

## Pages 281 - 300

What types of workers are needed in the “middle class’ of a flat world?

### Great Collaborators and Orchestrators

Good horizontal interaction, comfortable working for a global company and translating its services for the local market wherever that may be.

### Great Synthesizers

Creating value by combining disparate parts into an integrated whole, designed around consumer needs and demands.

### Great Explainers

Selling “advice” such that the product becomes a secondary focus.

### Great Leveragers

Combining the best of what computers can do with the best of what people can do and then constantly reintegrating the new best practices the humans are innovating back into the system to make the whole – the machines and the people – that much more productive.

### Great Adaptors

These are the “versatalists” - applying a depth of skill to a progressively widening scope of situations and experiences, gaining new competencies, building relationships, and assuming new roles.

### Green People

There will be lots of jobs involving the terms “sustainable” and “renewable”, focusing on bio-derived or bio-inspired solutions to our looming energy and environmental problems.

### Passionate Personalizers

The new middle jobs will require a personal touch, producing a revival in human interactive skills, skills that have atrophied to some degree because of the industrial age and the internet.

### Great Localizers

Small and medium-sized firms will need to learn how to take all the global capabilities that are out there and tailor them to the needs of a local community.

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### About learning

*A friend once asked Isidor I. Rabi, a Nobel Prize winner in physics, how he became a scientist. Rabi replied that every day after school his mother would talk to him about his school day. She wasn't so much interested in what he learned that day, but she always inquired, "Did you ask a good question today?"*

*"Asking good questions", Rabi said, "made me become a scientist."*

### Learning how to learn

If it is important to learn, how do I learn how to learn? What course should I take?

The answer isn't in the coursework itself. There's no simple answer, but Friedman has a suggestion: "Go around to all your friends and ask them one question: 'Who are your favorite teachers?' Then go out and take their courses -- no matter what they're teaching. Because when I think back about my favorite teachers, I don't remember the specifics of what they taught me, but the excitement about learning they inspired."

## Pages 303 - 322

The new requirements for competing in a flat world:

Curiosity plus Passion is greater than Intelligence:  $CQ + PQ > IQ$

Give me a kid with a passion to learn and curiosity to discover, and I'll take him or her over a less passionate kid with a high IQ every day of the week.

### Plays well with others

The new middle jobs will involve personalized, high-touch interactions with other human beings -- because it is precisely those personalized high-touch interactions that can never be outsourced or automated and are almost always necessary at some point in the value chain.

### The right-brain stuff

Until recently, the abilities that led to success in school work, and business were characteristic of the [brain's] left hemisphere. In a world upended by outsourcing, deluged with data, and choked with choices, the abilities that matter most are now closer in spirit to the specialties of the right hemisphere -- artistry, empathy, seeing the big picture, and pursuing the transcendent.

### Tubas and test tubes

[Georgia Tech's president] noticed that "an awful lot of the talented students were interested in creative outlets other than what they were experiencing in the classroom" -- film-making, or music-making, or some other offbeat hobby. Gradually, his admissions policies were altered to focus on recruiting students who also played musical instruments, sang in a chorus, or played on a team. "People who play instruments or are part of a band have more social skills -- they are not just burrowed down in their work," [says the president]. And that kind of person, he added, has a better chance of synthesizing and orchestrating insights from many different fields. Georgia Tech has now organized its

computer science curriculum around nine “threads”, each of which is a combination of computing with another field, producing a synthesis of knowledge – where the real value is to be created.

### The right country

How well is America suited to creating the jobs and paving the pathways that lead to more jobs in the new middle? The answer: we have it all -- a flexible free-market economy, with lots of experimentation and competition between states and universities. So far we have not succumbed either to economic protectionists who want to put up walls to keep jobs in, or to national security protectionists who want to keep workers out.

America has 4,000 colleges and universities, compared to the rest of the world which has a combined total of 7,768 institutions of higher education. In the State of California alone, there are 130 colleges and universities. There are only 14 countries in the world that have more than that number.

There is nothing about the flat world that America can't handle, as long as we roll up our sleeves, educate our young people the right way for these times, and tend to and enrich the secrets of our sauce. So are we doing that? The answer is no.

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#### The quiet crisis

You can find no better metaphor for the way the rest of the world can now compete head-to-head with us than the struggles of the US Olympic basketball team in 2004. The American team of NBA stars limped home to a bronze medal after losing to Puerto Rico, Lithuania, and Argentina. Previously the US Olympic basketball team had lost only one game in the history of modern Olympics. Remember when the US sent only NCAA stars and totally dominated all comers at the Olympics?

The reason for our fall? Opponents who beat us play as teams; in other words, they collaborate. This generation of US stars relies almost completely on athleticism and almost not at all on basketball skills. And then there's that ugly little problem of ambition.

Chinese pity comes from a belief that we are a country in decline. They wonder how we became so ill-disciplined, distracted, and irresolute. The intense public attention given to Monica-gate, our drowning in debt and under-funding public schools, fights over feeding tubes, etc. astonish our fellow inhabitants of the planet. The symptoms of a nation in decline are clear to everyone, it seems, but us.

#### One perspective on the crisis

“Standard of living is related to the average value of your workforce,” said [Intel CEO Craig] Barrett, “and that is related to the educational level of your workforce.” If you downgrade the educational level of your workforce, relative to your competition, your standard of living will decline.”

#### The numbers gap

NASA employees over 60 outnumber those under 30 by a ratio of about 3 to 1. The number of American 18 – to – 20 year olds receiving science degrees ranks as 17<sup>th</sup> in the world, whereas we were 3<sup>rd</sup> three decades ago.



Asian countries now produce eight times as many engineering graduates with bachelor's degrees as does the United States.

It will take at least 20 years to reverse the trends that are creating this "innovation gap".

Percentage of foreign-born science and engineering graduates entering the US labor force:

- Bachelor's degree      from 11% to 17% -- 1990 to 2000
- Master's degree        from 19% to 29% -- 1990 to 2000
- PhD.                    from 24% to 38% -- 1990 to 2000

(As living conditions improve back in their native countries, these workers return to jobs that enable them to either work for US companies or compete against us via the global flatteners that create a platform for innovation across time and distance.)

#### The education gap

65,000 American children competed in the 2004 Intel International Science and Engineering Fair, versus 6,000,000 from China alone.

60% of the top science students and 65% of the top math students in the US are children of recent immigrants.

The International Study Center at Boston College reports that 44% of eighth graders in Singapore test at the most advanced level in math, as do 38 % in Taiwan. Only 8% tested at that level in the US.

#### The attention gap (national level)

Look at the high-profile attention Congress has devoted to steroids in major-league baseball, [Craig] Barrett said, and compare that with the attention it has focused on the crisis in science education in major-league American cities. How long did it take us to have congressional hearings on steroids in major-league baseball? Almost immediately after the scandal broke. The science crisis? That can wait. Congress has pork to distribute. The president has other priorities.

#### The attention gap (personal level)

MySpace. YouTube. iPod. Game Boy. Lindsay Lohan. Britney Spears. American Idol. What do they have in common? American teenagers pay more attention to them than to the preparation needed for life in a flat world. Thirty-some years ago, Alvin Toffler wrote *Future Shock*, a book which predicted trends by measuring the lines of print devoted by the media to various news items. I wonder what Toffler would predict for today's teen generation?

### Pages 385 – 390

#### Parenting

Parents need to know in what world their kids are growing up and what it will take for them to thrive. In short, we need a new generation of parents ready to administer tough love: There comes a time when you've got to put away the Game Boys, turn off the television, shut off the iPod, and get your kids down to work.

The sense of entitlement, the sense that because we once dominated global commerce and geopolitics -- and Olympic basketball -- we always will, the sense that delayed gratification is a punishment worse than spanking, the sense that our kids have to be swaddled in cotton wool that nothing bad or disappointing or stressful happens to them at school is quite simply a growing cancer on American society. And if we don't start to

reverse it, our kids are going to be in for a huge and socially disruptive shock from the flat world.

[David Baltimore, Nobel Prize-winning president of CalTech] is struck by the fact that almost all the students who make it to CalTech, one of the best scientific universities in the world, come from public schools. Not from private schools that sometimes nurture a sense that just because you are there, you are very special and entitled.

Baltimore said, "I give parents enormous credit for [success of public school graduates entering CalTech], because these kids are all coming from public schools that people are calling failures. Public education is producing these remarkable students -- so it *can* be done. Their parents have nurtured them to make sure they realize their potential. I think we need a revolution in this country when it comes to parenting around education."

#### Pages 502 -504

Finding a career path that isn't vulnerable to global competition doesn't need to be difficult. A lot of clues are found in this book report, with much more depth in The World Is Flat. If your career field includes words like "sustainable", "renewable", or "conservation", you should be in great shape. The US, China and India have a fundamental interest in becoming "The Axis of Energy". We need to become a nation of Geo-Greens, where green becomes the new red, white, and blue.