

Charles Duhigg Interview
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A longer and more detailed version of Ira Glass's interview with The New York Times' Charles Duhigg on what we know about working conditions in Apple's Chinese manufacturers

An edited version of this interview is contained in
This American Life #460 "Retraction"
<http://www.thisamericanlife.org/radio-archives/episode/460/retraction>

- Ira Glass: So, Charles Duhigg, you and David Barboza did this series for the New York Times. Can you just walk us through, what do we know about what working conditions are like for a worker making Apple products? Are they really so bad?
- Charles Duhigg: So we know a lot about what it's like inside the factories where iPhones and iPads and other products are made. And a lot of what we know, we know because Apple itself has done a number of audits, and every year has released a report in which they've summarized a lot of the conclusions of going into these factories and doing audits.
- In addition, there's a number of organizations in China that are either advocacy organizations or sort of watchdog organizations that have also gone into factories and have published reports. And so I can kind of walk through what we know and precisely how we know it.
- Glass: Great.
- Duhigg: So in 2005 Apple created what was called the Supplier Code of Conduct, and the Supplier Code of Conduct said, "These are the standards that we expect anyone who's making an Apple product to abide by." One of those, and in fact the one that's probably most violated, is that no one should work more than 60 hours per week that's working inside a factory that's making an Apple product.
- Duhigg: We know from Apple's own audits and the reports that they've published that at least 50% of all audited factories every year since 2007 have violated at least that provision.
- So there are workers inside those factories that are working more than 60 hours per week, and we know, in fact, from what Apple tells us, that more than half of the workers whose records are examined are working more than 60 hours a week.
- Glass: Now, is that necessarily so bad? I mean aren't a lot of these workers moving to the city to work as many hours as possible? They're away from their families, they're young, and they're there to make money, and they don't care.

Duhigg: That, that's exactly, that's exactly right. You know, when we talked, my colleague David Barboza as well as a number of translators have spoken to a number of employees in these factories, and that's exactly what they say.

And Apple says that as well. They say, "Look, one of the reasons why there is so much overtime that's inappropriate and, in some places, is illegal, is because the workers themselves are demanding that overtime."

Now, workers don't always say that. What workers often say is that they feel coerced into doing overtime, that if they didn't do overtime when it's asked of them, that they wouldn't get any overtime at all, and that financially they would suffer as a result.

So there are two stories here about how much people have to work, and there's a number of people that we have spoken to, The New York Times has spoken to, who have told us for instance that they had to do two 12-hour shifts in a row. So they're effectively working almost a full day. They're called continuous shifts.

There's a group named Students and Scholars Against Corporate Misbehavior, or SACOM, that has gone into factories and has interviewed workers themselves, and the workers have told them that they were told or coerced into doing continuous shifts, which means you do two 12-hour shifts in a row.

Glass: Are there isolated cases where workers work so many hours in a row and then they just drop dead? Is that a real thing?

Duhigg: There's one instance where that was alleged, and we have not been able to prove that the individual died because of overwork. His family at one point had claimed that that's why he died. Foxconn has gone, has produced his work records to show that he did not work 36 hours or 34 hours in a row.

So we have never put that in the newspaper because we cannot confirm that that is true.

Glass: Okay.

Duhigg: So I think when we talk about the conditions inside the plants where Apple products are made, we can sort of put them into two buckets: There's basically harsh work conditions. People being asked to work shifts that are too long, people being asked to stand or sit in backless chairs.

People being asked to work in plants that are still under construction. Or people living in dorms that are provided by the companies, Foxconn and others, where they say that those conditions, the living conditions are harsh. For instance, at one plant there was a riot at one point because—and again, this is based on our reporting and has been disputed by Foxconn—there was a riot because workers were not given pay that they set, that they said they had been promised.

And so they started throwing things from balconies. The stairs became flooded with water. 200 police rushed into the dorm. They arrested a handful of people. Workers have told us that they live in dorm rooms where there's anywhere from 12 to sometimes 20 or 30 people stuffed into a single dorm or into a single apartment.

So it's very, very crowded, very, very unpleasant conditions.

That's the first bucket of issues. And those are all kind of... We wouldn't like to work there, it sounds really unpleasant.

The second bucket, which is much smaller, is actually safety and life-threatening issues. And what we know about those conditions are isolated incidents where people have either been seriously injured or have been killed.

So one of the best examples of this was... Last year, in a seven-month period there were two explosions inside factories where iPads were being produced that killed four people and injured 77 others. Both of those explosions were caused by dust that's created through the process of polishing the aluminum that makes up the case of an iPad.

Prior to those explosions there was a report released by this group, SACOM or Students and Scholars Against Corporate Misbehavior.

Glass: An advocacy group.

Duhigg: An advocacy group. Warning about safety conditions within at least one of the plants. Warning that there's dust here, and dust is a known safety hazard. Dust—

Glass: In all kinds of plants.

Duhigg: In all kinds of plants. Right.

Glass: Right.

Duhigg:

All types of dust. You have to remove it, or else it can explode.

SACOM had sent a report, SACOM says, to Apple and to Foxconn weeks before this explosion occurred, saying, "Things need to be changed." They also posted on the internet some video footage they had collected of people who were covered in aluminum dust particles.

SACOM claims that if Apple and Foxconn had read those reports, that conditions could have been improved and the explosion wouldn't occur.

The explosion that occurred in a city named Chengdu that, that killed four people, preceded by a number of months a second explosion that happened in Shanghai, at a completely different plant in a completely different factory.

But that had the same root cause. And so what people, critics of Apple have said is if Apple had taken this first explosion seriously enough, they could have gone in and they could have required every company, every plant where aluminum polishing was occurring to improve conditions, and they could've prevented or averted the second explosion.

Glass:

Yeah, you write in your article, you point out that the second explosion happened seven months after the first one, ... and you quote... seven months after the first one. And you quote a, a man named Nicholas Ashford, who's a former chairman of the National Advisory Committee on Occupational Safety and Health, which advises the US Department of Labor.

He said, "It's gross negligence, after an explosion occurs, not to realize that every factory should be inspected." He said, "If it were terribly difficult to deal with aluminum dust, I would understand, but do you know how easy, but do you know how easy dust is to control? It's called ventilation. We solved this problem over a century ago."

Duhigg:

That's, that's exactly right, that was what Mr. Ashford had told us.

Let me just sort of give you the statistics that we know from Apple's own reports. It should be said that Apple has become more transparent about what they find as part of their audits within factories that make iPads and iPhones and other products.

Glass:

Is there any other company that actually releases these kinds of reports in the electronics business?

- Duhigg: Almost every company does something similar to what Apple does.
- They release these yearly reports where—
- Glass: Oh, all the electronics companies do?
- Duhigg: Not all of them, but most of them do. It's become sort of the standard operating procedure for almost any company, not just electronics, but also textile companies, etc., to do audits and then release a report saying, "This is what we found in aggregate." They don't give specific figures. So you don't know Foxconn is responsible for these types of violations, and this other company for these types of violations.
- Glass: Right, they don't say which violations go with which company, usually, in these reports.
- Duhigg: Exactly. They haven't, and they have not until now done that.
- They've said that they might do something bordering on that, but it's unclear exactly what it's going to be.
- Apple is unique within electronics in that they conduct more inspections, more audits than probably any other electronics company, and again, most of what we know about the harsh conditions inside Apple factories comes from Apple itself. And anyone who reads those would be able to sort of paint a picture of what conditions are like inside Apple factories.
- Glass: To their credit.
- Duhigg: Absolutely. Absolutely.
- And, and I, I believe that they take this very seriously. People I've spoken to within and without of Apple say that they believe that this is a priority. There's reasons, tensions within Apple as to why improvements have not happened faster. But it is certainly something that Apple takes seriously and that they are very active on, particularly lately, after there's been a lot of coverage of the issue.
- So just to go over just some of the statistics, and these come from Apple's reports that are available on their website, if anyone wants to go and look at them.

In 2007 Apple conducted audits at 39 facilities. Of those, they found that 66% of the facilities that were inspected, more than 50% of the workers were working more than 60 hours a week.

That number continues, although the number of facilities inspected gets larger. More than 50% of facilities are violating limits on how many days per week people should work or how many hours per week people should work.

In addition, they have found instances of underage workers. When Apple finds underage workers, or when Apple finds any violation of the code of conduct, they immediately require remediation. And then they also require the company, the supplier to put in place a new management structure to make sure that that problem won't occur again.

Now, because we see year on year on year violations of some of the standards, some critics have said that shows that the management changes put in place are not robust enough to actually prevent repeated problems from occurring.

It's impossible for us to know whether that's true, because the data is aggregate. We can't tell if the high numbers are [high] because the pool of audited facilities keeps growing, or because there are repeat violators within that pool.

Glass: Oh, it's because they lump them together. They don't tell you what's happening at each factory, so you can compare one year at that factory to the next.

Duhigg: Yeah.

In addition, here are some of the other issues that are, that, since 2007, Apple has said they have found within their factories: Pay structures that are too complex, which as a result mean that workers do not receive the pay that they should be due under the promises made to them by the supplier.

In a number of instances, less than minimum wage being paid to workers. Improper overtime.

Some of the other, some of the other violations include hiring 15-year-olds, underage worker, falsifying records when inspectors have come in, to try and hide some of the lapses. Extended overtime, people working more than six days a week, so essentially working every single day.

Improper disposal of hazardous waste, involuntary labor, and by involuntary labor what Apple means is people paying high charges to get their jobs.

Glass: In other words, they pay some fixer or some company to get the job, and then basically they spend their time on the job paying off the person who got them the job.

Duhigg: Exactly. It appears to be a sort of form of indentured servitude, and Apple categorizes that as involuntary labor, and Apple, to its credit again, has helped stamp out much of that inside the supply chain, and has been kind of a leader on that issue. But it still continues to occur.

And the one issue where we get to a place where there is a, there seems to be a difference in the record is SACOM, the Students and Scholars Against Corporate Misbehavior, which is this, this advocacy group, releases reports that are different from Apple's reports about what conditions are like.

SACOM tends to paint things in a harsher light and a more widespread problem light. So for instance, one of the things that SACOM has written about is that they have claimed that a number of workers are forced to take place in military-style calisthenics before work begins.

Someone from SACOM told me that they had reports that at one of the factories there were some sexual assaults because security had not been strengthened sufficiently, and then security was strengthened. They also describe conditions in the dorms as being significantly harsher than what Apple often describes.

But again, these two buckets, I mean I think the important thing here is that some of these are simply very very harsh conditions, and some of these are life-threatening situations.

And, and the very very harsh conditions is the bulk of what people experience. The life-threatening conditions, as far as we know, seem to be limited to a relatively small number of incidents.

Glass: And the harsh conditions, how bad is it?

Duhigg: I mean... I think it depends on where you sit, right? Like a lot of the people who come into these factories, as you pointed out, these are people who have left their villages, they want to earn as much money as they possibly can. They are looking for opportunities to

work long stretches, right? So, I don't think holding them to American standards is precisely the right way to look at the situation.

Now, that being said, they still complain about their lifestyles, they still say, "I'm being asked to do too much, and I'm being asked to do work that I find to be physically painful. I, I don't get to choose when I have overtime, I'm essentially coerced into overtime. I'm living in dorms that I really do not like, that I feel pose at least a, a threat to my mental health, if not, you know, to my physical safety."

You would, I do not think that you would find any factory in America where you would find those same conditions, and you would not find any Americans who would tolerate those conditions.

That being said, I think that China is a little bit different, and that the expectations, particularly as a developing nation of workers, are a little bit different. And so there's more tolerance for harsher working conditions. The place where I think you can draw a line in the sand, though, is when people get injured or when people get killed.

Right? Regardless of where you're living, regardless of what type of economic development is happening in that nation, if people's lives are at risk within a factory setting, then that is unacceptable regardless of where it's occurring. And no worker is ever comfortable or ever willing to enter a situation where they think there's a reasonable expectation that they're gonna be hurt.

Glass: Right. And hundreds of thousands of Foxconn workers are working there because they don't think they're gonna get hurt.

Duhigg: Absolutely. Foxconn employs 1.2 million people in China.

Glass: And generally they're not hurt.

Duhigg: And generally they're not hurt. And in fact, I haven't done this reporting, we haven't polled everyone who works at Foxconn, but we know that there are a number of workers who say that they're very thankful that they have this job.

They're earning a lot, a lot of money, a lot more than they could anywhere else. We know that companies like Foxconn, for instance, that conditions in general are better at larger factories than they are at smaller factories, because smaller factories tend to cut corners way more aggressively.

So a number of people who move into these cities as migrant laborers, they start a small factory and they want to get to Foxconn, because Foxconn's conditions are frankly better. But by comparison to American standards, by comparison to what most consumers probably believe are the conditions in which these products are made, I think a number of Western consumers would be surprised or have been surprised or shocked to learn how harsh the conditions are inside the factories.

Glass: But to get to the normative question that's kind of underlying all the reporting and all the discussion of this, I feel like the thing that we all want to know when we hear this is like, "Wait, should I feel bad about this?"

You know what I mean? As somebody who owns these products, should I feel bad?

Duhigg: Ss, so, so it's not my job to tell you whether you should feel bad or not, right? I'm a reporter for the New York Times. My job is to find facts and essentially let you make a decision on your own. But let me pose the argument that people have posed to me about why you should feel bad, and you can make of it what you will.

And that argument is there were times in this nation when we had harsh working conditions as part of our economic development. We decided as a nation that that was unacceptable. We passed laws in order to prevent those harsh working conditions from ever being inflicted on American workers again.

And what has happened today is that rather than exporting that standard of life, which is within our capacity to do, we have exported harsh working conditions to another nation.

So should you feel bad that someone is working 12 to 24 hours a day in order to produce the iPhone that you're carrying in your pocket—

Glass: Well, now like, when you say it like that, suddenly I feel bad again, but okay, yeah.
[laughter]

Duhigg: I don't know whether you should feel bad, right? I mean—

Glass: But, but finish your thought.

Duhigg: Should you feel bad about that? I don't know, that's for you to judge, but I think the the way to pose that question is: do you feel comfortable knowing that that iPhones and iPads and, and other products could be manufactured in less harsh conditions, but that these

harsh conditions exist and perpetuate because of an economy that you are supporting with your dollars.

Glass: Right. I am the direct beneficiary of those harsh conditions.

Duhigg: You're not only the direct beneficiary; you are actually one of the reasons why it exists. If you made different choices, if you demanded different conditions, if you demanded that other people be, enjoy the same work protections that you yourself enjoy, then, then those conditions would be different overseas.

Glass: What does Apple say about these two explosions? What do they say they did after the first one, and after the second one? Did they say that they actually tried to take steps?

Duhigg: Yeah. Apple is very tightlipped. What, they said after the first explosion, was that they brought in a team of experts to diagnose the cause of the explosion, and that they made changes within Foxconn plants in order to prevent a similar explosion from happening.

Seven months later another explosion did happen at a non-Foxconn plant; it was a plant owned by another company. And Apple has not said why that explosion occurred in the context of the first explosion. They have said that the root cause, again, was aluminum dust, but that it was a different kind of explosion, without explaining what that means.

And so to sort of try and summarize Apple's position, what Apple has said is, "We tried to do everything that we could to prevent another explosion from happening. Another explosion did happen, but for different reasons than what we, what we responded to."

Now, there was a report that actually came out this morning from NPR, a reporter named Frank Langfitt who talked to employees in the plant where the second explosion happened.

They said that Apple actually had come into the plant—and again, this is someone else's reporting, I'm just repeating, I can't vouch for it myself. They said that Apple had actually been in the plant a few hours before the second explosion occurred. And that the managers of that plant had tried to hide evidence of dust buildup. But that Apple should've been aware of the possibility of explosion. That literally just came out this morning.

- Glass: One of the things that you and David Barboza write about in your series is that, is you write about the tight profit margins for Apple suppliers. Could you just explain how that works and how that factors into this?
- Duhigg: Absolutely, 'cause that has a huge impact on this. Apple is known as being one of the most aggressive negotiators in terms of the prices that they're willing to pay. Because everyone knows that if you land Apple as a client, it helps your reputation enormously. So essentially, every supplier out there wants to work with Apple because it's like a badge that they can bring —
- Glass: That they can bring the quality, they can bring the volume.
- Duhigg: Exactly, exactly. Apple's the gold standard. As a result, Apple has this enormous negotiating power, and they use it, I am told by our sources, very aggressively to come in and basically say, "Show us your entire cost structure, every single part of what you pay and what you... and piece of your, your, your internal economics, and we are going to give you a razor-thin profit margin that you're allowed to keep."
- Now, a number of companies and a number of activists outside of companies and other companies have said this is part of the reason why conditions are so harsh among Apple suppliers, is because they literally don't have the money to pay for better conditions. That once Apple comes in and says, "We're gonna give you a razor-thin profit margin," that's when companies start cutting corners, or they can't afford to hire more people in order to work on the line, so that you don't have to work these long stretches.
- So there's a huge pressure there. And this gets to one of the points that our story makes, is that when I spoke to people inside Apple and former Apple executives, they told me that there's a genuine desire within the company to improve conditions overseas, to make sure that Apple products are made in non-harsh working conditions.
- But that this genuine desire runs into two other desires that exist within Apple, one of which is to deliver the best product at the lowest price to the consumer, or at least a, a low price to a consumer and allow for large profits for Apple to keep, because that funds future innovation. And that as a result there's a conflict within the company over keeping costs down versus improving conditions.
- Glass: One of your sources said, "You can set all the rules you want, but they're meaningless if you don't give suppliers enough profit to treat workers well." This is a former Apple

executive who you write had firsthand knowledge of the supplier responsibility chain. "If you squeeze margins, you're forcing them to cut safety."

Duhigg: That's exactly right, and that's been, this has been an issue that has come up in a number of other companies. Right? One of the big things right now in corporate responsibility is called capacity-building, which means giving your suppliers enough money and enough time so that they can do things the right way.

Since we published these stories, Apple's actually announced a number of changes. So things are I think improving and will continue to improve. And Apple is driving those improvements, since the story's published.

But the other thing that's happened since the story's published is that Apple's continued to become larger and more profitable and the biggest company in the world, right? So clearly, most consumers don't actually feel strongly enough about this to change their consumption habits.

Glass: You have these, quotes in your story, there, most of them from unnamed Apple executives, former Apple executives, where people say things like, "We've known about labor abuses in some factories for four years and they're still going on." This is a former Apple executive who spoke under condition of anonymity. "Why? 'Cause the system works for us. Suppliers would change everything if Apple told them they didn't have another choice. You could set all the rules you want, but they're meaningless if you don't give suppliers enough profit..."

There's another one: "If you see the same pattern of problems year after year, that means the company's ignoring the issue rather than solving it." This is a former Apple executive. "Noncompliance is tolerated as long as the suppliers promise to try harder next time. If we meant business, core violations would disappear."

And from your article I didn't get a sense of whether you thought Apple is actually taking these things seriously and trying to fix them, or if they're taking it seriously in some cases, but other ones it's just they don't bother.

Duhigg: Well, I think what happens is that when I talk to Apple sources, they sort of respond to that in two ways: First of all, they say, "We feel as a company we are limited in how many changes we can make. We can only push our suppliers so far." Others from within Apple, former Apple executives say that's a self-imposed limitation.

"If Apple demanded X and said, 'We're willing to fire you if we don't get X,' then X would happen immediately."

At some point Apple's desire to change things within factories runs up against other desires. This desire for quick turnaround, for almost continuous innovation, for delivering products with large profit margins to fund future innovation. Right? So, so no matter how strong your desire is to improve working conditions, it comes at a cost two the product at some point.

Glass: But take the issue that Apple, take the issue that Apple's head, Tim Cook has said, "This is the one that we're gonna fix next, that we take the most seriously, and that's the number of hours of overtime that people are doing."

If they're serious about that, you know, you have to have more people around. Like that's not a complicated engineering problem; it's just you have to have more people around to cover all of the staffing needs you have.

Duhigg: But the only way that you get Foxconn to hire more people is you say, "If you don't do this, we're going to fire you. We're gonna walk away from this contract." And, and, and it's unclear whether Apple can walk away from Foxconn, right? If Apple walked away from Foxconn, it would take months, maybe even as long as a year to find a replacement for Foxconn.

So Apple can make demands, they are making demands of Foxconn and every other plant, but we know that Foxconn is ignoring some of those demands.

The cost to Apple and the cost to consumers to walking away is not immaterial; the cost is it would take longer to make these products if they had to replace Foxconn.

Glass: Can I ask you, what, what are you and David Barboza, your partner in this, what are you guys looking at in this coming year to see if Apple is improving in the way that these conditions happen?

Duhigg: What Apple has said and what we are going to be studying as we continue covering this— Apple has said that it'll become more transparent. At this point one of the biggest problems is that Apple says because of their audits, condition improve inside factories. We have no way of validating that because the data does not allow enough granularity to see if there's year on year improvements in particular facilities.

My understanding is that Apple has said that they are going to begin releasing essentially granular data, and so we're looking for that to test the claims that things are improving as a result of Apple going in and demanding changes.

I think the second overall thing that we'll look for is to see if, in fact, in aggregate, conditions are improving. And this is, this is also a function of the Chinese economy, right? This is a function of workers becoming more empowered more demand for their services, and so they gain an economic lever.

Will there continue to be accidents? Will there continue to be threats to health and safety that are significant enough that they would be intolerable in any country? And moreover, will we hear workers saying, "I feel like I have more control over my life?" If a worker says, "I don't have control over my life; I have to work these hours that I don't want to work, and that are a long, too long, or I have to work in conditions that cause significant physical damage or significant physical pain," that's I think objectively a bad thing

Glass: I want to ask you about one or two things that Mike Daisey cites specifically in his story and ask if these are things that you've seen as problems. And one of them is repetitive motion injuries. He says that he met workers who have repetitive motion injuries, and that workers aren't rotated in their various jobs, which would make those less severe.

Duhigg: Let me just tell you precisely what we know. Let me answer that question by going directly to the statistics that Apple has released. I'm going to be quoting here from the Apple supplier responsibility 2012 progress report, which reflects conditions that were discovered as part of the audits in 2011. Apple audited 229 facilities that year.

And again, this is just at the facilities that they looked at and they went in and they audited. They found that within 35% of those facilities, within 35% of those audits, suppliers did not have in place sufficient practices for occupational injury prevention.

So 35% of the audits that they conducted, there was something about occupational injury prevention that was not proper, that violated the code of conduct. For ergonomics, which you asked about, 34% of the audits showed that facilities did not have proper ergonomic programs in place.

Glass: And so that's the stuff that would create carpal tunnel and other repetitive motion injuries.

Duhigg: Exactly. So, so we don't know necessarily that in 34% of facilities, someone was injured. It's hard to draw conclusions. But the data says that in 34% of the audits conducted, the

facility did not have proper ergonomic programs in place to prevent repetitive stress injury or to prevent some type of crippling incident as part of working.

We also know that in 23% of the audits that were conducted, that there were lapses or violations in occupational safety procedures and systems. Again, we don't even know what that means. Does that necessarily mean that there were people being exposed to toxic chemicals or does it just mean that like theoretically someone could've been exposed to a toxic chemical?

Glass: And then, and then another, another thing that I heard about as we were putting that show together—so another thing that I've heard about—and this was not in Mike Daisey's show, but this was SACOM's report, the advocacy group, is that they talk about a high percentage of Foxconn workers on their feet, standing all day long in jobs where you wouldn't necessarily have to stand at all.

These are just assembly jobs. And I saw in your reporting that Foxconn says, "No no no, it's only five percent of our workers who are on their feet all day, and not all the workers." Did you guys report on this at all? Do you know anything about—

Duhigg: We've done some reporting on this, and in this, I don't know what the answer is.

Glass: Okay.

Duhigg: Foxconn says that they have ergonomic specialists who come in and design things in such a way to lessen as much as possible the ergonomic damage that, or ergonomic impact—

Glass: Hm.

Duhigg: —of this work. SACOM disagrees. SACOM, the advocacy group you mentioned, says that many more people stand for longer periods. My colleague, David Barboza, has spoken to a number of people who say that they have to stand all day long. That being said, we might've just spoken to the five percent, right?

Glass: How does Apple compare to other companies when it comes to getting better conditions for workers?

Duhigg: Let me answer that two ways, because there's, there's what's happened since the articles came out, and then prior to the articles. And so let me answer prior to the articles. What

we were told is that Apple, Apple is certainly more active, Apple seems to, to spend more time conducting audits and sort of being taking this issue seriously as an organization.

Now, that being said, Apple is also by far the biggest player, right? Apple helped create the supply chain probably more than any other electronics company, and it dominates the supply chain certainly more than any other electronics company. So Apple's efforts in some respects were not up to par with competitors.

We're told that competitors, HP and others, allow for larger profit margins if those profits are used to offset the cost of improving work conditions. What's called capacity-building. We were told that Apple was a significant laggard in that. For a number of years Apple did not release the names of its suppliers.

So there was much less transparency for outsiders to see, hold, basically test whether Apple was telling the truth within the documents that it releases.

Since then, since we started doing this reporting, since the stories came out, and since we told Apple that we were working on the story, they've made a number of changes.

They have released the name of many of their suppliers, although not their secondary suppliers. They have brought in an outside group named the Fair Labor Association to conduct independent audits, and they've said that they've made, they will make the results of those audits public.

So unfortunately there's not a simple answer to how they compare to others.

Duhigg:

Except that the answer would be for a number of years, Apple was seen as being a laggard behind their competitors, which was unfortunate because Apple was the biggest player, had the most clout within the system. Since the articles came out, since this reporting occurred and since this became more of an issue, Apple has, I think, exceeded in some respects what its competitors do, and it's probably making more of a positive difference than a number of other companies.

Glass:

In addition to that, one of the things that we heard from a number of people in that first episode we did with Mike Daisey is that one of the biggest problems that Foxconn and other companies face is that there's such a demand for workers that they now actually have to compete for the workers, and so they have to improve the wages and the conditions to get them in, and people who were knowledgeable told us that is beginning to happen.

Duhigg: That's exactly right.

That's a relatively new phenomenon, right? That's really only happened in the last year. And it can also be mitigated by the fact that Foxconn for instance is moving out of the coastal areas, which have traditionally been the manufacturing hubs, into the inland provinces.

Glass: Oh, they're doing that so they don't have this problem.

Duhigg: Right, there's more, there's more labor supply, right? If your supply of labor starts becoming smaller, you move to where there's a greater supply. Foxconn is also increasingly automating. They've announced that they're gonna, they're gonna essentially buy a million robots, so that they can replace some human tasks with automated robotic tasks again, because robots, there are no inhumane conditions for robots, right?

Glass: One of the most interesting things and one of the newest things that I think you pointed out in this series is that, is that the cost of labor in an iPhone if it were made in the United States would be only about \$65 more per phone.

I mean, that's a lot of money, you know, if you're manufacturing stuff. But with iPhones selling with hundreds of dollars profit in each phone, Apple could still make a profit if it were manufacturing in the US, and you have an entire article where you lay out: that is not actually the main reason why these are made overseas.

You argue that the main reason they're in China is not actually the labor cost at this point.

Duhigg: That's exactly right. And, and that \$65, that's the high-end estimate. Some people told us that you could, from a labor perspective you could build the iPhone in the United States for just ten extra dollars a phone if you're paying American wages. But labor is such an enormously small part of any electronic device, right? Compared to the cost of buying chips or making sure that you have a plant that can turn out thousands of these things a day or being able to get strengthened glass cut exactly right within, you know, two days of this thing being due, that's what's important. Labor is almost insignificant. What is really important are supply chains and flexibility of factories.

You want to be able to be located right next to the plant that makes the screws so that when you need a small change to that screw factory, you can go next door and say, "Give it to me in six hours," and they can say, "Here you go." Because if that factory was in another state or on another continent, it would take two weeks.

It's the flexibility within the Chinese manufacturing system, and the fact that all of the supply chains, everything, every component that you need and that you need hundreds of components to come together exactly at once, that's what you can do in Asia that you can't do in the United States.

Glass: There's, there's a bunch of incredible stories you tell in that article, and one of them is you talk about the number of industrial engineers needed to oversee 200,000 line workers. You say there's 8,700 industrial engineers that you need. And so to get this plant going, to get this particular operation going that you were writing about—I can't remember which one it is—you said it would take nine months to find those 8,700 industrial engineers in the United States, and in China, how long it took?

Duhigg: 15 days. And that 15-day figure, the guy who told me that was also, also told me that that's basically because they kind of drug their heels on it a little bit. They probably could've done it faster.

And what's important about those industrial engineers is we're not talking... The United States has the best-educated workforce in the world. If you need top engineers, no place can touch the US. But the industrial engineers that Apple needs are people who essentially have high school degrees, and then two years of additional kind of technical training.

Glass: Because they're basically setting up, "Here's how we're gonna do this with these workers in this assembly line." They're setting up operations.

Duhigg: That's exactly right. They don't need someone with a college degree from, you know, Carnegie-Mellon; they need someone who has vocational training. And the US has essentially cut all of our vocational training. China on the other hand has expanded it enormously.

If you want to DESIGN something cool, you don't go to China. If you want to BUILD something cool, there's no other place to go. Because it'll take you nine months to find the engineers you need in the US, and 15 days in China.

[END]