# A wrinkle in time questions and answers pdf

A little over ten years ago, I had the great pleasure of hearing an introductory speech for my son. Eric Lander, leader of the human genome project, described his journey through science and life. He shared that he did not have a clear direction as a math major at Princeton, and the maze of decisions that followed to get him to genetic biology. He also shared the process of science and its adoption in the culture and economy of the modern world. His punchline was that it takes a generation to understand and incorporate scientific discoveries into economics and culture, as my father had once told me. There are many things that ring true from this extraordinary scientist, but I no longer agree with his assessment of the cadence of innovation. It's faster — much faster. The cycle of innovation that started in chemical laboratories, thousands of experiments, and hundreds of clinical trials, has now been replaced by millions of natural experiments per day. This is not only true for elite scientific disciplines, it's true in our everyday social life—as we know. Our every communication, yes our every footstep, can be tracked and tested for its predictive power. The fuel for this acceleration has data-loads of data. From micro-analyses to blog posts, the explosion of data has been nothing short of meteoric. The challenge, as always, is to turn raw data into observations in the real world that can indicate reliable patterns and signals that provide insights and predict results. Today, through the combination of big data economics, data analysis, cataloguing and advanced visualization and machine learning, we can build an ecosystem that breaks the generational barrier. Rather than waiting decades for discovery to become accepted theory, we can now create insights in days or weeks and act on them immediately. In other CIO.com post, I have written about how this acceleration has driven predictive M&; A activities, dramatic reductions in data management costs, and raised the issue of retaining top talent. Further consolidation of the data management and insight analysis pipeline is ongoing. The combination of my company, Podium Data and Qlik, is an example of how the market structures itself to provide on end-of-life solutions where computer scientists, knowledge workers and every day consumers can effectively work together to make business decisions. Here are several of the principles I think are critical to the future ecosystem: Raw to clear: the system should automatically detect dirty data, incorrect data types, and semantically ambiguous or questionable data. If the data is structurally unhealthy, it cannot be analyzed for patterns and insights. Self-service shopping: information seekers should be able to browse, review and shop for data through a smart catalog that is well documented and accessible. Democratisation data and analytics expand society from elite computer scientists to a wide range of consumers with access to well-controlled, controlled data. An important human part of this expansion is computer literacy to ensure that the workforce can take full advantage of these new features. Fast iterations: analysts should be able to load, access, prepare, and analyze data in minutes without IT professionals in the loop. Unlike the traditional method of silo'd analytical sandboxes, the new paradigm provides a common platform that manages data throughout the DataOps lifecycle from discovery to production. This further connects the communities of data scientists and business analysts and supports crowd sourcing of information such as the most popular or reliable data sets. These principles serve to optimize a basic metric analysis I defined 10 years ago: What is your time to respond? We know that companies that can deliver responses in hours instead of days (and days instead of months) don't just save time and money—they actually transform the business. Analytics start informing urgent business decisions, processes become instrumented for optimization, data and insights become new products. Just look at how companies with rich data and agile analytics (Amazon, Google) are attacking traditional markets (insurance, banking, retail). Corporate boards and C-suite executives are launching strategic digital transformation programs to compete in this new world. The lifeblood of these programs is an agile, integrated ecosystem of data and analytics that accelerates time-to-answer and enables a fast test-and-learn cycle. Copyright © 2018 IDG Communications, Inc. In an in-depth interview, we asked Collins about the implications of his research and ideas for the economy, the stock market, and the very nature of executive leadership. The good-to-great companies that you wrote about all achieved remarkable stock market results over a 15-year period. But today the stock market is down. Does that mean we won't see any good-to-good companies today? First, I would like to correct a major misconception. The stock market is not down. What does the stock market look like compared to 1985? The stock market is not down. What does it look like in relation to 1990? The stock market is not down. The market was irrationally out of whack — we didn't have a stock market; We had a speculative casino. The tech bubble was not the new economy — there is a new economy that has been going on for years at a deeper level. But the brutal fact is that the companies that were at the top of the tech bubble didn't have results. You can't make zero profits and claim to have results. As for companies that had good results before the bubble burst, they're in a down period now, but so what? The bottom line of a company like Cisco is, we don't know the answer yet. It may be that these companies only in a very difficult 6- to 12-month period. Let me use an analogy. Let's say you have a great basketball dynasty like the UCLA Bruins under John Wooden. This is a team that will win 10 NCAA championships in 12 years. They are a team that went from good to good. But in 1970, they lost three games. Does that mean we should write them off and say they're not a good team? We need to look at for a long time. The same goes for companies that got stuck in the bubble. It was too short a time. It will take longer to tell which companies are in trouble now simply going through a temporary period and will have the resilience to come back. But for many businessmen, the current slowdown is a sign of the demise of the new economy. This is one of the most wonderful times in history. Two or three years ago, what was the big complaint we heard? It's so hard to get good people! Whine, whine, whine! Today we have been given the greatest opportunity that we will have for decades to have snag a boatload - not a busload, but a boatload - of great people. And good companies always start with who, not what. We can finally get to the right side of Packard's Law. Packard's law is like a law of physics for large companies. It says that no company can become or remain large if it allows its growth rate in revenue to exceed its growth to get the right people in a sustainable way. It is one of the timeless truths that transcends technology and economics. Now, instead of trying to raise capital, we can gather people. If I run a business today, I would have a priority above all others: to acquire as many of the best people as I could. I would put off everything else if I could afford it —buildings, new projects, R&D—to fill my bus. Because things are going to come back. My flywheel will start to turn. And the single biggest constraint on growth and success of my organization is not markets, is not technology, is not possible, is not the stock market. If you want to be a good company, the single biggest limitation on your ability to grow is the ability to get and hang on enough of the right people. This is also a good time to force yourself to look back. When you broke Packard's law, you probably let a lot of the wrong people on the bus. This is a good time to get them off. In fact, it's a little easier to do it now. We can blame it on the circumstances. What else would you do to capitalize on this period of revaluation? This is also a great time to ask yourself some really difficult questions. In an age of irrational prosperity, where the market would give you money whether you delivered or not, a lot of companies hadn't answered any of the questions in the three circles (What can we be the best in the world at? What is it denominator that best drives our economic engine? And what are our core people deeply passionate?). They had no idea what they could do better than any other company in the world that was sustainable, they had no profit denominator, and the only thing they had passion for was turning the company around. Now we can no longer live in that fantasy land. We need to take a hard look at all the things we do and put them all to three-circle testing. All the things that fail the test we have to stop doing—today. I see lots of companies that found themselves with lots of capital. So they wandered into all kinds of acquisitions or new ventures or new directions, simply because they could. But they didn't necessarily fit into the three circles. Today, the task is for them to crop away. Those who clarify their three circles will come out of this just fine. The ones who don't deserve to die. CEOs today find themselves with little time to prove their worth. What advice would you give to a CEO on the hot seat? If I was a CEO on the hot seat taking over a company that I wanted to move from good to good, here's what I would do. I would take the good to good stock charts, and I would put it in front of my directors. I would say, We are on the left side of this curve. We want to be on the right side of the curve. Right? If that's what we all want, we know what will take to get it. You can't keep lurching from CEO to CEO. If you do, you'll end up in the Doom Loop – and we'll end up as one of the comparison companies, not one of the big companies. I don't think all directors are stupid. Most of them are intelligent, but they are active out of ignorance rather than a lack of good intentions. We must hit them in the head with the empirical results. Our job is to beat the market in a sustainable way over time. We have to think about the share price over a five-year period. And we need to start doing everything necessary to turn the swing. Finally, if I'm ceo, I want the board to give me the following assurance: How long or short my time as CEO might be, who you choose as my successor must pick up that flywheel in the middle of time and to continue to push in a consistent direction. I might just get the flywheel turning at 16 rpm. But my successor has to take it to 100 rpm. His successor must take it to 500 rpm, and his successor to 1,000 rpm. It's not about me as CEO — it's about a commitment to a consistent program. We're not going to make a Doom Loop.The CEOs who took their businesses from good to big were largely anonymous — a far cry from the celebrity CEOs we read about. Is it an accident? Or is it cause and effect? I think it is more a matter of cause and effect than an accident. There is no direct link between the absence of celebrity and the good-to-good results. Why? First, when you have a celebrity, the company turns into a genius with 1,000 helpers. It creates a feeling that it's all really about the CEO. And it leads to all sorts of problems—whether the person passes away or if the person turns out not to be a genius after all. On a deeper level, we found that for leaders to do something great, their ambition must be for the greatness of work and the company rather than for themselves. That doesn't mean they don't have an ego. That doesn't mean they don't have any self-needs. That means that at decision point after decision point — at critical times when Choice A would benefit their ego and Choice B would benefit the company and its work — time and again the leaders pick Choice B. Celebrity CEOs, at the same decision points, are more likely to favor self and ego over business and work. Like the anonymous CEOs, most of the companies that made the transformation from good to good are unheralded. What does that tell us? The truth is, most people don't work in the most glamorous things in the world. They do real work — which means most of the time they do one of a lot of drudgery with only few points of excitement. Some put out baked bread. Some build stores. The real work of the economy gets done by people who make cars, who sell real estate, who run grocery stores and banks. So one of the great results of this study is that you can be in a big company and do it in steel, in pharmacies, in grocery stores. It's just not that if you're not in Silicon Valley, you're not cool. It doesn't matter where you are. So no one has the right to whine about their company, their industry, or the kind of business they're in — ever again. Did the eleven companies that made the transformation of their anonymity benefit? One of the great advantages that these companies had was, no one cared! Kroger started its transition; Nucor started its transition; no one expected much. They could underpromise and overdeliver. In fact, if I took over a company and tried to get it going from good to good, I would tell my vice president of communications that his job was to make the whole world believe that we were constantly on the verge of doom. During our study, we actually printed out transcripts of the CEO presentations to analysts of the good-to-large companies and comparison companies. We read all these. And it's striking. The good to good people always talk about the challenges they face, the programs they build, the things they're worried about. You go to the comparison companies, they constantly hyping themselves, they sell the future — but they never deliver results. If I'm not the CEO, how do lessons apply to me? The good-to-good concepts apply to all situations — as long as you can choose the people around you. That's the crucial thing. But basically, we really do— we have a lot of discretion over the people in our lives, the people we decide to let on our bus, whether it's in our department at work or in our personal lives. But the basic message is this: Build your own flywheel. You're going to make it. You can start building momentum into something that you are responsible for. You can build a good department. You can build a large church community. You can take each of the good to good ideas and apply them to your own work or your own life. What did your study teach you about change in business in general? Is it essentially a message to go back to basics? Very rarely do significant changes ever lead to results in a sustainable way. It's one of the really important results of the book. We started with 1,435 companies. And 11 companies did. Let's just look at the fact for a moment. In fact, it doesn't happen very often. Why not? Because we don't know what the hell we're doing! And since we don't know what we're doing, we start in all sorts of things that don't produce results. We end up like a bunch of primitives dancing around the campfire and chanting on the moon. What I feel strongly is that we need some science to understand what it really takes to change things. Is it back to basics? No, it's forward to understanding. Why is it back to basics to say that CEOs need to be ambitious for their companies and not for themselves? Why is it back to the basics to make who and the people ask first and what and where to ask others? Since when is it back to the basics of a company to start with a question like, Why have we sucked for 100 years, and what are the brutal facts that we have to confront? Why is it back to basics to say that stop-doing lists are more important than to-do lists? And since when has it been back to basics to say that technology is just an accelerator and not a creator of anything? I don't think these concepts are back to basics. Because if they are, we should be able to go back in time and find that people were using these ideas. People didn't — which is why there are only 11 out of 1,435. So, no, it's not back to basics. It's forward to understanding. What is your assessment of the new economy? We have seen a lot of changes, and we have seen a lot of backlash against the change. How do you make sense of it all? The enormous changes that are taking place around us make it the most exciting time in history to live. It's really fun. All these changes – changes in technology, globalisation – they are brutal facts that must be integrated into whatever decisions we The people at Walgreens did not ignore the Internet because they were only on grounds. They confronted the brutal fact of the internet and then asked, How does it fit into our three circles, and how can we use it to spin our flywheel faster? You never ignore change – you beat them straight to the point as brutal facts, or you come to them with a great sense of joy and excitement. This change, this new technology opens up a way for you to win, to become even better as a company. All the good to large companies took changes and used them to their advantage, often with great pleasure. When new pianos arrived, Mozart didn't hang up his music. He didn't say, there are these new pianos! Harpsichord is out of the way, so I'm washed up as a composer! He thought, This is so cool! I can do it loud with the piano fast! This is really neat! He kept the discipline to write good music and at the same time embraced with great joy and excitement the invention of pianos. With all the change around us, we must be just like Mozart. We maintain a great discipline about our music, but at the same time, we embrace things that can allow us to make even bigger music. Alan M. Webber (awebber@fastcompany.com) is a Fast Company founding editor. Jim Collins (jimcollins@aol.com) wrote the essay Built to Flip in the March 2000 issue of Fast Company. His new book, Good to Great: Why Some Companies Are Doing Leap... And others do not, will be available in October. October.