Taking Charge in a Crisis

"Your first move should be: Stop! Take a mental step back and distill the essence of the issue. The more serious the leadership challenge, the more necessary this lesson."

Two years earlier, towards the end of 2009, Nokia's leadership commissioned McKinsey consultants to assess and provide ideas to improve the organizational efficiency of the company. McKinsey's Organizational Health Index (OHI) is a methodology used by McKinsey on thousands of companies to evaluate the drivers -- and detriments -- to creating a high-performing culture. OHI enables comparisons between the companies and can help a company understand their organizational health relative to others. Obviously, no company wants to be ranked in the bottom 50^{th} percentile.

Nokia ranked in the bottom *25^{th} percentile*.

McKinsey's ability to compare a large number of companies meant the ranking was relatively objective. This was bad news for Nokia as according to McKinsey historical data, there was a higher than 50% probability for companies in the bottom 25% to cease business operations within two years. (The report was not shared with the regular board members. I only learned about it in 2017.)

When I was asked to become Chairman in December 2011, it had been two years to the month since the OHI report put Nokia on deathwatch. According to their data, our time was up.

Nails in the Coffin

As McKinsey had predicted, we were sliding over the brink and hanging on by our fingernails. 2011 did not end well and 2012 started even worse. Having set the 2012 financial targets just a few months earlier, at the end of January Nokia already had to adjust the targets downwards.

Symbian was imploding before our eyes. Even if we had managed to turn out the perfect version of the Symbian OS for devices, it might not have helped. Users, app developers, resellers, operators -- everyone was beginning to believe that Symbian was toxic.

China was hammering nails in the coffin lid. Our growth in China had been based on the GSM/WCDMA platform for cellular networks. But as China shifted to TD-SCDMA standards (these are all different radio standards, which require modifications to mobile phones), what had been a uniform GSM market in 2009 had become a market in which two-thirds of the networks were *non*-GSM. The market we could sell into (management having decided not to invest in TD-SCDMA in order to keep costs down and profits up) shrank from 98% to 55% -- and in that remaining sliver, we faced very tough competition.

All the Chinese mobile phone operators suddenly changed their criteria defining how they would subsidize products along the range of price points. They basically said, “We will subsidize a product at Price A that fulfills these stipulations: this much memory, this type of processor and a display of the following specifications.” Similar criteria were issued for other price points. In our industry, operator subsidies had a significant impact on sales. All the Chinese manufacturers were able to manage their portfolios so that they had products that fit the new criteria and could benefit from operator subsidies. Unfortunately, the criteria were defined in such a way that Nokia did not, so we were not subsidized in what had been one of our major markets.

The collapse of Symbian sales intensified negative momentum. When sales cratered, everything needed to be downsized to fit that lower sales volume: Some future models had to be killed because the planned portfolio was too big and costly; cancelled products resulted in over-capacity in R&D, which led to further layoffs; fewer products to sell automatically meant sales went down even further. We were in a vicious, vicious cycle.

In addition to gutting our profitability, Symbian’s disintegration was wrecking our cash flow. In our model, we were paid by our retail channel before we paid our component suppliers. In an up-cycle, cash flows in like a flood tide. It’s like being automatically loaned a lot of money by the suppliers. But when sales start declining, the financial tide turns. The loan becomes due. Money is no longer coming in from the retail channel but you still have to pay suppliers and cover your other bills. Thanks to Symbian’s freefall, we were now facing strongly negative cash flows.

NSN was also draining cash. Nokia and Siemens, the two partners in the joint venture, had each put in a final €500 million. With that €1 billion and up to €1.5 billion from a revolving credit facility, the plan to restructure was a go. It's not always understood that it's hugely expensive to restructure. It is quite common for companies doing poorly not to have sufficient funds to restructure. Taking care of the employees who will be laid off and other actions is a double whammy to cash flow. "Workforce balancing" -- the euphemism for layoffs -- would be announced on January 27, setting off another negative news cycle around Nokia.

A few rays of light managed to sneak through the roiling clouds.

Nokia was doing well in the low-end. We had shipped the 1,500,000,000th S40 device in December -- that's quite a number! -- bringing in over €1 billion in profit in 2011. Maintaining that cash machine through a successful implementation of the Meltemi operating system was more important than ever.

And while the Lumia ramp-up remained slow and was dogged with significant quality issues, there was a lot of positive buzz around the Lumia 900. At the Consumer Electronics Show in early January 2012, it was dubbed "Best phone of CES."[i] AT&T would start promoting and shipping the Lumia 900 in March or April. One reviewer gushed, "It looks like a fantastic Windows Phone with outstanding hardware, design, and software…This is definitely the Windows Phone to beat."[ii] Expectations were high all around: from operators, industry analysts, the press, us and, not least of all, Microsoft.

There was one other item of special significance to me on the board agenda. The invitation to the AGM was approved and issued. It included the name of the proposed next Chairman. This was the first time people outside of the board knew of my future role.

But what kind of company would I be chairing? Things were going downhill so rapidly. I did not truly understand what our alternatives were: I just did not have enough data. Would I become Chairman of a company with a future or would I oversee Nokia's dismantlement?

Making Lists

As one of the youngest members of the board of directors, with little hands-on experience of running mega-sized companies and one who had been more critical than most on the way Nokia had been run, I was not an obvious choice for the Chairmanship, especially as the current Chairman did not support my election. I wanted to be extra-thoughtful about how I approached it.

As I started thinking, "How do I prepare?" I identified some things I could do to get a handle on the situation and ready myself for my new role.

I have long had a habit of keeping lists on various topics, ranging from thoughts about leadership to identifying potential problems and specific concerns to particular interests. (I use Microsoft OneNote for these lists. That way I can access them from any device I have.) The items on the lists come from everywhere: from my own real-life experiences, from challenges I know I will have to face, from something someone else has lived through and talked about or written about. Something rings a bell and I think, "Hey, that's something I appreciate. Write it down."

One of my favorite lists is about leadership.

Professor James G. March from Stanford University believes that people always have a target profile in their minds for any important activity that they engage in and they subconsciously aspire to behave according to that profile. I believe it is much more efficient to deliberate on what the profile should contain than to allow that profile to build randomly based on one's experiences. I have been working for almost 20 years to collect leadership behaviors that I believe in and that I try to realize in the way I interact with people.

When I knew I would become the Chairman, I once again looked over my notes about the kind of a leader I wanted to be. I thought about what that meant in terms of leading the board and working with the management team of a company in crisis. That helped me take some good steps in the early weeks and months of 2012.

The Courage to Break with Convention

One of the most important lessons from my lists was that whenever you start something important, your first move should be: Stop! Take a mental step back and distill the essence of the issue. Remember the traffic safety lesson you were taught as a child: Stop, look, listen. Think of this as the leadership version. And the more serious the leadership challenge, the more necessary this lesson.

I know this sounds counter-intuitive. In a crisis, it's natural to feel an urgent need to identify the core problem and come up with a solution. The more critical the situation, the greater the desire to act immediately. So as the storms around Nokia intensified, I deliberately forced myself to step back and engage in deep reflection.

This is not just about stopping to listen to people and looking around to examine the situation before taking action. What I am talking about is a rung higher on the abstraction ladder. Think: What would the prerequisite dynamics and behaviors from yourself and others be like so that you could, together, comprehensively understand the situation and come up with the right actions? What kind of a working environment would enable you to find the best way forward no matter what you end up facing? What might hold you back? How can you address those issues?

My biggest concern was, of course, that I would fail and speed Nokia's collapse in some way. This was a real possibility, at least if I believed the current Chairman. I couldn't erase four years of, "Risto, you come from a small software company. You don't understand how a global company the size of Nokia works." If some of the other board members shared Jorma's opinion, it might be really difficult to be an effective leader of the board.

And if I failed to show the board that I could do a good job from the start, that would quickly erode the credibility and confidence necessary to do the job well. That, in turn, would affect the management and senior leadership. If the management knows that the chair doesn't truly enjoy the support of the board members, it's difficult to deal with the CEO and the management team as well.

Your authority is directly related to your actions. Without the right actions, you do not have real authority regardless of your position. However, as a leader, you need to be aware of what the boundaries are and where, so you can avoid breaching them. That's something I'd have to keep in mind as Chairman.

The common denominator of my mental explorations were the *qualities* involved in trying to fix Nokia's myriad problems, not the actual *work* of fixing them.

To start with, I asked myself, “What am *I* accountable for? What is *my* ultimate duty? What are the limits of my responsibility? If my job is to lead the board, how can I do that in a way that will result in what we need?”

My first realization was that running the board based on traditional best practices would not cut it. I did not want the company to fail after I had done everything by the book. I realized that it was my duty to throw the “rule book for boards” in the trash and do whatever it would take to make Nokia successful again – within my personal values, Nokia’s values and rules and regulations, of course.

I reminded myself of one of my core beliefs: Don’t let your role define you. Or, in this case, don’t allow yourself to be limited by conventional definitions of your role.

Everything flowed from the answers to those initial questions: my role, the role of the board, the relationship between the board and the management team, how we should all conduct ourselves to accomplish our best work.

Without the courage to break with convention, we might no longer exist as an independent company.

Getting Acquainted with Management

Back in December, I had told Marjorie that I would like to get to know the members of the leadership team so that I could begin to learn enough of the details of the business to be useful. Her sole concern was that I might step on the CEO’s toes. Now that I was officially Chairman-in-waiting, I could freely engage with CEO Stephen Elop and start talking directly to the management team, something that hadn’t been possible earlier.

I remember the wariness in Stephen’s behavior when we first sat down to talk. I tried to impress on him that I truly understood that in order for the company to be successful, he needed to be successful and that it was my job to do what I could to make that happen. I invited him to talk with the CEO of F-Secure, the company I had founded and led for 18 years before moving on to become its Chairman. I explained to him how the more I knew about what was going on at Nokia, the better I would be able to help him. If I had good ideas, he could adopt them as his own; if the ideas were bad, he could just ignore them.

I made it clear that because the company was in such dire straits, I wouldn't just watch from afar. But I promised that I would always be completely transparent. If I talked with one of his team members, I would try to always send him at least a short note. In turn, he promised to encourage his leadership team to talk freely with me.

Stephen may have been worried that I would intrude on his turf but by the time I actually became chair, we felt quite relaxed with each other -- enough that I would regularly invite Stephen to join me in a kettle-ball workout and he would regularly find an excuse not to.

I also interviewed all of the board members about what they thought were the most important issues and what aspects of the board's role they would like to change. I got great ideas both from the old and the new board members.

We had brought in two new board members at the Annual General Meeting the previous May: Kari Stadigh is the CEO of Sampo, a Finnish financial superpower that owned the largest insurance company and 20% of the largest bank in the Nordic countries, and Jouko Karvinen was the CEO of Stora Enso, a global Finnish-Swedish forest industry giant whose origins date to before Columbus discovered the New World. Both are strong characters. Kari had been elected one of *Harvard Business Review*'s 100 best-performing CEOs in the world in 2014. We were golfing buddies from back when I still had time to play golf. He is always good company and has a quirky sense of humor but, best of all, he has very strong opinions -- especially about the importance of always working on behalf of the shareholders -- and is never afraid to share them.

Jouko liked to put on a humble façade but, like Kari, he had strong opinions and didn't try to hide them. Jouko was the epitome of a grumpy old man -- lovable and obstinate. I respected both of them tremendously. I was very happy when they joined the board because I knew they would not kowtow to anyone. They were good role models for the kind of a board I wanted to build.

With Stephen's support, I arranged meetings with management team members during the spring. I learned something from every conversation. As an example, one of the conversations was with Juha Putkiranta, Nokia's master of manufacturing, logistics and supply chain management. Juha explained to me that Lumia 900 had 800 separate components -- twice as many as a Symbian smartphone and a painful indication of how difficult it was to create devices on the new platform. The testing efforts for Lumia were ten times what was involved for Symbian. Were these indicative of a bigger trend? Had we gotten ourselves into an even worse mess than with Symbian, one I would be held accountable for if it failed?

In each of these conversations, I asked, “What should I change? And how could I change it?” After each conversation, I made notes and added them to my lists.

It’s perhaps unusual for a new Chairman to get involved with so many leaders but this is what any sensible person should do, especially in a company in crisis.

A Drumbeat of Despair

It’s fair to say that I didn’t realize how bad things were when I agreed to become the next Chairman of Nokia. As the early months of 2012 unspooled, I began to understand just how precarious Nokia’s situation really was.

Symbian continued to disintegrate; at the March board meeting, we began to discuss plans to end its life. Samsung was smelling blood and pouring money into programs targeting Nokia in every market with the goal of a final take-down. Samsung officially unseated us as the world's top handset maker at the end of April.[iii]

Despite positive feedback from the public and press, the hard facts about Lumia sales were depressing. Our blind shopper tests showed why: In a typical interaction, the sales clerk would ask an interested customer, “Do you want the iPhone or an Android?” Lumia wasn’t even mentioned.

Worse, now there was bad news about Meltemi.

It was originally assumed that Meltemi, the OS for low-end smartphones -- a sort of MeeGo-minus -- would be a straightforward project integrating MeeGo components for a simplified program. Instead, it turned out that the MeeGo components were too “fat,” i.e., designed for a system with more memory and processing power, to fit into the slimmed-down Meltemi criteria. We’d been assured in previous updates that Meltemi development was on track. Now we were told that the program would be delayed by five months.

History was repeating itself in the most depressing way: Just like the Symbian and MeeGo calamities, there was no single reason for the delay. It was the familiar frustrating refrain: a program spread among different development sites with different cultures, a lack of communication among the sites, a reluctance to raise red flags, and a program leader who purely relied on reports from his lieutenants rather than also talking directly to the developers.

Nokia's worsening financial situation raised the question whether we could afford a five-month delay -- and then, perhaps, *another* delay -- or whether we should just cut our losses and kill the Meltemi program. Meltemi was a key pillar in our mobile phone strategy: Would killing it eviscerate the one business in which Nokia was still making money?

We couldn't afford to make the wrong call. Nokia no longer had the credibility, nor could we afford, to continue burn cash at this rate.

Warning Bells

On April 11[iv], Nokia announced that it expected financial results to miss prior forecasts: First-quarter Devices & Services revenues would be about €4.2 billion, a 40% year-on-year fall.[v] Our operating profits from D&S were down by approximately €800 million.

Nokia's market cap was down to around €10 billion. Apple's was up to almost $600 billion.[vi] Nokia and Apple had been roughly even in 2008. Now Apple's market cap was 60 times as large as Nokia's.

A public company typically issues a profit warning when there is reason to believe that the actual results will deviate in a material way from the original guidance. Guidance can be given on almost anything: revenues, cash flow, the launch of a new product or earnings.

Sometimes profit warnings are positive but more often, they're negative. The implications of a negative profit warning are bad on two levels: the bad news is obvious, but a profit warning also indicates that the company's management was caught by surprise. It opens up questions about whether the company's forecasting processes are good enough: If something dramatic happened that made this a surprise, will it continue? Will this be a single event or a long-term trend? How will it affect employees', customers', suppliers' and investors' opinion of the management of the company?

Nokia's April 11th announcement that it expected bigger operating losses in its devices business and that the losses would continue for the first six months of the year caused its stock to plummet 16%, closing at $4.24 -- a 14-year low.[vii] And it accelerated a cascade of bad news: Our credit rating was slashed to "junk" status[viii], analysts downgraded the stock[ix] and share prices slid even further -- this time below $4.[x]

The first rumors that Nokia might go bankrupt had appeared in January. Sparked by the demise of Kodak, another 100-plus-year-old company, a columnist in Gigacom asked, "Is Nokia the next Kodak? I hope not – for I like those guys – but Nokia is a likely candidate."[xi] Now a new wave of negative stories surged in the media. "Nokia has a new problem -- it might go bankrupt," announced star analyst Henry Blodget on April 19th.[xii]

The April profit warning was the second in less than a year -- the previous one had been issued in May, 2011[xiii] -- and it would not be the last. A third warning would be issued in June -- that made one in each of the first two quarters of 2012, along with the announcement that Nokia would cut a further 10,000 jobs.[xiv]

The June warning drove shares down to $2.35 on the New York Stock Exchange[xv], the lowest point since 1996. Our market value was now 92% lower than where it stood when Apple released the iPhone.[xvi]

In addition, Nokia's bad news hit all the companies that were suppliers and subcontractors to Nokia. Their share prices sank too, as investors unloaded shares all along the supply chain.

Nokia had once been able to boost a sagging market or calm volatility with our announcements. Those days were over.

Entrepreneurial Leadership: The Way Forward

Looking back, this period was the darkest six months in my entire time with Nokia. The company's leadership was being attacked by the press and investors; employees were demoralized and afraid of continued instability, potential re-organizations and tight cost-cutting. Finland's flagship company -- a source of national pride -- was in danger of disappearing, and nothing the management did seemed to help.

It was a tough moment to become Chairman. I was fully aware that if the worst happened, it would be my face and my name that would be forever linked to the event. That would have painful consequences not just for me but to my family as well.

How did I keep going?

My ideas about what I call "entrepreneurial leadership" were forged and honed during my 18 years at F-Secure. But you don't have to create a company to adopt an entrepreneurial mindset. While some of the concepts of entrepreneurial leadership are, I think, fundamental to a leader, they're also completely applicable to anyone in any role, from a receptionist to the CEO, and everyone in between. I believe those qualities are necessary for any person and any organization to adapt successfully to today's complex and dynamic world.

You should cultivate those qualities whether you're in charge of a company of many or a company of one.

There are ten components of entrepreneurial leadership:

- **Accountability.** First and foremost, you need to care -- and care deeply -- about everything that happens: the business, your colleagues, the customers, the products. And you need to show at every turn that you have a sense of ownership.

  What do I mean by ownership? One question I often ask audiences is, "How many of you have ever rented a car?" Almost everyone raises their hands. Then I ask, "Who here has ever washed their rental car?" Most people don't, because they don't have a sense of ownership for that car. If you feel your workplace is the equivalent of a rental car -- that it's just something to get you from one place to another in your life -- then you don't feel any ownership. You won't go the extra mile or care about what the company does. But when you feel ownership and you see something that doesn't work, you feel accountable, regardless of your role. You'll wash the car.

  Here's a small but illustrative example of something that happened at Nokia. A computer screen was installed next to the main elevator bank at Nokia HQ with a running display of weather forecasts, market news, Nokia values and infomercials -- the usual things. About a week after it was put up, I noticed it was displaying an error message. The next day, it hadn't been fixed. The third day, it still hadn't been fixed.

When people see the same error message every day, it tells them that something is broken in our world and that it's fine with us to let it remain that way. I flashed back to the Symbian build time fiasco. Would people again feel that other unacceptable things could become acceptable?

I felt a real pressure on myself to make sure the error message got fixed. In the afternoon of that third day, I sent a message to the IT department asking, "When are you going to take care of this?" They, of course, answered, "Today." (Typically, when the Chairman calls about a computer problem, they say they will fix it today.) But the question was, why didn't they fix it earlier or at least shut the display off? Why did they allow it to flash the same error message for 72 hours straight?

While the display was not even close to the seriousness of the Symbian build time, it was a good opportunity for me to show that I cared about the company.

It is important to think of the various broken things around us as symbols of caring, symbols of pride in what we do – and, if we allow them to remain broken, as symbols of lack of pride and not caring. When you have an entrepreneurial mindset, *everything* is your responsibility. You truly care, and your actions communicate that loud and clear.

- **Facing facts.** When you feel accountable, you can never escape from facts. Everyone else can hide from the facts, but you know that if you try to avoid them, they will be back to haunt you. Because even if the problem stems from someone else's department, you feel accountable for what you did not do when you identified the problem, or what did you do to allow the circumstances for the issue to exist.

  Facts are always a welcome opportunity, *never* a negative. That's why one of my favorite sayings is, "No news is bad news. Bad news is good news. And good news is no news." Embracing bad news is the only way to make sure people will tell you and the rest of your team what's really happening. Never grow angry at facts or, especially, the people who bring them. The worse the news is that people bring, the more grateful you should appear. This way you encourage them to share the bad news early in the future as well.

When you can help people to fix the reason for bad tidings, you provide the motivation for them to continue to bring you bad news.

- **Persistence.** You don't have to like the facts. But especially when you don't like them, you need to face them immediately to find a solution. An entrepreneur never has the luxury of giving up.

  There's *always* a solution. I have gone through so many crises over the years that I know in my heart of hearts that if I just keep putting one foot ahead of the other, I will get through. If a challenge is insurmountable, we will figure out a way to go around it. If a particular battle is impossible to win, we will fight a different battle. Once you absolutely know that you will come out the other side in the end, you can keep pushing through all the hard stuff. Others will see that in you and they will gain faith as well.

- **Managing risks.** An entrepreneur takes risks. Nothing significant can be achieved without exploring new territory.

  Taking risks doesn't mean diving in blindfolded any more than managing risks doesn't mean avoiding taking chances. Risk management does not mean minimizing risks; it means choosing which risks to take, with open eyes and in a deliberate, analytical fashion. The list of things you do is important but the list of things you decide *not* to do is sometimes even more important.

- **Be a learning addict.** Every challenge, every problem, every piece of bad news is an opportunity to learn and improve. Cultivate your learning addiction and try to infect others with it. To stop learning is to stop living.

- **Unwavering focus.** If you really think about it, not all that many things are truly important. One way or another, it comes down to your products and your customers.

  When you understand what your focus should be, then you should review everything you do through that lens. It's easy to be distracted. There are small fires everywhere and if you only focus on putting those fires out, you'll spend your time fixing small problems and never get the big things done. Ask yourself, “How does the amount of time I spend on these activities actually contribute to the important focus areas?”

You might think that my concern about the broken display screen at the Nokia House elevator bank was a case of being distracted by a small problem. But to my mind, the broken display sent the wrong message to our people, which would, in turn, affect our culture, and therefore our customers and our solutions.

- **Look to the horizon.** Always look to the horizon, even when putting out the fires at your feet. That’s really difficult, especially for a leader. But if all your colleagues say they need your help to figure out today’s problems, you’ll be mired in minute details. Your duty is to raise your head and look to the horizon. Because if you don’t do that, who will? When you are focused on strategy, competition, future core technologies and your customers’ future needs, you have your eyes on the horizon. In a healthy organization, the top management spends a large portion of their time worrying about the more distant future.

- **Team.** An entrepreneur knows that she or he will win or lose because of their team. But even more important, people are the only source of real happiness, whether they’re within your family or your workplace. If you don’t surround yourself with people you genuinely like and respect, then you won’t be as happy as you deserve to be.

  Happy people also do better work for a longer time, and loyalty breeds loyalty. My problem with certain well-known entrepreneurial companies is that I don’t believe that success is worth leading people through fear. I do believe that for the vast majority of companies, the way to be successful is to build a team that truly enjoys what they do.

- **Ask why.** This is a very simple thing that people often forget. We tend to ask “What?” way too often, especially compared to how often we ask “Why?”

For example, in strategy work, when a team presents their strategy, the typical questions are "what" questions: What are your primary objectives? What is your action plan? But the question that really forces people to think is: "*Why* do you think this is a good strategy?"

- **Never stop dreaming.** As George Bernard Shaw famously wrote, "Some men see things as they are, and *ask why*. I dream of things that never were, and *ask why not*.'" That encapsulates the entrepreneurial mindset. When you dream about things that never were and ask, "Why not?" and then set about creating what never was, that's being an entrepreneur. You're building something new. And in doing so, you can change the world.

The Power of Paranoid Optimism

The core of entrepreneurial leadership requires behaving as a paranoid optimist. This sounds like a contradiction in terms but it's not. It's really two sides of the same coin.

Being a paranoid optimist means that underneath all the fear and confusion that are swirling around you, you can be optimistic because you are convinced you will find a solution to the problems confronting you. At the same time, though, you're paranoid about what might go wrong. So you prepare for problems because there *must* be problems, even when people say there aren't. When you find them and examine them, you understand how to avoid or minimize them. Even if you're not able to pre-empt them in advance, as an optimist you're damn sure you can deal with them.

Being a paranoid optimist is a good way to navigate through hard times. You combine vigilance and a healthy dose of realistic fear with a positive, forward-looking outlook.

In practice, paranoid optimism calls upon leaders to explore a full spectrum of scenarios: the best case, the worst case and the options in between. By imagining the unthinkable, you won't be surprised and can generate strategies that will help you avoid it. As a result, you can radiate an unwavering certainty of eventual victory because you have already imagined the worst that could happen and have constructed a response.

Practicing paranoid optimism sharpens your foresight, expands your options and strengthens your ability to lead in a fast-changing world. It helps you respond to crises and cope with change.

Infecting your organization with paranoid optimism will create a high performance and strategically thinking organization that will not be taken by surprise.

In 2012, I was both scared and optimistic. But I trusted in the components of entrepreneurial leadership. They were the compass that had guided me through countless challenges over the course of my career. They gave me the confidence that I could help guide Nokia through the chaos confronting us and enable the company not just to survive but to succeed again.

i http://www.zdnet.com/article/best-phone-of-ces-2012-nokia-lumia-900/
ii http://www.zdnet.com/article/best-phone-of-ces-2012-nokia-lumia-900/
iii http://money.cnn.com/2012/04/27/technology/nokia-samsung/index.htm
iv http://money.cnn.com/2012/04/11/technology/nokia/index.htm
v https://www.theguardian.com/technology/2012/apr/11/nokia-shares-slump-profit-warning
vi http://www.businessinsider.com/apple-google-market-cap-chart-2013-10
vii http://money.cnn.com/2012/04/11/technology/nokia/index.htm; https://finance.yahoo.com/quote/NOK/history?period1=1325653200&period2=1338523200&interval=1d&filter=history&frequency=1d
viii https://www.reuters.com/article/us-nokia/nokia-suffers-second-cut-to-junk-as-sp-downgrades-idUSBRE83Q0W620120428
ix https://www.tradingfloor.com/posts/analysts-revisions-nokia-punished-sandisk-trashed-amd-praised-1042215508
x https://finance.yahoo.com/quote/NOK/history?period1=1325653200&period2=1338523200&interval=1d&filter=history&frequency=1d
xi https://gigaom.com/2012/01/19/why-kodaks-bankruptcy-should-scare-nokia/
xii http://www.businessinsider.com/nokia-bankrupt-2012-4
xiii https://www.theguardian.com/technology/2011/may/31/nokia-shares-dive-profit-warning
xiv https://www.wsj.com/articles/SB10001424052702303822204577465771376539532
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