



# **The best CTOs are disrupting their jobs**

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## Oops: CTOs are in trouble

**World is changing faster than ever, and management of innovation is not what it used to be. Disruption and continuous renewal are the norm, and changes are occurring at increasing speed. Technology or products are no longer the sole basis of competitive advantage.**

Today, companies are looking into the future where customer experience is king, and technology is its subordinate. At the same time technological change is faster than ever, and digitalization is changing business models at increasing speed. It is not enough to follow the trends close to the industry in which they operate, one needs to follow what is happening across industries, technologies and business models. Not the easiest position to be, if you are a CTO running a large in-house R&D organization.

The rise in the importance of customer experience and business model innovation and the ever-increasing technological complexity are changing R&D organizations as we speak. They call for innovation strategy, defining what your own core competencies are and where you are building new ones. In

the worst case this means letting go of your precious engineering talent with the hope of attracting service designers and experts in new technology areas. They on the other hand, seek for great places to work. The war for talent is on, and the position of the traditional corporate R&D organizations is threatened.

*Hence, the right question to ask is not what happened, but rather, what can we do about it?*

## Life before disruption

Before going into the details of how the role of the R&D in general or the role of the CTO is changing, let's investigate what it used to be. The role of CTO used to be clear: Their job was to build competitive advantage based on technology to develop products, services, and delivery and production systems.

In the best of companies, strategic management of technology and innovation were deeply rooted in corporate strategy. Building competitive advantages based on



technology, encompassed of aligning activities behind corporate resources including managerial financial, organizational, R&D, manufacturing, marketing, distribution etc.

Those were the good old days. Today companies are moving from products to solutions by integrating elements of knowledge, brand, financing, new business models etc. CTOs struggle to keep up with change, and need to open their eyes to the disruption eroding the boundaries of their industries

*The race is getting tougher. Fine-tuning is not enough for corporate R&D engine. You need complete makeover.*

### **The Ecosystem Game is on**

Technology is becoming only a part of the new solution that companies sell to their customers. Even with great technical capabilities, an invention is not useful if its operational consequences do not meet the profitability requirements. This requires designing the experience starting from customer first and building an efficient business model with the help of marketing, sales, manufacturing and distribution.

**“Technology is important, but ecosystems and platforms are rising in importance, and so is customer experience and business model innovation.**

Success in services design calls for thorough understanding of market dynamics and customer needs along the entire customer journey. Or in fact understanding of the entire value chain including customers' customers. At the same time short term, competitiveness of a company often depends on the price and performance ratio of the current

products vis a vis the current product market. Not the easiest equation to solve.

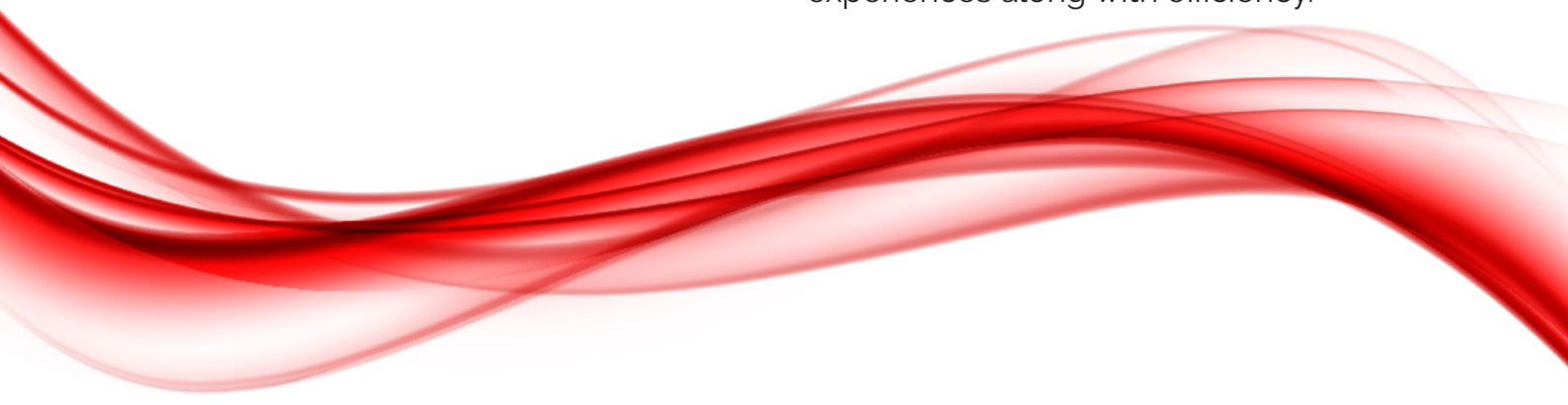
Technology can still drive success if the technological concept itself is significant enough. Digital platform technologies are disrupting all markets and how business is done. The platforms are connecting the supply side and the demand side in totally new ways. New materials and smart manufacturing technologies are killing entire industries in one place and creating new ones in another.

Many of the disruptions today are so big that no single player can benefit from the technology alone. New value-chains, ecosystems and platforms are needed for collaboration and building joint value propositions. This then forces companies to think differently about their position. It is not just about winning, it is about winning together.

*Technology is important, but ecosystems and platforms are rising in importance, and so is customer experience and business model innovation.*

### **Wanted: Broad View on Customer Needs**

With that broad range of technologies in their radar, the CTO's office is increasingly called in to design new ways of working. Developing solutions which used to be their home turf is still important part of their job, but in addition they need to take part in technology development and partner selection in other processes as well. From demand creation to sales and distribution, manufacturing and delivery, taking products into use all the way to service and maintenance – all operational processes generate data and provide for opportunities to develop better customer experiences along with efficiency.







However, data or analytics are not enough to drive changes in behavior. People and personal relationships matter, and hence understanding of how and what to digitalize is an important aspect of prioritizing actions.

When looking into the challenge of the technologies to master, Customer Journey serves as a great tool to map processes and drive decision making. Looking into the different phases and analyzing the range of technologies and available data can help to prioritize actions – and focus on the essential, of course keeping in mind, that sometimes the greatest customer experience is not driven by an app, but rather delivered with a smile.

*The customer journey serves as a great tool to map technologies and identify best potential partners for each technology area.*

## The Future CTO - the Orchestrator of Renewal

A closer look in the customer journey reveals, exponential opportunities for innovation. For the visionary CTO's it is fascinating to recognize that it is not only the technology that the company sells or the platforms the company provides that need to be mastered. The entire range of technologies along the customer journey call for CTO attention and actions.

Examples along the technologies mapped along the customer journey include for example the following:

- **Develop Solutions:** Product life-cycle management and Configure-Price-Quote-technologies can make the difference between success and failure of the product. Having underlying product structures right on the ERP side can be a big investment, but worth it.
- **Create demand. Sell and distribute:** Marketing automation, CRM and e-commerce platforms are becoming increasingly important as 67% of the buying decisions even in B2B business are influenced by online presence and availability. The change in B2B buying behavior is heavily impacted by B2C market which all of us are exposed to in our private lives.
- **Manufacture and deliver:** Smart manufacturing technologies and project management platforms have great potential for creating value for the customer and efficiencies for the company. Furthermore, for example robotics and 3D-printing are disrupting manufacturing and creating great opportunities for customization. New bio-based materials are needed when consumers demand more sustainable solutions.
- **Take into use. Service and Maintain:** IoT, and related technologies are enabling new business models and sources of revenue while simultaneously driving for remote operations and efficiency.

The list goes on: AR, VR, AI, and analytics are all something to follow – along with other hot technologies. Lot of this may seem hype for the pragmatists among us but can't be overlooked.

Each of these areas presents ecosystems on their own, challenging the CTOs to identify the best partners to work with. If CIO oversees digitalization, CMO is automating marketing and sales, CFO is in charge of analytics and AI related development and COO hijacks operations where does that leave the CTO? They could disrupt their own jobs and start playing the role of evangelist and orchestrator for both internal and external partners. This way can deliver unique value propositions faster and more efficiently than trying to control a part of the process as before.

*So, it's your job as a CTO to ensure that your organization has its focus on the right customer challenge, to choose the right internal and external partners, and ecosystems to be a part of and by doing that ensure that your organization stays agile, efficient and innovative.*

## Gear up for Disruption

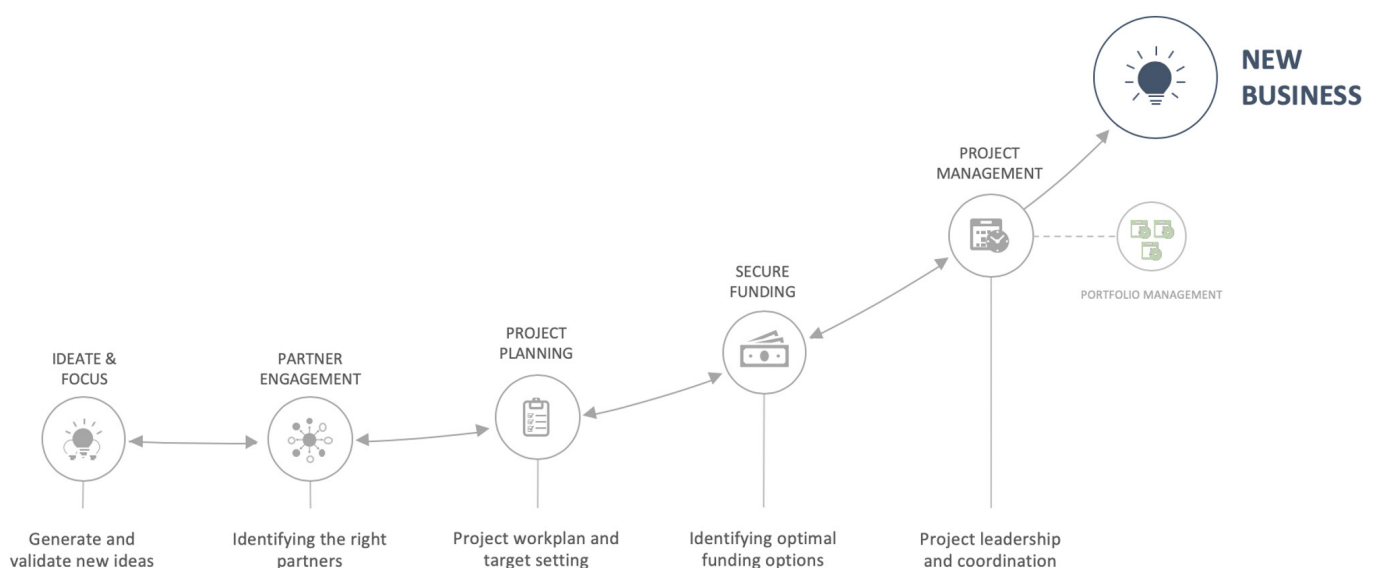
The networked world where few companies can make it alone call for ability to collab-

orate and co-create. Open innovation may sound scary or threatening, but in fact it is a strategic competence that can be built and practiced.

In order to drive openness, the CTOs need to proactively think differently about their role. They need to start building strong relationships and engage with other corporate functions. They need to show how technology is related to customer needs and strategic objectives, seek best practices and continuously monitor what is happening in related industries and beyond. The competitive advantage will be the management ability to consolidate corporation-wide technologies and production skills into competencies.

To get started, rooting the innovation strategy into the corporate strategy, is essential to focus on the right problem. The innovation strategy needs to make sense of the technologies needed to provide the best customer experience, enable productivity and to drive for efficiency, time to market and margins along the lifecycle of the product or a solution.

Once the new businesses have been selected, gearing up for disruption is about execution, getting started and working out the solution step by step as illustrated in the following figure.



Regardless of the business challenge or customer problem at hand, building new business is a process. In the rapidly changing

world speed and agility are of the essence, but structure is key to efficiency.

Therefore, we recommend approaching open innovation with the following steps:

- **Ideate and focus:** Innovation starts with desire to solve a problem. Preferably a customer problem worthy of solving. Oftentimes, new ideas call for new people and competencies to think differently. Opening the idea generation beyond the company is a great way to renew one's thinking.
- **Partner engagement:** Ideas are not innovations. And to come up with an innovation is about co-creation and combining ideas. New partners should include customers, service designers, system architects, technology and solution providers, research institutions and even competitors.
- **Project planning:** In the agile world project planning means agreeing roles and responsibilities and ways of working rather than building a detailed plan. Values alignment is essential for successful execution. Common goals need to be agreed.
- **Secure funding:** When working in an ecosystem a group of companies can seek funding together. The more complex the problem, the more important external funding becomes.
- **Project management:** Once the funding is secured open innovation is about execution. About moving from an idea to a commercial solution. Even in the era of self-organizing teams, leadership, management and trust needs to be built and facilitation is needed to ensure that the execution is efficient, focused and fun.

*Open innovation is not an option, it has become the new norm. In the world of open innovation, CTOs can design organizations that*

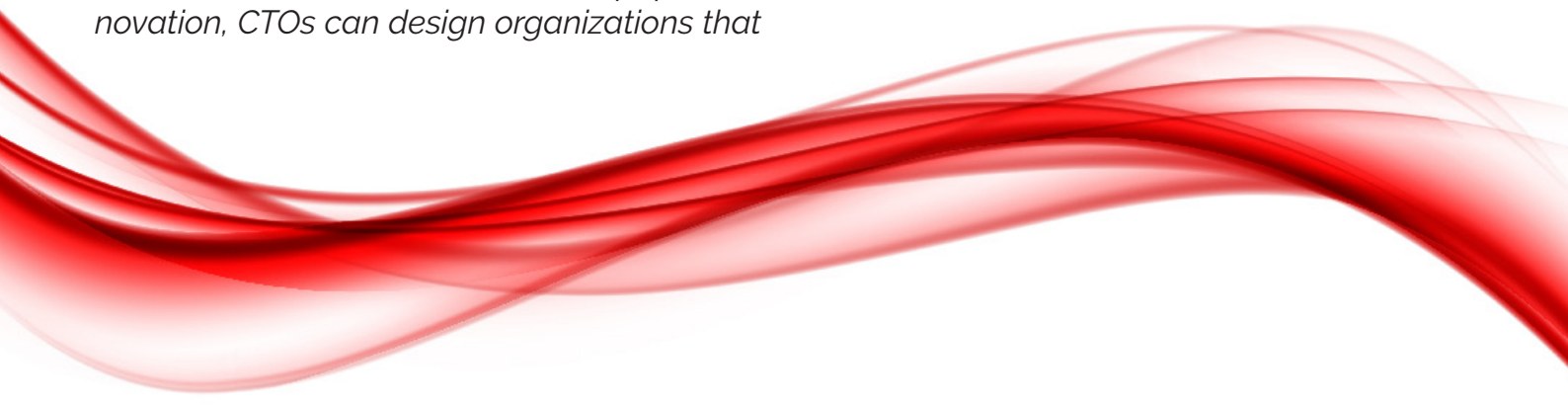
*become orchestrators in their respective ecosystems. An appealing role if you are up for the challenge?*

### **Fear not: Help is Here**

So, the life of the CTO is not what it used to be. The world is volatile, uncertain, complex and ambiguous. And as such, the likelihood of making it alone for any company is getting smaller, as building new competencies calls for ability to partner with internal stakeholders and build trust with companies that master technologies beyond the company core.

In the Spinverse whitepaper "The Secrets in Leading Successful Open Innovation Ecosystems" we introduced a proven way to manage innovation ecosystems. In this whitepaper we relate to the challenges of CTOs and investigate solutions by relating the challenges to the different phases of the customer journey. With this approach and Services Design thinking, we believe that CTOs can extend their role beyond what it used to be.

*As a CTO you should be bold. Have courage to work with your CxO colleagues and their teams to find the right problems to solve. Then build an innovation strategy to solve them with the right partners. In short: Disrupt your job, before it is disrupted.*



## About Spinverse

Spinverse is the Nordic leader in innovation consulting, specialised in driving open innovation ecosystems, arranging funding and commercialising emerging technologies. We help our clients build new businesses by endorsing the best ideas and partners, building innovation projects, finding relevant funding, and creating related business plans.

*Spinverse white paper 3/2018 "The best CTOs are disrupting their jobs"*

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