Exponential Organizations: Why new organizations are ten times better, faster, and cheaper than yours (and what to do about it)

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**Authors’ big thought:** The authors’ objective is to not make this a book of theory, but rather to present the reader with a how-to guide to the creation and maintenance of an Exponential Organization. They offer a hands-on, prescriptive look at how to organize an enterprise able to compete in the face of today’s accelerated pace of change.

**Introduction**

- The authors define an Iridium Moment as using linear tools and the trends of the past to predict an accelerating future.
- The new world of the Exponential Organization or ExO is a place where neither age nor size nor reputation nor even current sales guarantee that you will be around tomorrow. On the other hand, it is also a place where if you can build an organization that is sufficiently scalable, fast moving and smart, you may enjoy success—exponential success—to a degree never before possible. And all with a minimum of resources and time.
- The lifespan of a company is going to get even shorter in the years to come as giant corporations aren’t just forced to compete with, but are annihilated—seemingly overnight—by a new breed of companies that harnesses the power of exponential technologies, from groupware and data mining to synthetic biology and robotics. And as the rise of Google portents, the founders of those new companies will become the leaders of the world’s economy for the foreseeable future.
- We’ve learned how to scale technology; now it’s time we learned how to scale organizations. This new age calls for a different solution to building new business, to improving rates of success and to solving the challenges that lie ahead. That solution is the Exponential Organization.
- An **Exponential Organization** (ExO) is one whose impact (or output) is disproportionally large—at least 10x larger—compared to its peers because of the use of new organizational techniques that leverage accelerating technologies. Rather than using armies of people or large physical plants, Exponential Organizations are built upon information technologies that take what was once physical in nature and dematerialize it into the digital, on-demand world.
- The sixty-year history of Moore’s Law—basically, that the price/performance of computation will double every eighteen months, has been well documented.
- Futurist Ray Kurzweil made four signature observations:
  1. First, the doubling pattern identified by Gordon Moore in integrated circuits applies to any information technology. Kurzweil calls this the **Law of Accelerating Returns** (LOAR) and shows that doubling patterns in computation extend all the way back to 1900, far earlier than Moore’s original pronouncement.
  2. Second, the driver fueling this phenomenon is information. Once any domain, discipline, technology or industry becomes information-enabled and powered by information flows, its price/performance begins doubling approximately annually.
  3. Third, once that doubling pattern starts, it doesn’t stop.
  4. Finally, several key technologies today are now information-enabled and following the same trajectory. Those technologies include artificial intelligence (AI), robotics, biotech and
bioinformatics, medicine, neuroscience, data science, 3D printing, nanotechnology and even aspects of energy.

- As these technologies intersect, the pace of innovation accelerates even further. Each intersection adds yet another multiplier to the equation.
- Exponential Organizations, the latest embodiment of acceleration in human culture and enterprise, are overhauling commerce and other aspects of modern life, and at a scorching pace that will quickly leave the old world of “linear organizations” far behind.
- Those enterprises that don’t jump aboard soon will be left on the ash heap of history, joining Iridium, Kodak, Polaroid, Philco, Blockbuster, Nokia and a host of other once-great, industry-dominant corporations unable to adapt to rapid technological change.

**Part One: Exploring the Exponential Organization**

**Chapter One: Illuminated by Information**

- Kurzweil identified a hugely important and fundamental property of technology: when you shift to an information-based environment, the pace of development jumps onto an exponential growth path and price/ performance doubles every year or two.
- The experts in many fields will project linearly in times of exponential change. The explosive transition from film to digital photography is now occurring in several accelerating technologies. We are information-enabling everything. An information-enabled environment delivers fundamentally disruptive opportunities. Even traditional industries are ripe for disruption.
- As this new information-based paradigm causes the very metabolism of the world to heat up, we’re increasingly feeling its macroeconomic impact. For example, the cheapest 3D printers now cost only $100, which means that within five years or so most of us will be able to afford 3D printers to fabricate toys, cutlery, tools and fittings— essentially anything we’re able to dream up. The implications of this “printing revolution” are almost unfathomable.
- So are the potential repercussions. China’s economy is still fundamentally based on the manufacturing and assembly of cheap plastic parts. This means that within a decade, the Chinese economy could be under serious threat from 3D printing technology. And that’s just one industry.

**Chapter Two: A Tale of Two Companies** (read about Nolia, Navteq and Waze)

- Our organizational structures have evolved to manage scarcity. The concept of ownership works well for scarcity, but accessing or sharing works better in an abundant, information-based world.
- While the information-based world is now moving exponentially, our organizational structures are still very linear (especially large ones). We’ve learned how to scale technology; now it’s time to scale the organization.
- Matrix structures don’t work in an exponential, information-based world. Rapid or disruptive change is something that large, matrixed organizations find extremely difficult.
- ExOs have learned how to organize around an information-based world.
• The pace of change isn’t going to slow down anytime soon. In fact, Moore’s Law all but guarantees that it will continue to speed up— and speed up exponentially— for at least several decades. And given the cross impact into other technologies, if the last fifteen years has seen enormous disruption in the business world, the next fifteen will make that disruption seem tame by comparison.

• History and common sense make clear that you cannot radically transform every part of an organization— and accelerate the underlying clock of that enterprise to hyper-speed— without fundamentally changing the nature of that organization. Which is why, over the last few years, a new organizational scheme congruent with these changes has begun to emerge. The authors call it the Exponential Organization precisely because it represents the structure best suited to address the accelerated, non-linear, web-driven pace of modern life. And while even cutting-edge traditional companies can only achieve arithmetic outputs per input, an ExO achieves geometric outputs per input by riding the doubling-exponential pattern of information-based technologies.

• To achieve this scalability, new ExO organizations such as Waze are turning the traditional organization inside out. Rather than owning assets or workforces and incrementally seeing a return on those assets, ExOs leverage external resources to achieve their objectives. For example, they maintain a very small core of employees and facilities, allowing enormous flexibility as margins soar. They enlist their customers and leverage offline and online communities in everything from product design to application development.

• A simple metric helps to identify and distinguish emerging Exponential Organizations: a minimum 10x improvement in output over four to five years. The following

• Two key factors enabled Waze to succeed, and those two factors hold true for all next-generation ExO companies: Access resources you don’t own. In Waze’s case, the company made use of the GPS readings already on its users’ smartphones. Information is your greatest asset. More reliably than any other asset, information has the potential to double regularly. Rather than simply assembling assets, the key to success is accessing valuable caches of existing information.

• The real, fundamental question of our exponential age is: What else can be information-enabled?

Chapter Three: The Exponential Organization

• The modern corporation takes great pride in how fast it can bring products to market compared to companies in the past.

• It now takes an average of between 250 and 300 days for a typical Consumer Packaged Goods (CPG) company to move a new product from invention to retail stores’ shelves.

• Quirky, a pioneering Exponential Organization in the same industry accomplishes this same cycle in just 29 days.

• Consider Airbnb, a company that leverages users’ extra bedrooms. Founded in 2008, Airbnb currently has 1,324 employees and operates 500,000 listings in 33,000 cities. However, Airbnb owns no physical assets and is worth almost $10 billion. That’s more than the value of Hyatt Hotels, which has 45,000 employees spread across 549 properties. And while Hyatt’s business is
comparatively flat, Airbnb’s number of room-nights delivered is growing exponentially. At its current pace, Airbnb will be the biggest hotelier in the world by late 2015.

- There are two fundamental drivers that enable ExOs to achieve this level of scalability. The first is that some aspect of the company’s product has been information-enabled and thus, following Moore’s Law, can take on the doubling characteristics of information growth. The second is that, thanks to the fact that information is essentially liquid, major business functions can be transferred outside of the organization— to users, fans, partners or the general public.

- Based on the authors’ research— which includes the top one hundred fastest growing startups worldwide over the last six years— they have identified common traits across all ExOs. They include a Massive Transformative Purpose (MTP), as well as ten other attributes that reflect the internal mechanisms and externalities they’re leveraging to achieve exponential growth. The acronym SCALE is used to reflect the five external attributes and the acronym IDEAS for the five internal attributes. Not every ExO has all ten attributes but the more it has, the more scalable it tends to be.

- Massive Transformative Purpose (MTP) Exponential Organizations, almost by definition, think BIG. There’s a good reason for that: if a company thinks small, it is unlikely to pursue a business strategy that will achieve rapid growth. Even if the company somehow manages to achieve an impressive level of growth, the scale of its business will quickly outpace its business model and leave the company lost and directionless. Thus, ExOs must aim high.

- The Massive Transformative Purpose, or MTP— is the higher, aspirational purpose of the organization. Every ExO has one. Some aim to transform the planet, others just an industry. But radical transformation is the name of the game.

- The most important outcome of a proper MTP is that it generates a cultural movement—That is, the MTP is so inspirational that a community forms around the ExO and spontaneously begins operating on its own, ultimately creating its own community, tribe and culture.

- Each has an emergent ecosystem so excited about that product or service that it literally pulls the products and services out from the core organization and assumes its own ownership, complete with marketing, support services, and even design and manufacturing.

- This cultural shift inspired by the MTP has its own secondary effects. For one thing, it moves the focal point of a team from internal politics to external impact.

- The biggest imperative of a worthy MTP is its Purpose. Building on the seminal work by Simon Sinek, the Purpose must answer two critical “why” questions: Why do this work? Why does the organization exist?

An MTP as a Competitive Edge

- A strong MTP is especially advantageous to “first movers.” If the MTP is sufficiently sweeping, there’s no place for competitors to go but beneath it.

- A strong MTP also serves as an excellent recruiter for new talent, as well as a magnet for retaining top talent— both increasingly difficult propositions in today’s hypercompetitive talent marketplace.

- In addition, an MTP serves as a stabilizing force during periods of random growth and enables organizations to scale with less turbulence. The MTP is not only an effective attractor and retainer for customers and employees but also for the company ecosystem at large

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(developers, startups, hackers, NGOs, governments, suppliers, partners, etc.). As a result, it lowers the acquisition, transaction and retention costs of these stakeholders.

- Now that we understand the meaning and purpose of the Massive Transformative Purpose, it’s time to look at the five external characteristics that define an Exponential Organization, for which the acronym **SCALE** is used:

  **Staff on Demand**
  - In any information-enabled business a large internal staff seems increasingly unnecessary, counterproductive and expensive.

  **Community & Crowd**
  - If you build communities and you do things in public, you don’t have to find the right people, they find you. It is important to note that an Exponential Organization interacting with its community is not simply a transaction. True community occurs when peer-to-peer engagement occurs. The more open the community, though, the more traditional and best-practice-oriented the leadership model has to be.
  - There are three steps to building a community around an ExO:
    1. Use the MTP to attract and engage early members. The MTP serves as a gravitational force that attracts constituents into its orbit.
    2. Nurture the community. Elements of nurturing include listening and giving back.
    3. Create a platform to automate peer-to-peer engagement.
  - The crowd is made up of concentric rings of people outside the core community.
  - Crowd is pull-based. You open up an idea, funding opportunity or incentive prize... and let people find you.
  - ExOs can leverage the crowd by harnessing creativity, innovation, validation and even funding:

  **Algorithms**
  - Today, the world is pretty much run on algorithms.
  - In particular, there are two types of algorithms that are at the frontier of this new world: Machine Learning and Deep Learning. **Machine Learning** is the ability to accurately perform new, unseen tasks, built on known properties learned from training or historic data, and based on prediction.
  - **Deep Learning** is a new and exciting subset of Machine Learning based on neural net technology. It allows a machine to discover new patterns without being exposed to any historical or training data.
  - To implement algorithms, ExOs need to follow four steps:
    1. **Gather**: The algorithmic process starts with harnessing data, which is gathered via sensors or humans, or imported from public datasets.
    2. **Organize**: The next step is to organize the data, a process known as ETL (extract, transform and load).
    3. **Apply**: Once the data is accessible, machine learning tools such as Hadoop and Pivotal, or even (open source) deep learning algorithms like DeepMind, Vicarious and SkyMind, extract insights, identify trends and tune new algorithms.
    4. **Exposé**: The final step is exposing the data, as if it were an open platform. Open data and APIs can be used to enable an ExO’s community to develop valuable services, new
functionalities and innovation layered on top of the platform by remixing the ExO’s data with their own. Examples here include the Ford Motor Company, Uber, Twitter and Facebook.

**Leveraged Assets**
- Recently there’s been an accelerating trend towards outsourcing even mission-critical assets.
- As with Staff on Demand, ExOs retain their flexibility precisely by not owning assets, even in strategic areas. This practice optimizes flexibility and allows the enterprise to scale incredibly quickly as it obviates the need for staff to manage those assets.
- Non-ownership, then, is the key to owning the future — except, of course, when it comes to scarce resources and assets. For example, Tesla owns its own factories and Amazon its own warehouses. When the asset in question is rare or extremely scarce, then ownership is a better option. But if your asset is information-based or commoditized at all, then accessing is better than possessing.

**Engagement**
- Key attributes of Engagement include:
  - Ranking transparency
  - Self-efficacy (sense of control, agency and impact)
  - Peer pressure (social comparison)
  - Eliciting positive rather than negative emotions to drive long-term behavioral change
  - Instant feedback (short feedback cycles)
  - Clear, authentic rules, goals and rewards (only reward outputs, not inputs)
  - Virtual currencies or points
- Properly implemented, Engagement creates network effects and positive feedback loops with extraordinary reach. The biggest impact of engagement techniques is on customers and the entire external ecosystem. However, these techniques can also be used internally with employees to boost collaboration, innovation and loyalty.

- For the Millennial generation, gaming is a way of life. To be successful, every gamification initiative should leverage the following game techniques:
  - Dynamics: motivate behavior through scenarios, rules and progression
  - Mechanics: help achieve goals through teams, competitions, rewards and feedback
  - Components: track progress through quests, points, levels, badges and collections
- Gamification is not only used to tackle challenges and problems with the help of a community, it can also be used as a hiring tool.
- Incentive competitions are another form of engagement that has been recently popularized by the X Prize Foundation and others.

**Chapter Four: Inside the Exponential Organization**
- The sheer output to be processed when SCALE elements are leveraged requires that the internal control mechanisms of an ExO be managed carefully and efficiently.
- With exponential output, the internal organization needs to be extremely robust, precise and properly tuned to process all the inputs.
• They also have distinctly different internal operations that encompass everything from their business philosophies to how employees interact with one another, how they measure their performance (and what they value in that performance), and even their attitudes toward risk—in fact, especially their attitudes toward risk. And just as the external attributes of the Exponential Organization can be encompassed with the acronym SCALE, so too can an ExO’s internal mechanisms be expressed with the acronym IDEAS.

Interfaces
• Interfaces are filtering and matching processes by which ExOs bridge from SCALE externalities to internal IDEAS control frameworks. They are algorithms and automated workflows that route the output of SCALE externalities to the right people at the right time internally. In many cases, these processes start out manual and gradually become automated around the edges. Eventually, however, they became self-provisioning platforms that enable the ExO to scale. 
• Most of these Interface processes are unique and proprietary to the organization that developed them, and as such comprise a unique type of intellectual property that can be of considerable market value.
• ExOs invest considerable attention to Interfaces and a great deal of human-centered design thinking is brought to bear on these processes in order to optimize every instantiation.
• Ultimately, Interfaces tend to become the most distinctive internal characteristics of a fully realized ExO.
• One final way to think about Interfaces is that they help manage abundance. While most processes are optimized around scarcity and efficiency, SCALE elements generate large result sets, meaning Interfaces are geared towards filtering and matching.

Dashboards
• Given the huge amounts of data from customers and employees becoming available, ExOs need a new way to measure and manage the organization: a real-time, adaptable dashboard with all essential company and employee metrics, accessible to everyone in the organization.
• Today’s startups (as well as more mature enterprises) are leveraging wireless broadband, the Internet, sensors and the cloud to track data in real time.
• Even as the instrumenting of businesses accelerates, a similar transformation is also taking place at the level of individual employee and team performance tracking. Many ExOs are adopting the Objectives and Key Results (OKR) method.
• OKRs are the answer to two simple questions: Where do I want to go? (Objectives) How will I know I’m getting there? (Key Results to ensure progress is made)
• Some characteristics of OKRs: KPIs are determined top-down, while OKRs are determined bottom-up.
• Objectives are the dream; Key Results are the success criteria (i.e., a way to measure incremental progress towards the objective).
• Objectives are qualitative and Key Results are quantitative. OKRs are about the company’s goals and how each employee contributes to those goals. Performance evaluations— which are entirely about evaluating how an employee performed in a given period—are independent of OKRs. Objectives are ambitious and should feel uncomfortable.
• ExOs have more than taken this technique to heart. Many are now implementing high-frequency OKRs— that is, a target per week, month or quarter for each individual or team within a company.
• Dashboards of value metrics, used in conjunction with OKRs, are becoming the de facto standard for measuring ExOs— everything from the company as a whole to individual teams and employees.
• Dashboards are key for ExOs because growing at a rapid pace requires that instrumentation of the business, individual and team assessments be integrated and carried out in real time, not least because small mistakes can grow very big very fast.

Experimentation
• The authors define Experimentation as the implementation of the lean Startup methodology of testing assumptions and constantly experimenting with controlled risks.
• The Lean Startup movement was created by Eric Ries and Steve Blank and is based on Ries’s book of the same name. The Lean Startup philosophy (also known as the Lean Launchpad) is in turn based upon Toyota’s “lean manufacturing” principles first established a half-century ago, in which the elimination of wasteful processes is paramount.
• A final and critical pre-requisite for experimentation is a willingness to fail. By integrating experimentation as a core value and adopting approaches like Lean Startup, enterprise failures— while still accepted as an inevitable part of risk— can be quick, relatively painless and insightful.
• Not only does failure free people, ideas and capital for future learning and breakthroughs, it’s also worth noting that, though rarely recognized, a corporate culture that accepts failure benefits from diminished internal politics and much less in the way of pointing fingers and “blame games” thanks to trust, transparency and openness.

Autonomy
• The authors describe Autonomy as self-organizing, multi-disciplinary teams, operating with decentralized authority.
• Autonomy does not imply a lack of accountability. As organizational design expert Steve Denning explains it: “There are still hierarchies in a network, but the hierarchies tend to be competence-based hierarchies, relying more on peer accountability than on authority-based accountability— that is, accountability to someone who knows something, rather than to someone simply because they occupy a position, regardless of competence.
• Approaches towards employee autonomy are not just for small companies. Large organizations, such as Zappos, have also adopted this structure across much bigger operations.

Social Technologies
• Social Technologies are comprised of seven key elements: Social objects, Activity streams, Task management, File sharing, Telepresence, Virtual worlds and Emotional sensing. When implemented, these elements create transparency and connectedness and, most importantly, lower an organization’s information latency.
• Employee relationship management is just one type of social object that is being information-enabled. Also in the mix are location, physical objects, ideas and knowledge— including updates to pricing data, inventory levels, meeting room occupancy and even...
coffee refills. All are now being broadcast company-wide and are the basis of activity streams to which anyone in the organization can subscribe.

- **Task management** is also becoming increasingly social. In the past, it was mostly used as a to-do list, but it is now shifting towards a more Agile approach. Teams are continuously measuring themselves by pushing codes and closing tickets, living by the metrics that task management software provides.

- **File sharing**, the fourth leg of the social stool, has recently enjoyed widespread adoption.

- **Telepresence** has been around for many years in the form of videoconferencing. While Telepresence lets people interact in a real environment, virtual reality allows interaction, collaboration, coordination and even prototyping in a virtual world.

- **Emotional sensing**, the last key element of social technology, makes use of sensors—such as health sensors and neurotechnology—within a team or group to create Quantified Employees and a Quantified Workforce. Employees will be able to measure everything about themselves and their work, preventing illness, burnout and irritation, and also improving team flow, collaboration and performance.

- The entire social paradigm presents several critical implications for ExOs. Organizational intimacy is increased, decision latency is reduced, knowledge improves and is more widely spread, and serendipity increases. In short, social technologies enable the real-time enterprise.

- Finally, the social paradigm also serves as a gravity force, keeping the organization tightly connected to its MTP and ensuring that its diverse parts don’t drift away in pursuit of conflicting, even opposing, goals.

**Chapter Five: Implications of Exponential Organizations**

- In this chapter, the authors examine in depth some of the characteristics of an ExO ecosystem. In particular, they’ve identified nine key dynamics at play:

  1. **Information Accelerates Everything**
     - Everywhere you look, the new information paradigm, created as a result of Moore’s Law and other fundamental forces that bear upon the digital world, is accelerating the metabolism of products, companies and industries. In industry after industry, the development cycle for products and services grows ever shorter.
     - The shift from analog to digital is occurring in multiple core technologies that feature multiplier effects at their intersections. This process of “virtualizing” one industry after another is not just advancing exponentially, but at multiples of even that as data about the many different components of a single item or process is systematically analyzed and automated by software. As we add trillions of sensors on every device, process and person, the process will accelerate even faster to an almost unimaginable pace (Big Data).
     - Nowhere is this staggering pace of change more apparent than with the consumer Internet. Many products are now launched early—unfinished and in perpetual beta—for the sole purpose of gathering data from users as early as possible to determine how to “finish” the product.
These days, product development cycles are measured not in months or quarters, but in hours or days. The open source movement has further accelerated this trend.

2. **Drive To Demonetization**
   - One of the most important—and least celebrated—achievements of the Internet during the last decade was that it cut the marginal cost of marketing and sales to nearly zero.
   - With the web, it is possible to promote an online product worldwide for a tiny fraction of what it cost just twenty-five years ago. And, in concert with a viral referral loop, customer acquisition costs can also be cut to what was once deemed impossible: zero. It is precisely this advantage that allowed businesses such as Craigslist, eBay and Amazon to scale with extraordinary speed to become some of the world’s biggest companies.
   - In the age of the Exponential Organization, the new information-enabled technologies will power exponential cost drops not just in sales and marketing, but also across every business function.
   - What we’re now seeing with ExOs—and this is tremendously important—is that the marginal cost of supply goes to zero.
   - Every industry is becoming information-based, either by being digitized or by using information to identify under-utilized assets.
   - Today, a trend known as *Collaborative Consumption* leverages the internet and social networks to create a more efficient utilization of physical assets.

3. **Disruption is the New Norm**
   - Today, the outsider has all the advantages. With no legacy systems to worry about, as well as the ability to enjoy low overhead and take advantage of the democratization of information and—more important—technology, the newcomer can move quickly and with a minimum of expense. Thus, new actors and entrants are well equipped to attack almost any market.
   - The rate of change is so high everywhere these days that you now must assume that someone will disrupt you, and often from a direction you least expect.
   - The authors see a consistent set of steps around disruptive innovation comprising the following:
     - Domain (or technology) becomes information-enabled
     - Costs drop exponentially and access is democratized
     - Hobbyists come together to form an open source community
     - New combinations of technologies and convergences are introduced
     - New products and services appear that are orders of magnitude better and cheaper The status quo is disrupted (and the domain gets information-enabled)

4. **Beware the “Expert”**
   - History has shown that the best inventions or solutions rarely come from experts; they almost always come from outsiders. That is, from people who aren’t domain experts but who offer a fresh perspective.
Experts will be the best people to answer questions and identify key challenges, but the geeks will then mine the data to provide the solutions for those challenges.

5. Death to the Five-Year Plan
- In an exponential world, the five-year plan is not only unworkable, it is seriously counterproductive— and the advent of ExOs signals its death. This may seem counterintuitive.
- The reality is that the future is changing so quickly that any forward look is likely to produce false scenarios, so much so that today’s five-year plans have a high probability of offering the wrong advice.
- If it doesn’t send the company racing off in the wrong direction, it can present an inaccurate picture of what lies ahead, even in the right direction. The only solution is to establish a big vision (i.e., an MTP), set an ExO structure into place, implement a one-year plan (at most) and watch it all scale while course-correcting in real time.
- The near future, certainly for ExOs, sees five-year plans being replaced with the following elements:
  - MTPs for overall guidance and emotional enrollment.
  - Dashboards to provide real time information on how a business is progressing.
  - Leveraging “Moments of Impact” for clean, productive decision-making.
  - A one-year (at most) operating plan that is connected to the dashboard.

6. Smaller Beats Bigger
- For decades, scale and size have been desirable traits in an enterprise. A bigger company could do more, the argument went, because it could leverage economies of scale and negotiate from strength.
- All that is changing. The unparalleled and unprecedented ability of a small team today to do big things— an ability that grows ever greater if the exponential technologies described previously are put to use. Both now and in the coming years, adaptability and agility will increasingly eclipse size and scale.
- One key advantage of a small team is that it can take on much bigger risks than a large one can.
- While this new paradigm is still in its early days, preliminary indications are that when successful, ExOs will build on the leverage created by their externalities and become platforms. They will wire themselves into the infrastructure and start enabling other ExOs to emerge from and operate off of those platforms.

7. Rent, Don’t Own
- An important mechanism empowering individuals and small teams everywhere is low-cost access to technology and tools. Emblematic of this new reality is cloud computing, which offers the ability to store and manage massive amounts of information with unlimited processing, all on a cost-per-use basis requiring no upfront costs or capital investments. In practice, this makes memory almost free. The cloud also puts small companies on the same footing as — or even gives them an advantage over — big companies, which are burdened by expensive internal IT
operations. In addition, the growing body of innovative Big Data analytical tools will give all companies, big and small, unprecedented understanding of their markets and customers.

- This rent-not-own philosophy further extends the current craze of collaborative consumption and the sharing economy. There’s less and less need to own a factory, a laboratory or even a scientific tool. Instead, why not rent those assets, reducing up-front investment and leaving the ownership and maintenance of state-of-the-art facilities to someone else?

- Be it facilities, equipment, computing or people, the concept of renting rather than owning is a major factor contributing to an ExO’s agility and flexibility, and thus its success.

8. **Trust Beats Control and Open Beats Closed**

- Autonomy can be a powerful motivator in the age of the Exponential Organization. The Millennial generation is naturally independent, digitally native and resistant to top-down control and hierarchies. To take full advantage of this new workforce and hang on to top talent, companies must embrace an open environment.

- The control frameworks used by traditional organizations were devised because the longer (and slower) feedback loops between management and teams often required considerable oversight and intervention. Over the last few years, however, a new wave of collaborative tools has emerged to allow an organization to monitor each of its teams with little oversight and maximum autonomy. ExOs are learning to harness these capabilities and deliver self-management—often with extraordinary outcomes—by tracking data on a real-time basis.

- Another key reason that ExOs are implementing trust frameworks is that in an increasingly volatile world, predictable processes and steady, stable environments are now all but extinct. Anything predictable has been or will be automated by AI or robots, leaving the human worker to handle exceptional situations. As a result, the very nature of work is changing and requires more initiative and creativity from every team member.

- Open trust frameworks cannot be implemented in isolation or simply by fiat. They are an important consequence of implementing Autonomy, Dashboards and/or Experimentation.

9. **Everything is Measurable and Anything is Knowable**

- The sensor revolution is one of the most important and least celebrated technological revolutions taking place today.

- ExOs are taking advantage of this accelerating trend in one of two ways: by creating new business models on existing data streams or by adding new data streams to old paradigms.

- We are moving toward a world in which everything will be measured and anything can be knowable, both in the world around us and within our bodies. Only enterprises that plan for this new reality will have a chance at long-term success.
PART TWO: Building the Exponential Organization

- By the time you have finished Part Two, you should be able to see how the ExO framework can be applied to an organization of any size, be it a startup, a mid-market company or a large organization.

Chapter Six: Starting an ExO

- Driven by accelerating technologies, ExOs allow us to organize ourselves in new ways to tap into this information-enabled world.

Ignition

- The authors will discuss the elements relevant to building an ExO that is leveraged by information and is highly scalable, either as a pure startup or from within an existing enterprise.
- This is perhaps the best time in the history of business to build a new enterprise. The confluence of breakthrough technologies, acceptance (and even celebration) of entrepreneurship, different crowdsourcing options, crowdfunding opportunities and legacy markets ripe for disruption—all create a compelling (and unprecedented) scenario for new company creation. Furthermore, traditional risk areas have been mitigated like never before.
- When assessing a startup for funding, investors typically categorize three major risk areas:
  1. **Technology risk**: Will it work? The technology risk that was once enormous (particularly software) has been reduced over the last twenty years by 150x. Most of the remaining risks concerns mere scalability issues.
  2. **Market risk**: Will people buy the product? Starting in the 2000s, startups could test the market like never before by leveraging A/B testing, Google AdWords campaigns, social media and landing pages. Now an idea could be partially validated before product engineering even began. The epitome of market validation, of course, is crowdfunding.
  3. **Execution risk**: Is the team able to function and pivot as needed? Execution risk remains the only real issue in building a company.
- In 2013, Aileen Lee published an extensive overview in TechCrunch of U.S.-based software startups with a market value of more than $1 billion over the previous ten years, a group of companies she called *Unicorns*.
- Lee’s key findings as they pertain to ExOs are as follows:
  - It takes more than seven years, on average, before a “liquidity event.”
  - Inexperienced twenty-something founders are outliers.
  - Companies with well-educated thirty-something co-founders who have history together tend to be most successful.
  - The idea of a “big pivot” to a different product after startup is an outlier. Most Unicorns stick to their original vision (i.e., their founding MTP).
The challenge facing every startup lies in discovering how to de-risk each of these areas and, in the process, find a business model in the chosen problem space. Nothing is more important.

Most have gotten to their current heights by following some combination of the steps below.

**Step 1: Select an MTP (Massive Transformative Purpose).**
- This is the most elemental and foundational aspect of a startup.
- Feeding on Simon Sinek’s “Why?” question, it is critical that you are excited and utterly passionate about the problem space you plan to attack.
- Keep in mind, however, that an MTP is not a business decision. Finding your passion is a personal journey.
- Finding an MTP can be seen as a novel and perhaps more interesting way of asking yourself the following questions: What do I really care about? What am I meant to do? Two more questions that can help speed the process of discovering your passion: What would I do if I could never fail? What would I do if I received a billion dollars today?

**Step 2: Join or Create Relevant MTP Communities**
- The collaborative power of communities is critical to any ExO. Whatever your passion (let’s say you dream of curing cancer), there are communities out there filled with other passionate, purpose-driven people devoted to the same crusade.
- Basically, if you get the community right, opportunities will arise. If you get community wrong, the engine of innovation dissolves and you won’t have a company anymore.

**Step 3: Compose a Team**
- While the founding team in any startup is important, given the rapid scaling of an ExO company with a very small footprint in terms of resources, the careful composition of its founding team is especially critical.
- The key to putting together a successful ExO founding team is that everyone shares a passion for the MTP.
- One of the main points of Aileen Lee’s Unicorn study: companies composed of well-educated thirty-something co-founders with a shared work or school history have the highest success rate.
- One caveat is that for a community-driven company, diversity is an important part of the package.
- The following roles are critical if founding ExO teams are to deliver diverse backgrounds, independent thought and complementary skills:
  - **Visionary/Dreamer**: The primary role in the company’s story. The founder with the strongest vision for the company comes up with the MTP and holds the organization to it.
  - **User Experience Design**: Role focuses on users’ needs and ensures that every contact with users is as intuitive, simple and clear as possible.
  - **Programming/Engineering**: Role responsible for bringing together the various technologies required to build the product or service.
o **Finance/Business**: The business function assesses the viability and profitability of the organization, is the cornerstone of interactions with investors and manages the all-important burn rate.

**Step 4: Breakthrough Idea**

- It is essential to leverage technology or information in some way to transform the status quo. ExOs are not about incremental improvement in a marketplace. They are about radical change.
- The three key success factors for an ExO idea are:
  1. First, a minimum 10x improvement over the status quo.
  2. Second, leveraging information to radically cut the cost of marginal supply (i.e., the cost to expand the supply side of the business should be minimal).
  3. Third, the idea should pass the “toothbrush test” originated by Larry Page: Does the idea solve a real customer problem or use case on a frequent basis? Is it something so useful that a user would go back to it several times a day?
- It is also possible to leverage a community or crowd to discover breakthrough ideas or new patterns of implementation.
- The authors believe, however, that it’s better to start with a passion to solve a particular problem, rather than to start with an idea or a technology.
- There are two reasons for this. First, by focusing on the problem space, you are not tied to one particular idea or solution, and thus don’t end up shoehorning a technology into a problem space where it might not be a good fit. Second, there is no shortage of either ideas or new technologies.
- It can’t be emphasized enough: Entrepreneurial success rarely comes from the idea. Instead, it comes from the founding team’s never-say-die attitude and relentless execution. Those who really want something will find options. Those who just kind of want it will find reasons and excuses.

**Step 5: Build a Business Model Canvas**

- Once a core idea or breakthrough has been identified, the next step is to elaborate how to get it to market.
- Begin the process by diagramming the various components of the model (value propositions, customer segments, etc.). A warning: At this stage, it is important that the BMC be simple and not overthought. Experimentation will navigate you to the best path and provide the next level of fidelity.

**Step 6: Find a Business Model**

- It is also important to understand that if you’re going to achieve a 10x improvement, there’s a strong likelihood that your company will require a completely new business model.
- Kevin Kelly identified the following eight ways to build a business model when the underlying information is free:
  1. **Immediacy**: being the first to know about or experience something has intrinsic cultural, social and even commercial value.
  2. **Personalization**: having a customized service creates “stickiness”, as both parties are invested in the process.
  3. **Interpretation**: Shortening the learning curve to using a new product or using it better.
4. **Authenticity**: A guarantee that the product or service is real, safe and warranted.
5. **Accessibility**: Any service that helps us organize everything and improve our ability to find what we need quickly is of particular value.
6. **Embodiment**: We are willing to pay more to have free software delivered to us in the physical form we prefer.
7. **Patronage**: A simple payment process that capitalizes on users’ impulsiveness.
8. **Findability**: A creative work has no value unless its potential audience can find it.

- In sum, Step 6 is about creating new business models, which increasingly tend towards free and freemium models. These new business models have, potentially, eight new value drivers to generate revenues, differentiate them from competitors, and allow for a long-term strategy to align with adjacent ExOs in a particular industry to fully disrupt incumbents, rather than just one individual good or service offered.

**Step 7: Build the MVP**
- A key output of the Business Model Canvas is what’s called the *Minimum Viable Product*, or MVP. The MVP is a kind of applied experiment to determine the simplest product that will allow the team to go to market and see how users respond (as well as help find investors for the next round of development). Feedback loops can then rapidly iterate the product to optimize it and drive the feature roadmap of its development. Learning, testing assumptions, pivoting and iterating are key in this step.

**Step 8: Validate Marketing and Sales**
- Once the product is being used in its chosen market(s), a customer acquisition funnel will need to be established to help drive new visitors to the product. Its role is to qualify potential customers and convert them into users and paying customers.

**Step 9: Implement SCALE and IDEAS**
- As already noted, becoming an ExO does not mean implementing all 11 SCALE and IDEAS attributes. A great MTP and three or four other attributes are usually sufficient for success. The key, of course, is determining which attributes are the right ones to execute.
- The following is a guide to implementing ExO attributes into a startup:
  - **MTP**: Formulate an MTP in a particular problem space, one that all founders feel passionate about.
    - **Staff on Demand**: Use contractors, SoD platforms wherever possible; keep FTEs to a minimum
    - **Community & Crowd**: validate idea in MTP communities.
      - Get product feedback
      - Find co-founders, contractors and experts.
      - Use crowdfunding and crowdsourcing to validate market demand and as a marketing technique.
    - **Algorithms**: Identify data streams that can be automated and help with product development. Implement cloud-based and open source machine and deep learning to increase insights.
    - **Leveraged Assets**: Do NOT acquire assets.
      - Use cloud computing, TechStop for product development.
      - Use incubators like Y Combinator and Techstars for mentoring and peer input.
Starbucks as office.

- **Engagement:**
  - Design product with engagement in mind.
  - Gather all user interactions.
  - Gamify where possible.
  - Create a digital reputational system of users and suppliers to build trust and community. Use incentive prizes to engage crowd and create buzz.

- **Interfaces:**
  - Design custom processes for managing SCALE; do not automate until you’re ready to scale.

- **Dashboards:**
  - Set up OKR and value, serendipity, and growth metrics dashboards; do not implement value metrics until product finalized (see Step 10).

- **Experimentation:**
  - Establish culture of experimentation and constant iteration. Be willing to fail and pivot as needed.

- **Autonomy:**
  - Implement lite version of Holacracy. Start with the General Company Circle as a first step; then move onto governance meetings. Implement the GitHub technical and organizational model with radical openness, transparency and permission.

- **Social Technologies:**
  - Implement file sharing, cloud-based document management.
  - Collaboration and activity streams both internally and within your community.
  - Make a plan to test and implement telepresence, virtual worlds and emotional sensing.

**Step 10: Establish the Culture**

- Perhaps the most critical step in building an ExO involves establishing its culture.
- In a fast-scaling organization, culture—along with the MTP and Social Technologies—is the glue that keeps a team together through the quantum leaps of an ExO’s growth. Needless to say, given that even defining the term culture has proven enduringly difficult, this is a particularly challenging step.
- Establishing a corporate culture starts with learning how to effectively track, manage and reward performance. And that begins with designing the OKR system.

**Step 11: Ask Key Questions Periodically**

- There are eight key questions to think about—not once, but repeatedly—as you build out your startup. Successfully answering each one gives you a passing grade in terms of this chapter:
  1. Who is your customer?
  2. Which customer problem are you solving?
  3. What is your solution and does it improve the status quo by at least 10x?
  4. How will you market the product or service?
  5. How are you selling the product or service?
  6. How do you turn customers into advocates using viral effects and Net Promoter Scores to drive down the marginal cost of demand?
7. How will you scale your customer segment?
8. How will you drive the marginal cost of supply towards zero?

- That final question is the most critical for an ExO. To be truly disruptive to the status quo and achieve the 10X scalability that is the hallmark of ExOs, some combination of IDEAS and SCALE must drive down the cost of supply exponentially.
- For any startup to be successful, it must combine requisite skills, hard work and great market timing (especially when it comes to technology).

**Step 12: Building and Maintaining a Platform**

- Leading platform expert Sangeet Paul Choudary identified the four steps needed to build a successful platform (as opposed to a successful product):
  1. **Identify a pain point or use case for a consumer.**
  2. **Identify a core value unit or social object in any interaction between a producer and consumer.** This could be anything. Pictures, jokes, advice, reviews, information about sharing rooms, tools and car-rides are examples of things that have led to successful platforms. Remember that many people will be both producers and consumers, and use this to your advantage.
  3. **Design a way to facilitate that interaction.** Then see if you can build it as a small prototype that you can curate yourself. If it works at that level, it will be worth taking to the next level and scaling.
  4. **Determine how to build a network around your interaction.** Find a way to turn your platform user into an ambassador.

- To implement platforms, ExOs follow four steps in terms of data and APIs:
  1. **Gather:** The algorithmic process starts with harnessing data, which is gathered via sensors, people, or imported from public datasets.
  2. **Organize:** The next step is to organize the data. This is known as ETL (extract, transform and load).
  3. **Apply:** Once the data is accessible, algorithms such as machine or deep learning extract insights, identify trends and tune new algorithms. These are realized via tools such as Hadoop and Pivotal, or even (open source) deep learning algorithms like DeepMind or Skymind.
  4. **Expose:** The final step is exposing the data in the form of an open platform. Open data and APIs can be used such that an ExO’s community develops valuable services, new functionalities and innovations layered on top of the platform by remixing published data with their own.

**Chapter Seven: ExOs and Mid-Market Companies**

- In this chapter the authors look at mid-market enterprises and show how they can take advantage of the ExO philosophy.
- Unlike startups, where you can build all of the internal operations from scratch around exponential growth, with established companies, the solution is inevitably customized: you must start with what already exists and build from there. In other words, there is no universal template for “going exponential.”
• This chapter has five case studies of very different companies that became exponential: TED, GitHub, Coyote Logistics Example, Studio Roosegaarde, and GoPro.

• A final word on managing fast-tracked growth comes again from Chip Conley, who created the Joie de Vivre chain of specialty hotels and is now part of Airbnb’s senior management team. Conley found that the more information-based we become, the greater the need to rely on rituals and meaning to stabilize companies and keep teams motivated. Thus, as ExOs take on larger numbers of employees, individual tasks and functions increasingly need the gravity well of an MTP to provide purpose.

Chapter Eight: ExOs for Large Organizations

• We can generalize the many issues facing large organizations to the following three: Most focus and attention is internal, not external. Emphasis tends to be on technologies with existing expertise; converging technologies or adjacencies tend to be ignored and breakthrough thinking is punished. Reliance on innovation from inside rather than outside.

• What is a large and established organization to do? Answer: Transform. Transformation isn’t easy, however. A big company is like a supertanker: it takes a long time to turn. Nonetheless, it can be done. There are many examples of big companies morphing into new markets over time. For example, Nokia used to be a tire company, Samsung was once a trading company and Intel got its start in memory chips. GE, a company with a long and distinguished history, has repeatedly reinvented itself.

• Along with delaying tactics, there is also a second, equally imperative reason not to wait until the last minute to initiate a turnaround: the cure just might kill you. It is the authors’ firm belief that a large company cannot suddenly implement the SCALE and IDEAS processes and turn itself into an ExO overnight. It is simply too radical a transformation, one that is likely to crush a company’s core business before it has time to find a new one. And even if the company does manage to institute a new business, the internal stress caused by such radical change will be extreme. At the same time, established companies must transform themselves or they will quickly become obsolete.

• They have identified four such strategies for large organizations to deploy in an accelerating business world while still keeping their core operational businesses intact:

  1. Transform leadership.
     - There are four ways to transform the leadership layers of a big company:
       I. Education - Bring in outside sources to update your senior management and board on accelerating technologies.
       II. Board Management - Educate the board so that it is equipped to buy into the CEO’s plan for radical change. In addition, track your board using OKRs.
       III. Implement Diversity - Break up bastions of old-line thinking and replace them with individuals and teams offering diversity in terms of experience and perspective. Remember that one of the most important aspects of diversity requires putting young people into positions of power and influence. In addition, include more women on your board.
       IV. Skills & Leadership - Keep diversity in mind when appointing to governance and advisory boards. Regularly take your senior leadership through a personal...
transformation program. Examine your own leadership skill sets. Remove anyone who puts his or her own career ahead of the success of the enterprise.

2. **Partner with, invest in or acquire ExOs.**
   - Large companies must identify and track disruptive ExOs with the aim of observing, partnering with, investing in and/or acquiring them. And they must do so as early as possible to lower the investment threshold needed and to preempt the competition. The perfect moment to engage with an ExO is when the startup has real traction and is just emerging as a market leader.
   - The real question then is not *whether* to acquire an ExO, but *when* to partner with an ExO, when to invest in one and when to acquire it.
   - A corporation should look to create an internal ExO when:
     - An opportunity is one to two adjacencies away from the company’s core business—perhaps a different business model, buyer, user or go-to market.
     - Urgency is low—there is still time until the market’s inflection point.
     - The company is able to hire the necessary talent. This approach typically maximizes control and minimizes costs for those markets that must be “owned” given their strategic nature.
   - Acquisition is usually the most appropriate path when a market is strategically imperative to “own” but you face the following obstacles:
     - It is difficult to hire the right talent.
     - The market inflection point is upon you.
     - The opportunity is too far removed (3 + adjacencies) from the corporation’s prevailing model. In this case, you must judiciously manage the post-merger integration to ensure that the corporation’s processes do not overwhelm the acquiree and destroy value.
   - When there is no immediate strategic need to own, a corporation can partner with an external ExO—akin to dating before marrying—to learn more about the market and the new model, as well as to gauge fit and synergy. An investment in an external ExO may be the best move in cases where it makes sense to test the waters—to watch and learn about an emergent opportunity with an eye toward partnership or acquisition in the future.

3. **Disrupt[X].**
   - A third strategy is for large organizations to leverage disruptive technologies themselves. As history has shown, this is a lot harder than it looks, given that the organizational structures of established companies exist to suppress disruptive influences.
   - Move three proven change-makers in your enterprise to the edges of the organization and unleash them as ExOs to disrupt other markets. Learn how they interact with the mother ship, and then add more.
• Hire a Black Ops Team - Hire both internal and external Black Ops teams and have them establish startups with a combined goal of defeating one another and disrupting the mother ship.
• Copy Google[X]
• Start an internal accelerating technologies lab, leveraging core competencies and aiming for moonshot innovations at a budget price.
• Partner with Accelerators, Incubators and Hackerspaces. Find an incubator or an accelerator that is a good fit for your organization. Partner with it or, if it is of insufficient scale for your needs, fund it. If an incubator or accelerator doesn’t exist, create one!

4. *ExO Lite (The Gentle Cycle)*
• Even when large companies must maintain their status quo and thus can’t be turned into ExOs, that doesn’t mean they can’t take on some of an ExO’s attributes, which can be implemented to accelerate company operations.
• The keys to adaptation are MTP, IDEAS and SCALE.

**Chapter Nine: Big Companies Adapt**
• In this chapter the authors look at how forward-looking companies are implementing the ideas discussed in the previous chapter. Some are building ExOs at their edges; some are acquiring or investing in ExOs in their current market space; still others are implementing ExO Lite.
• The companies examined were:
  - Bridgewater – a company without an MTP that failed due to its attempt at radical transparency.
  - The Coca-Cola Company – Exponential Pop
  - Haier – Higher and Higher
  - Xiaomi – Showing You and Me
  - The Guardian – Guarding Journalism
  - General Electric – General Excellence
  - Amazon – Clearing the Rainforest of “No”
  - Zappos – Zapping Boredom ING Direct Canada (now Tangerine) – Banking Autonomy
  - Google Ventures – The Almost Perfect EExO

**Chapter Ten: The Exponential Executive**
• The ExO concept — the new organizing principle for the information age— is just a few years old and thus still evolving into its final form.
• C-Level executives are going to find themselves under enormous pressure to either “go exponential” or deal with the threat presented by new, exponential competitors.
• The decisions they make, often under pressure and on the fly, will determine not just whether their companies succeed, but whether or not they survive.
• There will be no time to hesitate before making major decisions.
This final chapter is dedicated to understanding the Exponential Executive, a new leader destined to emerge from a transformed economy.

This chapter answers the following questions:
- Which technologies will have the most impact on the C-Suite?
- What new organizational developments must an Exponential Executive track and be ready for?
- What questions and issues will the ExO Executive face in the next five to ten years as a result of this collective and accelerating change?

The major challenges facing the following C-Level executives are discussed with suggestions as to how the exponential techniques presented in the forgoing chapters can help them reach solutions.
- CEO – Chief Executive Officer
- CMO – Chief Marketing Officer
- CFO – Chief Financial Officer
- CTO/ CIO – Chief Technology Officer/ Chief Information Officer
- CDO – Chief Data Officer
- CIO – Chief Innovation Officer
- COO – Chief Operating Officer
- CLO - Chief Legal Officer
- CHRO - Chief Human Resources Officer

Recommendation: Ray Kurzweil, Director of Engineering at Google said it best: "EXPONENTIAL ORGANIZATIONS should be required reading for anyone interested in the ways exponential technologies are reinventing best practices in business." This book has so many examples and stories – it is well worth reading in its entirety. This summary could hardly do it justice.

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About the reviewer: Frumi Rachel Barr, MBA, PhD
Dr. Frumi Rachel Barr is truly an entrepreneur having started and run 5 entrepreneurial adventures prior to following her passion for guiding the success of CEOs and their teams to Scale Up. She lives her “WHY” (purpose or cause) daily: creating a safe environment for leaders and their teams to talk about the tough issues that matter most to build profitable and sustainable organizations. Dr. Frumi always begins with culture – people will always be the competitive advantage of any company.

She is the author of a **CEO’s Secret Weapon: How to Accelerate Success**. The book was ranked top business book of 2012 by ExecRank and has a forward by her colleague Simon Sinek, international author of best-selling *Start with Why*. 

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