BOUNDARYLESS

New Foundations of Platform-Ecosystem Thinking

Designing Products and Organizations for a changing world

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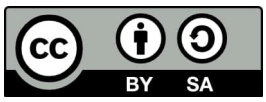

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Table of Contents

Foreword

Let's face it: 2020 has been a beast of a year. If ever a year functioned as a personal trainer, this year has had us relentlessly sweating, sparring, and panting. Exploring, then confronting our physical, spiritual, and philosophical soft spots, we have been granted opportunities to either learn and grow or repeat earlier mistakes.

How did you fare?

To start with, and by way of confession, this Californian is now in the North American territory of cold winters and warm people: Canada. I arrived for meetings and, to my surprise, stayed for the pandemic. Borders closed. Rules changed. Risks mutated. The meaning of 'being home' became fuzzy, then redefined. Changing my routine and perspective as a stranger in a strange place during strange times may be far easier than altering my playbook immersed in 'the usual'.

Each day is riddled with questions and uncertainty. Adapting is now my routine workout, complacency feels unsafe. Irrespective of where you are in the world, your daily routine is most certainly disrupted. No 'new normal' has emerged to replace the old. We adapt and hope for something with the scent of stability. That fragrance of familiarity, of normalcy, has yet to linger. So here we are. Face-to-face with perpetual learning and adapting, provoked, at least in part by a pathologically social virus.

We have held onto an understanding of security that is all but faded and the new image, like a photograph just coming into focus, still remains a blur. Institutions are dissolving, norms are shifting, bias and expectations are in flux. So we find ourselves stuck between *No More* — and *Not Yet* — between what we banked on, who we thought safe and worthy of our trust, and how we navigated our day-to-day lives (the *No More*), and what we have yet to put in its place (the *Not Yet*). There's a new game on the board, and our capacity to limit risk and maximize learning, both individually and systemically, is now highly prized and conspicuously urgent.

Many have been comforted with the notion that these current challenges are a rallying cry, forcing us to change how we live, work, and how we behave with one another and the natural world. The virus has insinuated its way into all corners of our lives, homes, and communities. This personal trainer has made boldly apparent that our collective readiness for 21st century challenges has tipped the scale to - NOT YET. As a technology entrepreneur, I had hoped that resilient new models and tools could be rapidly rolled out, upgrading transportation, banking, and health services for the many, if not all.

Through the distorted, rosy, venture-backed lens of California, challenges are met with wide-eyed, global scale solutions, caffeine, and PowerPoint. In real life (IRL), innovation is a game without borders, but unfortunately, funding is not without bias. Out of $87B invested in 2020 by venture capitalists, only 2.6% went to Black founders[1]. In 2019, the world's 2,153 billionaires had more wealth than 4.6 billion people combined (60 percent of the planet's population)[2], and the gap between the richest and poorest has only been exacerbated by the pandemic[3]. This year has made it clear that technology is an enabler of that gap as much as it holds the promise to abolish it. I share this to be precise that the *Not Yet* isn't about bringing technology forward alone. It is a call for ingenuity, candor and collective clarity to reimagine our communities, lives, and work. To begin this daunting task, my advice is to grow where you're planted. So, what's our plan? How do we move forward creating, testing and refining new models, together or at least sharing what's working and not?

A mere ten months ago, the Boundaryless team began the work of deep research, collaboration, and writing resulting in this provocative and timely paper. The core premise is rooted in the basic tenets of adaptive platform design. The paper represents robust research and thinking around the vital aspects of generative learning systems and tools. Urgency, inspiration and practical insights were all jammed into 2020: economic, societal, climate, health, and personal. This year has been a canvas with which the team has exercised, discarded or refined the proposals and frameworks offered here. Whether you are a novice or black belt in the realm of adaptive platform design, these thoughtful, and prescient ideas, stories and approaches presented here will certainly bring the foggy photo of our future more into crisp focus. In this paper, the Boundaryless team builds on four central themes of organizational development, platform-ecosystem thinking and design, the need to build antifragility into organizing, and emergent ownership and governance models in light of incoming tech revolutions. The specific themes of this white paper illuminate essential areas of learning and innovation. The Boundaryless network invites us to learn from both our successes and our (micro) failures. A considered exploration of each topic is all the more urgent and essential when viewed under the glaring light of the Coronavirus.

If we squint into the future, we can make out the shapes of platforms functioning as marketplaces and driving new efficiencies in nearly all sectors of business and society. Whether through corporations, cooperatives or governing agencies, the dynamics of diverse, self-organizing networks are a formula to future-proof our businesses and our communities. Through rapid, data-infused iterations, these specialized platforms accelerate access while modulating its offerings. The examples and emerging fundamentals presented here represent the Boundaryless team's most current and profound illustration of the tug toward elastic and unbundled marketplace engines at scale. Whether in response to climate, the pandemic or seeking a simpler life, there is a thought-provoking exploration of regional federations taking hold. Here, scale pertains to a territory and collective community grounded in proximity, like a European, Pan-Pacific or American regional network,where these intimate networks create their own intricate weave of much smaller localized connected communities. If these regional alliances shape supply chains, trade partners, and policies, the speed to experiment and accelerate the Not Yet may well increase. Likewise, we can imagine that governance models, trust and reputation frameworks and challenges would be developed with diverse approaches. In reflecting on this work, I see ecosystems as a federation of nervous systems, sensing opportunities and risk, shaping trust and adapting.

These days, and for years to come, we are likely to find ourselves seeking reference points, models, maps, and peers to anchor our thinking, allies, and heart rates. I invite you to delve into this whitepaper about the "New Foundations of Platform-Ecosystem thinking" and engage with these vital themes, ascendent stories, and roadmaps for design and action.

I recall a line from *Antifragile* by Nassim Nicolas Taleb, *"Difficulty is what wakes up the genius"*[4] and the thought, once inhaled, gives me enormous hope for our future.

Our genius, as humans, is to imagine and act as a collective. Sure, there are a list of characters you can name who are, in your view, truly "genius". But they won't save us; only WE will. If we believe that the future is a moving target and that we are intricately connected to each other and the natural world, our best way forward is together. Like nature through niches, we can learn to be building, refining and growing what works, passing along insights, failures, and our collective wisdom.

This paper is an invitation to re-imagine, connect, and jump into the laboratory of our lives to bring the Not Yet into full view, together.

Lisa Gansky

Co-Founder and Advisor, Boundaryless.

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Communication and Research Partners

A note from our sponsor: Intesa Sanpaolo

"The competitive arena in the financial and banking industry is going to change much more rapidly than we could ever expect. The resilience and flexibility of our organizational structures face enormous challenges: to adapt from a hyper-regulated world, where most of the products and services are mature, to a new one where Environmental, Social and Governance propositions need to coalesce: every client, sector, and activity will be impacted by this evolution.

Change is often accompanied by resistance, bureaucracy, short-termism, and we're often slow to respond to a fast-changing environment: now it's time to embrace a new paradigm and a new approach to design where people in networks can translate big transformative visions into concrete actions.

Intesa Sanpaolo is pleased to support this research initiative, and to collaborate with Boundaryless and its network in envisioning a modern approach to the evolution of the organization that is flexible, outside-in and proactive."

Gian Marco Salcioli

Head of Strategic Marketing
Corporate & Investment Banking
Intesa Sanpaolo

Premise

PLATFORM DESIGN TOOLKIT

Premise

It was in 2013 that we released our first version of the Platform Design Toolkit. Three years later, in October 2016, we published the first really stable release of it (the 2.0), together with the companion whitepaper "*From business modeling to platform design*", pioneering a new way of thinking about organizations and products[1].

The first whitepaper—to the background of some years of "the rise of platforms"—outlined how these new types of business models and ways of organizing fitted into the overall digitally transformed market and societal frame at the time. It looked at **defining roles**, understanding the **market drivers**, and pointed at the **evolutionary forces** and **enablers** of platforms for post-industrial organizing. It was a deliberate attempt to *demystify* the practice and pointed out the need for it to become pervasive and widely adopted: this is also why our work has always been released in the commons from the very start.

After four years from that stable release, we felt the awareness that the context and scope of platform-ecosystem thinking had changed, almost abruptly, and at the same time also had grown widely. With this in mind, at the end of 2019 we **set out to build new foundations** of the practice that we contributed to kickstart. The new foundations we try to consolidate in this whitepaper integrate broader orders of complexity and look at the holons that contain platform thinking: the **organizational**, the **social**, even the **philosophical** and **cosmological**. These new foundations will help us find new meaning for this practice in what we now feel is a deeply and rapidly changing world that is asking us to show up with integrity, passion, and potential. The aim of this 2020 whitepaper is therefore to help readers **orient themselves** through the new **emerging aspects** of the practice, and to glimpse the **new horizons** of platforms and ecosystems in our **rapidly changing world**.

This whitepaper draws on several expert interviews we've run in the last year, with thought leaders from the field of **business strategy, design, organizational development, innovation** and more, and from pioneering entrepreneurial ecosystem-enabling organizations' (**EEEOs**) **experiences.** It also roams further on insights that draw from the practice of **systems thinking,** on the one hand, and **complexity,** on the other, also glimpses into ideas from **regeneration** and **decentralized organizing**. It further incorporates state-of-the-art thinking from a wide range of organizations and partners, from Thinkers50, Haier Model Institute, Work Futures, The BCG Henderson Institute, Andreessen Horowitz, Ouishare, Greaterthan, and many, many more. What's more, as part of our whitepaper research, we launched a **collaborative research experiment**, inviting people from our community and wider ecosystem to regular online sense-making sessions, learning-by-doing what an emerging collective sense-making practice may look like[2].

Whether you are a corporate leader, investor, start-up founder, educator, public servant or community activist seeking to navigate the most crucial transition in human history, this whitepaper will help you understand key dimensions of organizing at scale in the 21st century. You'll learn about:

- the **opportunities** that exist for platform thinking as markets become more complex, heavily regulated, and investment intensive;
- the ways organizations can keep—or gain— a central position in business ecosystems and the challenges to embrace governance models that ensure **whole-system development**;
- how scalable strategies are essential to engage with new **socio-economic trends** and global **risk factors** characterizing these unpredictable times;

- how **new emerging technologies** such as blockchain, machine learning, AI, 5G and cloud computing are opening new possibilities to mobilize and connect ecosystems;
- how the boundaries and the shape of a **traditional organization** are now blurring into interconnected, distributed, and **collaborative organizing**.

Navigating organizational evolutions in the 21st century.

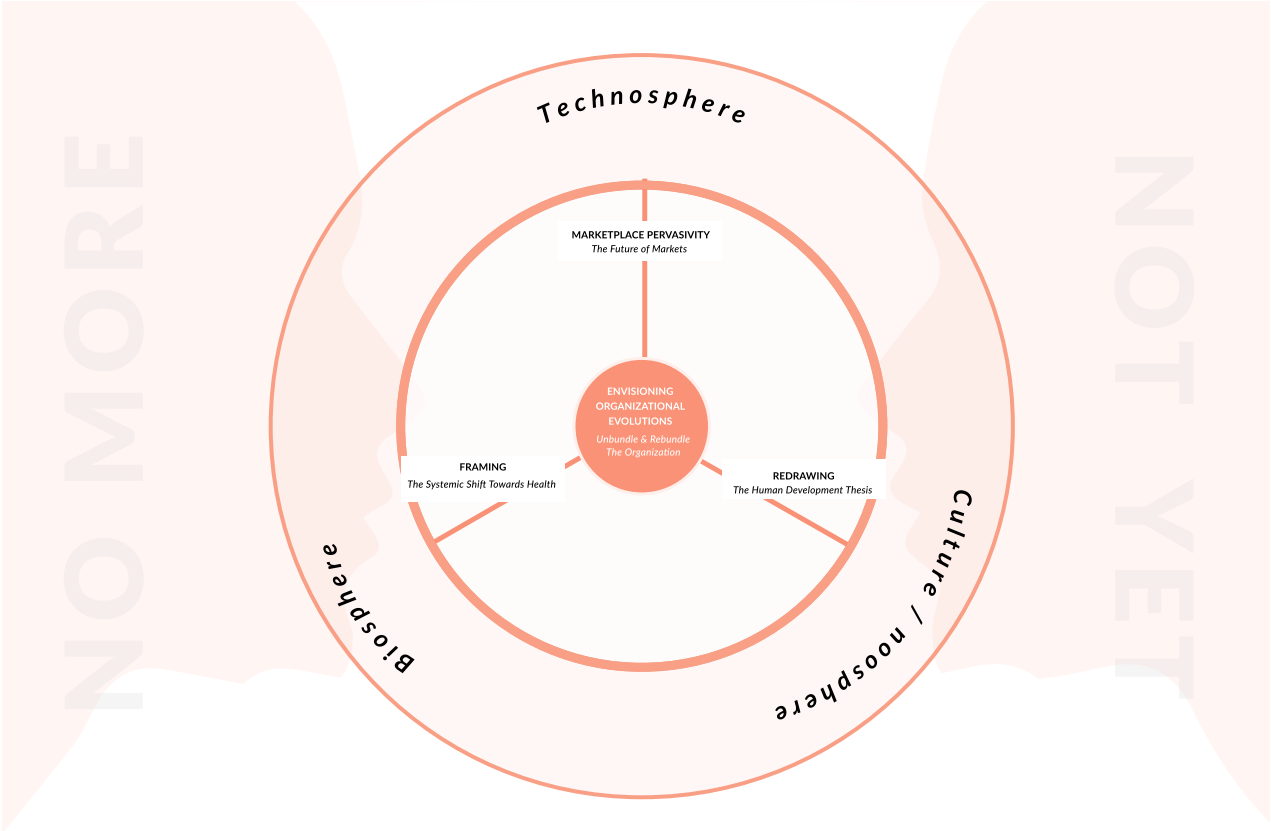
The whitepaper introduces four intermingled "theses". We start from the idea that as technology continues to enable further opportunities for marketplaces and platform dynamics to be applied at an ever-expanding set of scales, we move towards a **marketplace pervasivity** justified by the staggering efficiencies and adaptability that marketplaces provide, and driven by the *unbundling of the firm*. As a consequence, organizations retooling themselves for this new reality lean towards becoming more **unbundled** and **networked**, applying platform-ecosystem thinking inside the organization itself, unleashing the entrepreneurial potential of their internal units, connected in sort of dynamic "marketplaces", so as to make it possible to tackle these opportunities.

The second macro-thesis we're presenting is the emergence of **a new governance spectrum**—as bureaucratic governance seems to have entered a downward demise spiral in this decade—which goes beyond the traditional left and right, where nationalism and dissent become powerful forces. Throughout this evolution, as a consequence of dynamics generated by the need for global risk deflation, **health and sustainability become key drivers** to re-frame the shift. Since health is a property of nested complex systems, the need to seek for it influences the transition dynamics in complex ways, especially requiring us to adopt new **epistemic frames**.

The **hyperlocal** scale—down to the household and community levels—gains more prominence and a re-regionalization of our economies and societies seems to be happening, and accelerating, as a consequence and driver of shortened and more resilient supply chains. In this process, **new constituents** will need to take a relevant role in the emerging governance spectrum: they will need to bridge the competence gap and learn how to organize collectively and "deal with" the fundamental problems of organizing at scale: strategy, management and value distribution. On the other hand, existing institutions and existing organizational "architects" will need to **re-design** incumbents and leverage new technologies and techniques. Organizations and brands that want to remain relevant in an economy that transforms and adapts to the new risk landscapes will need to allow these newly emerging constituents (cities, communities, cooperatives, etc…) to play a role in the business and organizational process, and sometimes mould together.

On top of all this, it seems clear that this new space of organizing requires building **sense-making processes** that can be applied by organizations to unleash the unique potential of humans, not as "bad robots"[3], but as "imagination engines" capable of building non-dystopian visions and making them happen. This is framed in what we call **redrawing the human development thesis**, a task which needs to become part of strategy-making in the 21st century.

The **compass for envisioning organizational evolutions** gives a holistic view on issues that are deeply interconnected and cohere in generating the need to rethink how we organize at scale in a rapidly changing world. It is not a static framework (or even a framework at all), but an evolving background picture to allow for Zooming in and Zooming out on various aspects. On the outside of the circle are the evolutionary context drivers in which these trends play out: our ever evolving **technosphere**, the ever-threatened **biosphere** and our revolving and almost indecipherable **noosphere**. In the middle is the place where these contexts coalesce: our organizing.



The compass for envisioning organizational evolutions

A holistic view on the key theses of the whitepaper that are deeply interconnected and cohere in an evolutionary context, generating the need to rethink how we organize at scale in a rapidly changing world.

Framing the future through the No More and Not Yet

"We're in this inflection point between 'No more' and 'Not yet'. In the Not yet side—the part that we can see if we squint—many of us can anticipate how we can see these things coming together, whether they're systems of trust decentralized like blockchain, clusters or collectives of people or ecosystems or teams coordinating in curious and interesting ways: collaboration with nature rather than having to try to overcome nature."[4]

In the whole whitepaper we'll draw on Lisa Gansky's eminent framing of the *No More* and *Not Yet* that she presents in the preface to this document, as a means of observation of the ever-changing landscape. We'll use it as a way of pointing to diminishing trends in the landscape of organizing at scale, as "*the institutions that were once so powerful are weakening and/or crumbling*"[5]. We're reckoning with the ultimate limits of our social and **bureaucratic systems**, and look for new ways to transcend current organizational paradigms that are about controlling nature, rather than contributing to the wholeness of systems. In a few words: the linear, Cartesian way of understanding a world that is ripe with complexity and ambiguity seems to belong to a world of *No More*.

With this whitepaper, we also want to make our contribution towards bringing forward the Not Yet: to create a shared language that will help to design new tools for what's coming next, and ever faster. What we're seeing in the *Not Yet* are new ways of organizing value creation and distribution, where small units are empowered—helped by new technologies—to pursue **nimble leadership**[6] under an umbrella of **architecting principles**. It's about realizing human potential, while enabling resilience by letting go of our notion of industrial age efficiency.

If, a year ago, the *No More* looked much smaller, we are sensing now—in the wake of the Covid-19 pandemic—that the leap into the next wave of organizing through platforms and ecosystems seems much more at hand.

A guiding note for the reader

Each chapter in the paper is structured in the same way to help readers to easily navigate the contents and find the most relevant sections to explore. We start by providing the key messages from the chapters, listed sequentially according to the chapter flow. The main contents of the chapter includes **Deepening Boxes** to explain important concepts, **Case Studies** to exemplify trends and key points, as well as other tables and figures to help capture the key contents. References are provided in endnotes to each chapter.

Finally, each chapter provides key takeouts, and "tags" them as we see them relevant for three broad categories of readers or, better, three contexts:

- **Private companies** [***#PrivateOrgs***]. Readers in this category would include for example CEOs of small and large companies, start-up founders, business consultants, or in general people interested in the implications of platform-ecosystem thinking on the business world.
- **Public sector organizations** [***#PublicOrgs***]. Refers to people in government institutions or agencies, policymakers or in general civil servants and public sector leaders (including in inter-governmental bodies) with an interest in evolving the public sector in tune with the latest trends in the future of organizing. International NGOs and other structured "public good" organizations also belong to this category. We touch lightly upon regulation of the platform economy in chapter one, however, it is not a core focus of the paper, which is more about describing trends and generating foresight that could inform more detailed issues related to regulation and legal frameworks.
- **Communities** [***#Communities***]. For the sake of the key takeaways provided in this white-paper, we think of communities as local constituents—like groups of active citizens, a neighborhood, towns and villages—whose involvement in the future of organizing social and economic activity will be essential. It also includes grassroots organizations and small charities and NGOs. Communities can also be virtual and gathered around a niche interest, although we tend to refer to communities embedded locally in most of the takeouts.

The takeouts are based on the *No More* and *Not Yet*, providing our emerging understanding of what is fading into the past and what's coming next when it comes to organizing at scale in the 21st Century. At the end of each chapter, you will find links to our existing tools to start applying the practical lessons learned from the chapter, as well as further readings to dig deeper into the specific topics covered.

Please enjoy reading the New Foundations of Platform-Ecosystem Thinking!

Premise references

1 Platform Design Toolkit. *From Business Modeling to Platform Design.* A whitepaper by Simone Cicero and the Platform Design Toolkit Team. 2016. https://platformdesigntoolkit.com/platform-design-whitepaper/ [accessed: 08/11/2020].

2 See the Acknowledgement for a list of active contributors.

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Chapter 1

"...as you start to be able to transact more readily in a digital context you start to see market-based transactions where you used to have only firm-based transactions."

- Rita Gunther McGrath

Marketplace Pervasivity

As the readers of this whitepaper will have likely noticed, the so-called marketplace model is getting steam. This is happening in light of many drivers: the ever-reducing capital needed to create one, the ever-growing affordability of the technology (such as with cloud computing), and, in parallel, the dramatic reduction of transaction costs (mainly due to the pervasive nature of mobile internet). This phenomenon has been happening now for almost 20 years. In this continuing trend, we can see various sub-patterns and extended evolutions taking place, which lay the grounds for the next generation of Platform-Marketplaces. These are presented in the chapter.

The **Revised Marketplace Map** introduced in the chapter visualizes how the overall marketplace-platform pattern moves from the more horizontal space (the original marketplace application) into more vertical and managed ones. The map also highlights zones related with more easy to commoditize learning advantage and what the relationship is between providing a consistent experience (in the managed space) versus giving space to the single provider's reputation to create her own fanbase, and therefore control directly the relationship with it (the "passion economy").

Chapter cover source:
Gunther McGrath, Rita. "Seeing Around Corners (#19)". Sound recording and written transcript. Aperture.co, May 7, 2020. Medium. Structural Shifts Podcast. https://medium.com/aperture-hub/seeing-around-corners-19-ec64b2260337. [accessed: 31/10/2020]

What you need to know

1	**The marketplace pervasivity thesis** posits that as technologies help us to organize markets digitally, they offer such a great deal of optimization that applying marketplace dynamics becomes a "no-brainer". We start to see markets taking over coordination of transactions that used to require a firm.
2	**Further unbundling and re-bundling of horizontal marketplaces and existing industries are reflected in three key trends for the future of marketplaces:** verticalization, more managed experiences, and B2B marketplaces. What makes the case for any successful marketplace is delivering on the promise of outstanding experience, but also efficiency and affordability. Balancing the cost of improving the experience of a horizontal space or existing industry with sustainable Unit Economics helps to make sure the marketplace opportunity is not sought in an already efficient market that can be hardly optimized.
3	**Looking through the value chain of platforms along the spectrum of unmanaged-managed and horizontal-vertical dimensions gives a more grounded understanding of the evolving opportunity landscape.** Depending on where the marketplace is positioned (or seek to position itself), the strategic landscape - viewed through the Wardley Map value chain and applying platform plays - will slightly differ. Control and commoditization also play a role in determining whether opportunities are likely to be captured through scalable transactions or scalable learning.
4	**Marketplace choices have implications for the organization behind the platform:** sometimes the nature of the network drives concentration of capabilities in the center (the "headquarter") for better reliance on algorithmic leverage, data analysis, and optimized growth hacks; other times it pushes for highly locally (contextually) bounded markets where the playbook is scarcely replicable or with category dependent markets where an understanding of the suppliers in the category is crucial.
5	**New regulatory frameworks for the platform economy should aim to maximize value creation by shaping a level playing field where interoperability and data portability are key ingredients.** To unlock further value from data accumulation, data sharing principles can enable smaller players to come in and innovate based on dominating platforms' data. Mixed ex-ante and ex-post approaches to policy-making and regulation are needed for the evolving platform economy: in essence, allowing for multihoming, while not working against network effects, is likely to require a collaborative, mixed ex-ante and ex-post framework where legislators and enforcers work with platform players to analyze the field.

The marketplace pervasivity thesis

The thesis of marketplace pervasivity was promoted at the very beginning of 2020 in Ben Evans' World Economic Forum address[1] and generally praised by so many experts in recent interviews and studies. Particularly convincing has been to reflect together with James Currier on the powerful potential that using a marketplace interface has with regards to its capability to expose and optimize, through data, the dynamics of markets. In Currier's own words[2].

"Anything that we care about, anything that forms societies is going to be digitized, is going to be touched by the efficiency that these interfaces bring. And therefore understanding how they work and why they work is critical to almost any job that we have, no matter where we sit in the economy, and I think that will be, you know, it'll play out in different places at different times".

The hypothesis here's that, as technologies help us — by reducing transaction costs — to organize markets digitally, they provide a great deal of value for the users (such as through **network effects** or prescriptive suggestions through big data) and also give the "**platform shaper**" access to such an amount of information by "unveiling the math" behind the market. This tremendous capacity of optimization makes applying marketplace dynamics a "no-brainer". Rita McGrath captured it very clearly recently in a podcast interview, highlighting how tech-powered marketplaces can, on the one hand, substitute a traditional firm and, on the other, push the transition towards access-based economies where assets are more efficiently used and idling of resources is reduced[3].

As a result of the model's pervasivity, markets now can be largely seen as descripted in our earlier released so-called "Cicero's triangle"[4], with possible playable roles in digitally transformed markets distributed across **three key layers** (Figure 1.1): *the long tail niches* (where ever-smaller consumers and producers interact for self-organizing and mass customization), *the aggregators* (providing the space where network effects can be generated), and finally *the infrastructures* (providing building blocks for market shapers to aggregate markets on top).

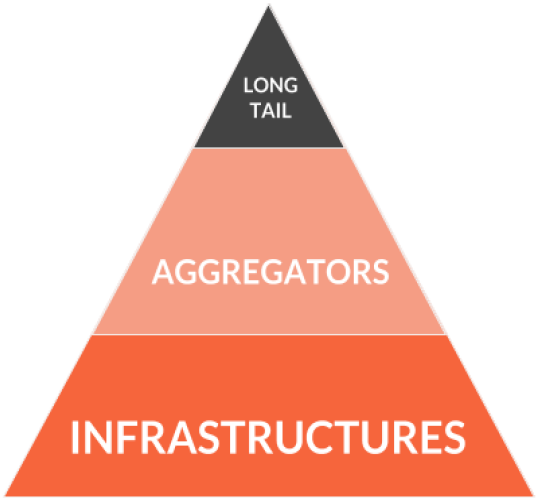


Figure 1.1: Cicero's triangle
Cicero's triangle shows three key layers, and possible playable roles, in digitally transformed markets: the long tail niches, aggregators, and infrastructures.

If we look at markets through this lens, every product is - or we should better say needs to be - a "platform", and almost forty years after James Moore seminal "Predators and Prey: A New Ecology of Competition" paper[5], every organization now is to be recognized as an organizational ecosystem in the making, as we'll see in details later on in the Whitepaper. Products and services indeed are always effectively embedded in an **ecosystem of relationships**, and are part of more systemic experiences that users contribute to craft and build in interaction with brands and organizations. As the industrial, pipeline based models lose relevance - it becomes natural for organizations to see once considered suppliers as key value contributors that should be put in direct contact with customers - to build personal and relational experiences in ways that industrial thinking can't really afford to make possible. The mantra being either "*come for the product, stay for the network*" or the other way around[6], the potential of embedding **network effects** as a complement of a product's value proposition is today no more an "option": we're effectively living through what Libert, Beck and Wind dubbed "*the network imperative*"[7].

Further unbundling and re-bundling verticalization

On top of this pervasivity aspect, another trend needs to be highlighted: as this pattern becomes ubiquitous, and expands horizontally across the economy - unbundling more markets from a previously existing industrial pipeline - the case for a more vertical re-bundling of the marketplace-platforms makes increasingly more sense.

Indeed, marketplace and **aggregation** opportunities seem to be moving decisively towards more "vertical" markets where more specific value creation processes need to be addressed in a more specific way.

This trend, on the other end, also inks towards a tendency towards **re-capitalization** and **re-infrastructuralization**. In a few words: as markets verticalize, the need to create a higher amount of value, and to make a difference, grows. As a consequence, we see a shift towards nicher (to be intended as more specific, for smaller niches) market opportunities (e.g. in specialized work), with more transactional and developmental value (e.g. in education).

James Currier sees the potential of this dual shift[8]:

"infrastructural players will continue to be very important and will continue to grow [but] niche marketplaces will come on as they can better serve their niches and their very specialized language, their specialized profiles, specialized financial services attached to them, that a large platform won't be able to address. Nevertheless, because so much of the economy is moving in this direction, I believe both GAFA and the existing platforms, as well as the new companies, are going to continue to grow dramatically over the next 10-20 years. So both will happen".

Now that a lot of so-called **"horizontal" marketplaces** in the consumer space (such as Airbnb, Etsy, Uber, and the likes) have been explored, entrepreneurs are looking to expand the marketplace pattern into new spaces, through both: replicating the horizontal marketplace strategy in new spaces (with a marketplace that covers lots of different niches with a common experience) and by fragmenting existing horizontal spaces by creating vertical marketplaces that are focused on providing excellent and characterized experiences to specific niches (Figure 1.2).

Two dynamics are at play here: on one hand, growth drives **network effects** and adds depth to the marketplace choices; on the other hand, as marketplaces grow big they inherently end up under-serving niches with a non-optimal and lowest common denominator experience: this in turns creates a space for new entrants that can take a chance at extracting that niche from the bigger market with the promise of a more **niche-optimized experience.** As Jeff Jordan and D'Arcy Coolican eminently explain[9]: "*the broad horizontal [marketplaces] eventually break* [...] *as the platforms grow, their submarkets grow too* [...] *users get annoyed with an experience and business that caters to the lowest common denominator*" making the case for a new company to come up and organizing a more specific, more niche marketplace-platform solution that can cover the specificities of such a market.

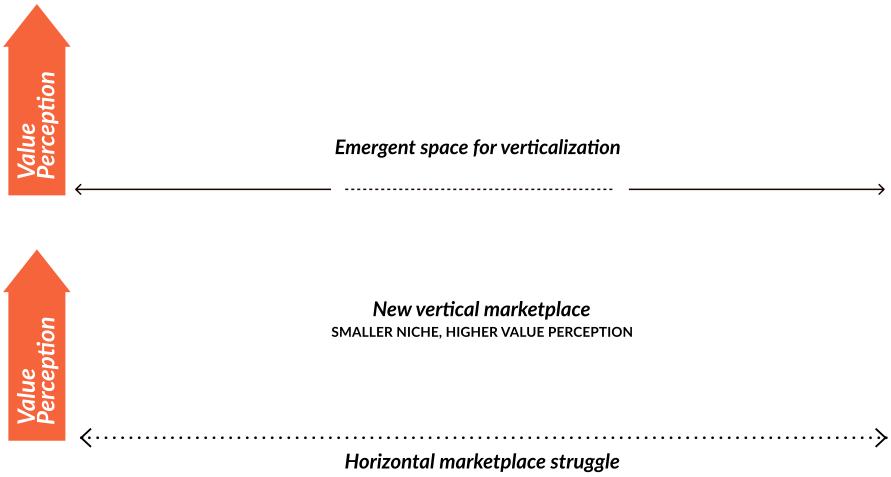


Figure 1.2: Horizontal to vertical marketplaces

As horizontal marketplaces grow big, they inherently end up under-serving niches (lowest common denominator experience). This creates a space for new entrants that can take a chance at extracting that niche from the bigger market and offer a new value proposition.

Not only verticalization: managed marketplaces

In describing the evolution of the marketplace context, the key dynamic of *verticalization* just introduced connects with another key recent tendency for the marketplace-platform pattern to be used in contexts where - due to several factors, including more professional expectations, complicated interactions, and a more prominent need to ensure consistent experiences - a more "managed" process is needed.

This tendency is also to some extent relatable to such marketplace patterns now being increasingly deployed into the B2B space, in relation with a generational change that now sees "Gen Xers" and millennials taking over businesses from the baby boomers generation, expecting the same level of experience of the digital consumer services they've been used to interact with. According to Fabrice Grinda indeed, the three key trends for the future of marketplaces are **verticalization, more managed experiences, and B2B**[10] (see Case Study Box 1.1).

In this often called **"managed marketplace"** pattern, marketplaces don't just provide attraction through the aggregation of demand, listing features, managed transactions and a rich support suite of software as a service dedicated to producers: increasingly these marketplaces aim at also curating strongly, sometimes even owning and organizing, the supply side of the market up to managing production **in-house**, effectively becoming D2C brands.

As the pattern grows and spills over new spaces, it moves often into entrenched regulations and more complicated processes, thus requiring the brand to integrate and own more and more of the experience and investing more and more both in capital expenditure (CAPEX) and in operational expenditure (OPEX).

As we just said, thanks to a generational transition, many B2B spaces are also being targeted now: in these contexts, where things used to work according to rather primitive and complicated processes, with terribly fragmented user experiences, we're seeing a Cambrian explosion of new brands of professionally oriented marketplaces.

Case Study Box 1.1: Marketplaces in Fabrice Grinda's key trends

VERTICALIZATION | OVERCOMING THE "LOWEST COMMON DENOMINATOR"	MANAGED EXPERIENCES | PROVIDING A SUPERIOR EXPERIENCE	B2B | A GENERATIONAL CHANGE
Slice[11] - a mobile app and website where diners can order a custom pizza delivery from their local, independent pizzeria - builds on the continued verticalization trend to overcome the "lowest common denominator" of already to some extent vertical marketplaces like Uber Eats. As consumers and producers strive to spend as little time as possible sorting out things they are not interested in, specialized niche opportunities benefiting both sides arise through mechanisms of discovery, trust, convenience, and price.	**Meero**[12] - a platform that supports photographers and producers to connect with brands and other customers and create a seamless service - is an example of a marketplace where the platform pre-selects the best supplier for the job to be done. Compared to for example a freelance marketplace like Upwork, marketplaces that manage the end-to-end experience ease the burden for its users by handling time-consuming selection processes, or dealing with legal or regulatory issues that require specific niche competencies.	**CREXi**[13] - a platform that began as a marketplace for commercial real estate brokers to list properties, manage leads, and find the ideal buyers - has evolved into a B2B platform offering "a robust broker suite" for commercial real estate in the digital age. It offers marketing automation tools, lead analytics, featured listing offerings, and secure file storage, as well as an online auction service, solving some major pain points for brokers and bringing together the whole commercial real estate ecosystem. Rather than focus on the buyers, CREXi decided early on to focus on bringing suppliers (brokers) on board, offering them a suite of business services to facilitate their work.

More on this topic:

- Grinda, Fabrice. "BOLD Series: The Future of Marketplaces with Fabrice Grinda". June 22 2020. *https://www.youtube.com/watch?v=XknkYAjfyL8*
- De Giorgio, Michael. "Embrace, don't replace the middleman with Michael DeGiorgio (CREXi)". Sharetribe, June 24 2020. Two-Sided Podcast. *https://www.sharetribe.com/twosided/ep5-michael-degiorgio-crexi-embrace-middleman*

Case Study Box 1.2: Open Compute Project: a community-marketplace for open hardware

The Open Compute Project (OCP) is a community and marketplace for designing commodity hardware. Their belief is that, as more services move to the cloud and the need to handle more data grows - (while ensuring efficiency and sustainability) - *"hardware must become a commoditized and evolving set of products optimized for these challenges"*[14].

The OCP provides an interesting case of how open source and scalable learning contribute to democratizing access to hardware solutions and to the market of "solution providers" in a space where big IT players who benefit from economies of scale traditionally dominate the scene with their integrated solutions. The OCP marketplace connects "adopters" (people and companies with hardware needs) with solution providers and provides the possibility to browse products, specifications and facilities that have received different OCP recognitions: "OCP Accepted" products include open access to all design files, while "OCP Inspired" solutions are only for paying members. There is also an "OCP Ready" Data Center Facilities. On top of hardware solutions, providers can capture the value of services built on top of hardware through integrated solutions.

In the community, the OCP Foundation provides services like workshops, legal frameworks and communication tools, whereas the solution providers are the ones providing all technical services and responding to adopters needs. Adopters and providers are also encouraged to share successful solutions in the community (e.g. in white papers, case studies, etc..). OCP is open to the public and you do not need to become a member in order to post a need/challenge to the community. If you have a need, you are invited to join free workshops and project calls to bring challenges to the community. All solutions are open source: the work is royalty free and members cannot get sued by using others' work[15].

More on this topic:

- OCP's products and marketplace: *https://www.opencompute.org/products*

Workable Unit Economics: the case for a marketplace

Marketplaces have to fulfill several promises: outstanding experience but also efficiency and affordability. Despite many opportunities, especially the B2B space, are characterized by large **total addressable markets** — making certainly a good case for a business to be developed — for a managed marketplace to make sense, the cost of improving the experience with respect to a horizontal marketplace or to an industrial or artisanal alternative, and the necessity to keep the **unit economics** workable need to find a trade-off (see Deepening Box 1.1 for an explanation of unit economics).

In some of the new niches — either fragments of markets underserved by large marketplaces or brand new business context being attempted to be re-organized thanks to abundant capital and technological superpowers — the promise of building a better experience may actually be very expensive, and the complexity of the space may not — at the end of the day — make the case for such a structured process.

Casey Winters points this out[16]:
"[…] we've built many billion-dollar businesses using this model, people are starting to look at other industries where the marketplace model can work, which sometimes need to have more ownership and require more venture capital to get up and running. Now there are venture capitalists available. So you can actually make an attempt at building that […]

I think we have a tendency in Silicon Valley to say like: 'Oh, let me go into this industry that's been around for hundreds of years. And just think that, with a data scientist, I can completely reinvent it' … and sometimes the answer is absolutely you can and it's amazing — then sometimes it's like, oh no, it turns out this was an efficient market. And I've just spent a lot of money to do something that's exactly the same that was already happening".

Deepening Box 1.1: Unit Economics

Unit eEonomics (UE) is a per-unit calculation of profit and loss, showing how much value each unit creates for the business. For most platforms, marketplaces, and digital products, units are typically a customer or user. Unit Economics provide important information regarding whether the business model is working (or could work), or if the efforts to acquire a customer - Customer Acquisition Costs (CAC) - are more costly than the value that a loyal customer would bring you over its "lifetime" with a business. It's a key metric that most investors will look at to determine the potential of a new venture[17].

According to expert angel Fabrice Grinda, for the Unit Economics to work the marketplace needs to be able to recoup CAC on a net contribution margin basis in the first six months of operation, and CAC needs to be 3X-ed in terms of net contribution in 18 months[18]. A core aspect of achieving this level of profitability obviously relates to the Average Order Value (AOV) and the frequency of the transactions. Other key aspects to consider are whether users are likely to be monogamous (they don't change platform over time).

Take rates, referring to the value captured by the platform at each transaction, should roam from 5% if only the transaction is managed (i.e. unmanaged marketplaces) up to 50% in marketplaces where the platform creates demand, manages non-core aspects of the supplier work (e.g.: accounting, additional post-processing, customer oversight, etc).

More on this topic:

- Grinda, Fabrice. "All Things Marketplaces with Fabrice Grinda". Village Global, 5 February 2020. Venture Stories. *https://www.breaker.audio/venture-stories/e/57666081*.

In this conversation with Erik Torenberg, Grinda covers a lot of ground, deeply explaining some great examples such as the photography managed marketplace Meero or the case of RigUp, which is vertically integrating a niche of Linkedin's job marketplace, that of Oil & Gas workers.

Looking through the Value Chain

After having explored largely how the essential forces of unbundling and re-bundling are shaping the context of **marketplace-platforms**, it's important to provide a breakdown of the major nuances and differences in this landscape. Indeed, if we classify marketplaces through two major axes, the one going from **unmanaged to managed** and the other going from **horizontal to vertical**, we can provide a reasoned description of the key features and of the structure of the related Value Chains. The aim is to give designers and entrepreneurs a more grounded understanding of the opportunity landscape.

We previously developed a way to look into the marketplace-platforms value chain through the lens of Wardley maps[19](see Deepening Box 1.2). Wardley maps help to plot key activities and resources contributing to a certain value chain, from the perspective of their visibility (appreciation from the end user) and state of evolution, from the Genesis (something gets invented for the first time), to the gradual diffusion into the industry (from being custom built to becoming competing products, then services and ultimately commodities and ubiquitous utilities).

Deepening Box 1.2: Brief explanation of Wardley Maps

Ben Mosior - the creator of Hired Thought, which promotes Simon Wardley's original work - **defines a Wardley Map** as:

"A value chain — a chain of needs — (users, needs, and capabilities arranged and connected according to dependency) mapped against the four stages of evolution (Genesis, Custom, Product, and Commodity)"[20].

The map is part of a larger process called "Wardley Mapping", which is about creating a shared understanding of a strategic context - the "competitive landscape" (the map) - in a visual way, to make common knowledge expressed and accessible.

Wardley Maps help to categorize elements of a value chain according to their evolution from genesis - or invention, when something is entirely new - to commodity, in other words when it becomes accessible everywhere at a relatively affordable price. This evolution takes place through demand-supply competition. By positioning elements of the value chain on the Wardley Map, the user gets insights into things like "knowing what to build, buy, and outsource" and a visual image of the value chain in terms of activities that are required to meet customer needs[21]. See Figure DB2.1 below for how this is shown for the value chain of a cup of tea, with all the elements that contribute to make the value proposition "a cup of tea" possible. (A very simple expression of a typical "C-shaped" industrial value chain in a Wardley Map is also provided below this box, in Figure 1.3).

From a platform strategy design perspective, Wardley Maps are linked with the "unified market theory" expressed through Cicero's triangle (Figure 1.1). This theory has been thoroughly covered in the Platform Opportunity Exploration Guide (POE) (see "More on this topic" below), outlining how **long tails, aggregators**, and **infrastructures** make up the platform space. Translated into Wardley maps, the most common situation is to find long tails in the user context (the visible part), aggregators covering intermediate layers, and the infrastructural layer being mostly invisible.

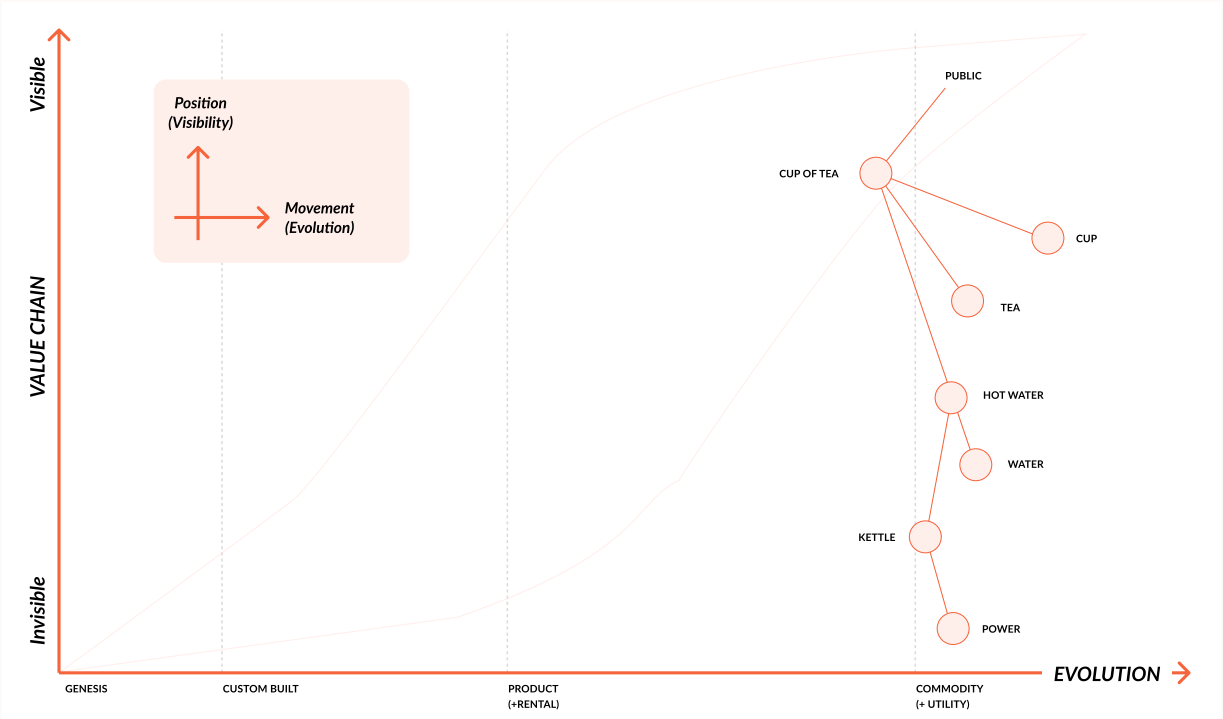


Figure DB 2.1: Wardley Map visualizing the value chain of a cup of tea

In this figure, one can see how all the enabling elements and resources (with their characteristic stage of evolution) contribute to generate the cup of tea value proposition for the public.

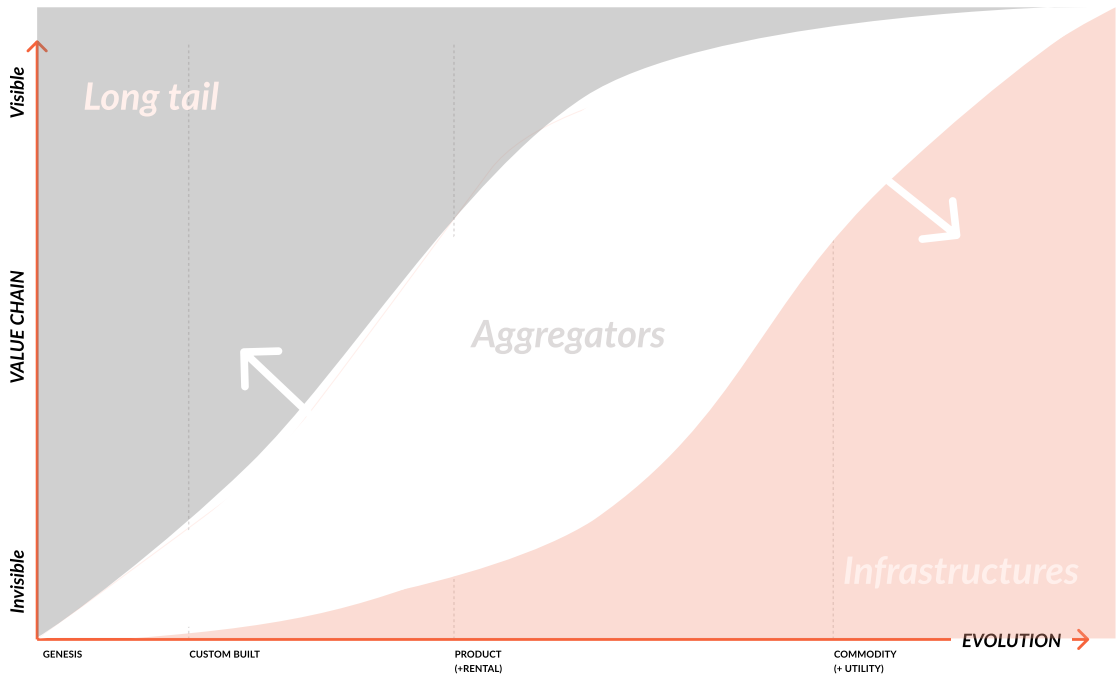


Figure DB2.2: Cicero's triangle mapped onto a Wardley Map

the most common situation is to find long tails in the user context (the visible part), aggregators covering intermediate layers, and the infrastructural layer being mostly invisible

Through a series of platform plays (see table X), the typically "C-shaped" value chain in the Wardley Map is translated into a Z-shaped one, as explained below.

More on this topic:

- Ben Mosior. "Intro to Wardley Mapping". Hired Thought, 1 September 2018. *https://hiredthought.com/2018/09/01/intro-to-wardley-mapping/*
- Simone Cicero. "Understanding Platforms through Value Chain Maps - Why is a Platforms' Wardley (Value Chain) Map Z-Shaped?". Medium. Boundaryless, 11 October 2018. *Stories of Platform Design. https://stories.platformdesigntoolkit.com/platform-value-chain-z-shape-385f759faffa*
- *The Platform Opportunity Exploration Guide v0.2 - an extension to the Platform Design Toolkit (interim update October 2020)*. Boundaryless, 2020. *https://platformdesigntoolkit.com/poe-download*

If you're mapping an industrial/pipelined context or experience, you will probably get a C-shaped value chain on the map[22]. Normally, industrial firms provide solutions (as products, services or utilities) to a massified and replicable customer need (on the right of the evolutionary line, not by chance, as it needs to be a universal problem). They often do that by leveraging proprietary distribution channels - imagine a retail network - sometimes they use more commoditized channels, out of the firm's control, e.g. large-scale retail chains, or telco carriers for digital services. In the latter case the distribution element on the picture would need to be shifted on the right as well. Sometimes these firms manage the purchasing transactions directly - such as with proprietary e-commerce sites - other times distributors do that, depending on the type and evolution of goods or services sold.

These industrial brands normally directly provide a warranty of quality to customers, and all this is based on a proprietary (sometimes secret) business process, that helps them organize suppliers and resources into final products and services.

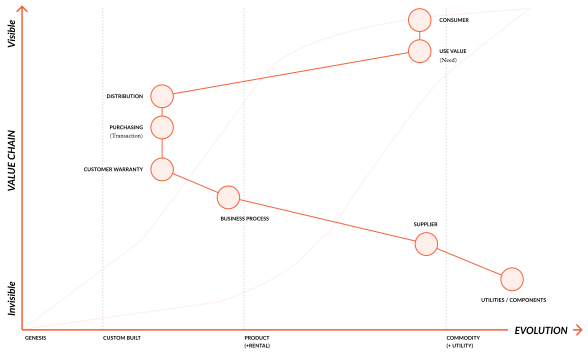


Figure 1.3: Industrial C-Shaped value chain illustrated using Wardley Maps
This C-shaped value chain represents the "nature of the firm", in value chain terms, as Coase or Taylor would have described in the early 20th century.

Typically, horizontal and unmanaged marketplaces (the most archetypal aggregators), re-shape this C-shaped value chain through **six essential strategic transformations** that we call **Platform Plays** (see Table 1.1).

As a result of the Platform Plays, the Value Chain, as mapped on the Wardley map, evolves more into a **Z-shaped** one (Figures 1.4 and 1.5).

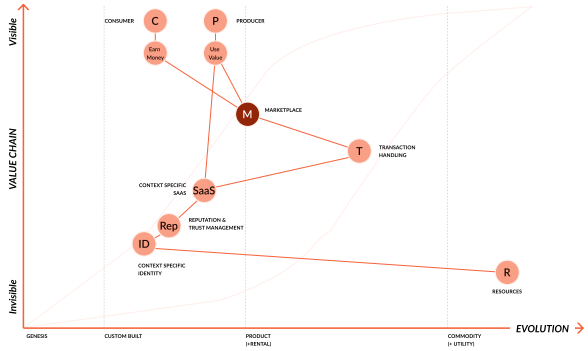


Figure 1.4: "Transformed" industrial value chain into Z-shaped
Through six essential strategic Platform Plays (Table 1), the C-shaped industrial value chain is transformed into a Z-shaped one.

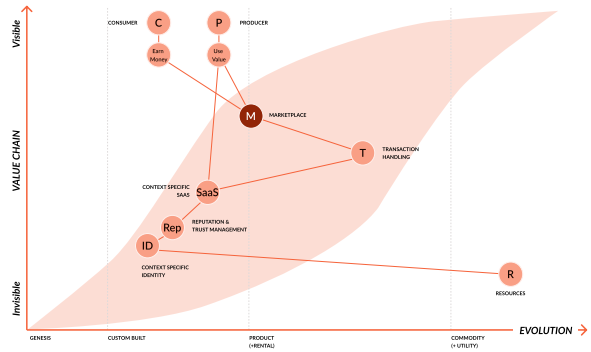


Figure 1.5: Z-shaped value chain with a highlighted "aggregator field"
The highlighted zone covers the elements normally controlled by an aggregator.

Table 1.1: The six Platform Plays

"Platform Plays" are six recurring strategic plays that typically characterize a pipeline-to-platform transformation to unleash the unexpressed potential emerging from an ecosystem. They are part of transforming an industrial value chain - in Wardley map terms - from C-shaped to Z-shaped.

PLATFORM PLAY 1 (PP1): BRING BACK PERSONALIZATION OF EXPERIENCE FOR USERS.	If users are being served by commoditized experiences, platforms ensure to provide "customized" experiences. This implies either connecting them with producers (see PP2) on top of a standardized transaction system (see PP3) or to fully control and automatize a mass-customization process that, in many cases, may lack the capability to understand fully the context.
PLATFORM PLAY 2 (PP2): BRING PRODUCERS ON TOP OF THE VALUE CHAIN	If there are a massive amount of producers in this value chain, gaining more potential to create value (for example by means of a technological advancement), and if they are "independent" but, at the moment, hidden by an industrial player (typically as suppliers) or by a frequent mediator (as contractors), they can be brought on top of the value chain and treated as "users" that must be targeted with excellent experiences and the capability to specialize in their niche capabilities.
PLATFORM PLAY 3 (PP3): STANDARDIZATION OF TRANSACTIONS	To ensure that producers and consumers can interact at scale, the platform shaper needs to ensure that all the phases of the peer-to-peer transactions (e.g.: selection, handshaking, requirements sharing, booking, purchasing,…), and all the ancillary activities, are as standardized as possible. On top of standardized transactions, users can achieve fine grained customizing, thanks to direct connection, increased information sharing, etc...
PLATFORM PLAY 4 (PP4): COMPLEX BUSINESS PROCESS EMBEDDED INTO SOFTWARE AS A SERVICE.	Taking complex and formal elements of a pre-existing complex business process and making them more accessible (in terms of cost, distribution, etc…) by codifying them into a "Software as a Service" (SaaS) solution. This essential play couples with PP3 when contributing to reducing the costs associated with value transactions and is also key in keeping the rules crystal clear (and well known in advance) to all the entities and roles willing to leverage their potential through the platform. Having a SaaS to manage the business process allows users to self-serve themselves reducing the need for organizational staff helping the growth and scalability of the platform strategy itself.
PLATFORM PLAY 5 (PP5): ENABLE LEVERAGING ON IDENTITY, REPUTATION, AND TRUST	The creation of a system that allows participants to have a confirmed identity, and accumulate reputation (and therefore social capital, trust) ensures that new-entrants, and smaller players are rapidly able to capitalize on performance and social status. Improving reputation and trust in the system in turn influences the quality of the exchanges in the ecosystem without the need for centralized vetting and control, further reducing the bureaucratic footprint.

PLATFORM PLAY 6 (PP6): AGGREGATION OF DEMAND (AND SUPPLY)

By aggregating demand (and sometimes supply), platform strategies also overcome the traditional (push) "sales" perspective and move into "pull". Network effects drive great attraction to a growing context of interaction and it is therefore often crucial to aggregate demand so as to generate a pull effect on the supply (or vice-versa), in turn generating more demand attraction. This mechanism is crucial to first start and then keep on feeding the network effects. This is how platforms grow.

For more details on this topic:

- Luca Ruggeri. "A Platform Design Example Explained". Stories of Platform Design, 28 October 2019. *https://platformdesigntoolkit.com/example*

Managed-unmanaged and horizontal-vertical spectrums of value chain transformations

Different incarnations of marketplace types - along the axis of managed vs unmanaged and horizontal vs vertical - behave differently in terms of value chain.

If we start with the oldest version of a marketplace, the good old **unmanaged-horizontal** (U-H) on the top left side of Figure 1.6, of which the original Airbnb can be a good example, we have marketplaces where all the 6 platform plays are substantially applied ending up with a clearly Z-shaped value chain in confrontation with the typically C-shaped industrial value chain.

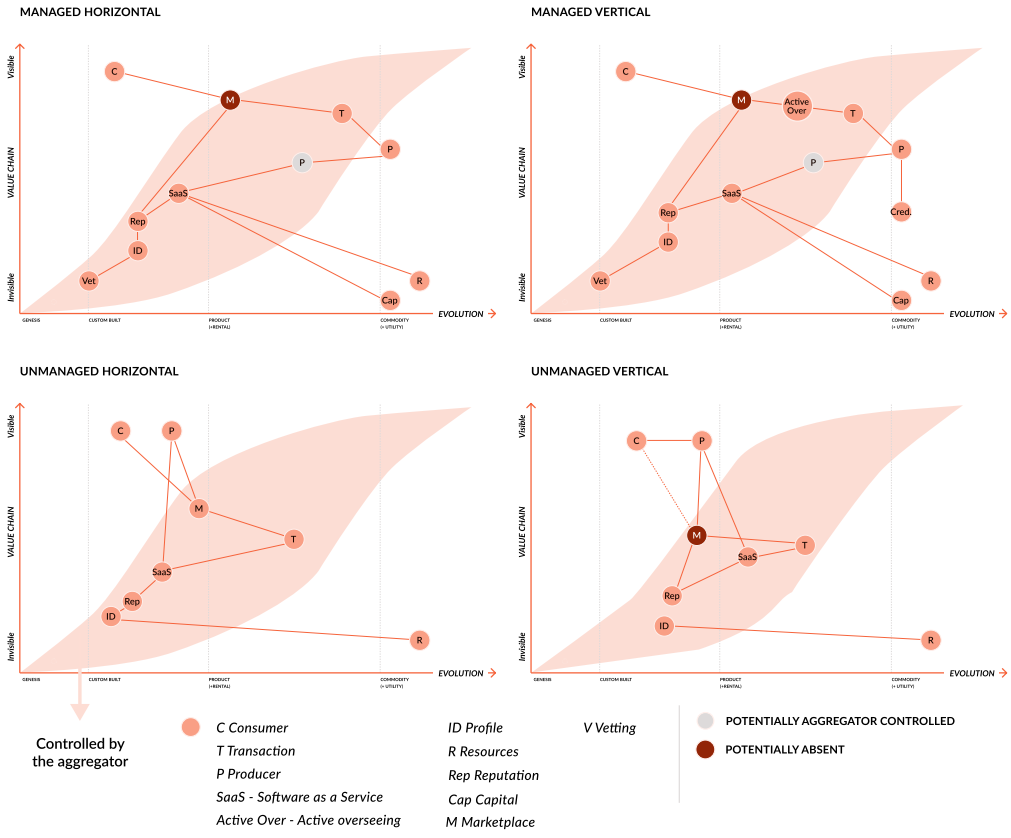


Figure 1.6: Value chain illustrations using Wardley Maps along the managed-unmanaged and horizontal-vertical spectrums

Different marketplace types along the axis of managed vs unmanaged and horizontal vs vertical behave differently in terms of value chains.

In U-H marketplace-platforms, we have the platform to control essentially five key elements of the experience (the pink area): the marketplace (M), the transaction (T), the Saas (Saas), the Reputation (Rep) and the Identity (ID) layers. The experiences provided are heavily dependent on providers and consumers finding each other: allowing fine-grained customization to happen is crucial on these marketplaces as participants need to tailor their experience and generate personalized interactions. Allowing this so-called "disobedience"[23] to happen is also a powerful way for such types of platforms to capture innovations: letting users self-customize their interactions, leaves the platform owners the capability to measure and intercept how the innovative behaviors are emerging. Within time, the platform owner can re-institutionalize them into new features and new experiences.

In the case of **managed-horizontal** marketplaces (M-H) the changes are not that significant, except that the producer (P) is normally heavily commoditized (is indeed on the right side of the spectrum) and can even be substantially controlled. These types of marketplaces are much more dependent on a reliable and replicable experience both in terms of product and pricing. A good example could be that of Uber, where drivers have no differentiation between each other and can't set the pricing on their own. In this case, vetting becomes more important (to ensure quality) and access capital is normally a decisive factor. Sometimes the marketplace feature itself is not really visible to the user (again, Uber is a good example as it picks the provider for you). In this context, PP2 and PP6 are clearly only partially applied.

If we continue exploring and we move into the **managed-vertical** (M-V) space, the key difference with the managed-horizontal value chain is that it goes through a more prominent role of the SaaS as an element of value proposition towards the producers. The more specific and vertical market such marketplaces address, the more it offers the possibility of marketing a so-called **single player value proposition** where professionals can see the SaaS offering as a standalone product (this is a space that can more easily include B2B propositions). In this space, active overseeing (Active Over.) of the transaction is also frequent and credentials (Cred.) are also sometimes leveraged by the organizers because of existing regulations (for example in healthcare, education, etc…). Similarly to the above, in this context, PP2 and PP6 are also clearly partially applied. The example of Meero introduced in Case Study Box 1.1 showcases an example of a managed vertical marketplace, where the platform mediates the whole experience. Since the platform pre-selects the best supplier for the job to be done, the brands or other customers do not need to spend their time evaluating portfolios and key skills. On the other hand, the photographer can really focus on their primary skill - taking great pictures - and leave a lot of post-production work to the platform. Meero's core mission indeed is to "*empower photographers to focus on what they love: photography!*" while taking care of the rest "*by relying on tech and AI*"[24].

Finally, if we move back to the unmanaged space but this time in the vertical markets (U-V), we see a pretty similar value chain to the U-H with the same positioning of SaaS as a product to attract producers. In some of these spaces, the producers are very independent and sometimes the marketplace feature is less prominent: the producers are the real targets of the platform and they are often deemed capable to attract their demand autonomously. Some of the so-called passion economy emergent platforms, especially those related to media, and content creation (e.g.: Patreon, Substack) fall into this category and drop the marketplace feature almost completely. Others such as Etsy maintain the marketplace feature actively but focus widely on the producers. In this context, PP6 can therefore be considered often partially applied.

Control and Commoditization

According to platform thinking expert Sangeet Paul Choudary, on top of the value chain evo-

lutions and market unbundling and re-bundling dynamics just described, two key forces are at further play in this landscape: **control** and **commoditization**[25]. Understanding these forces - which are heavily related to the nature of the work that these organizations are facilitating - can help us frame the context better.

A key aspect to understand when looking at control and commoditization dynamics is certainly the nature of the work being organized by the platform. Work can be (albeit maybe too simplistically) simplified as a mix between a **learning advantage** and **workflow task execution**[26]. According to Choudary, technology-driven commoditization operates at both levels: the one of the task (with pure automation) and the one of the learning advantage, with technologies, suddenly making the specific advantage the worker had a commodity. A good example of the former is the emergence of self-driving cars that can essentially automate the task of driving the car, while an example of the latter is that of the emergence of GPS and map technologies that have effectively commoditized taxi drivers' learning advantage - that of knowing the city streets - and has led to opening the door to the profession to a new and larger pool of workers.

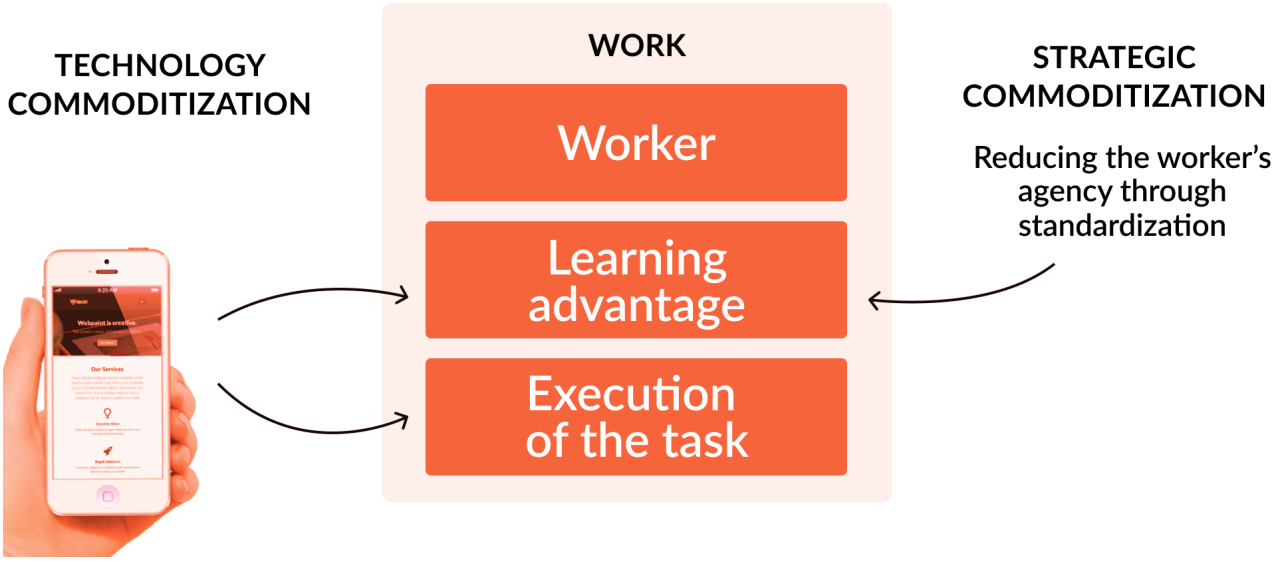


Figure 1.7: Forces of commoditization

Technology-driven and strategic commoditization influence the learning advantage of work organized by the platform.

If we relate this to the picture we just shared, technology-driven commoditization can be leveraged by platform owners mainly in the case of managed marketplaces, and further mainly in horizontally managed ones. This is because the more vertical the space becomes, the nicher the expertise and therefore, assumably, the harder the learning advantage is to commoditize. According to Choudary, when a learning advantage is harder to commoditize, reputation becomes much more important[27]. Here, we can spot what James Currier also pointed out in our interview on the Boundaryless Conversations podcast[28]: the **Matthew effect**. This effect describes the dynamic pushing of participants in the network to distribute according to a Pareto distribution in income generation[29] where you tend to have a relatively low number of "superstar" producers attracting most of the best opportunities, leaving the leftovers to the remaining vast majority.

According to Choudary, commoditization is not always a competition-driven, technologically facilitated natural evolution of markets: he points out how substantial demand aggregation gives many marketplace-platforms the possibility to deprive producers from agency (by leveraging the owners' capability to control demand), effectively pushing producers towards standardization,

and componentization[30]. This pattern seems to be particularly true when the service being offered by the platform is characterized by the consistency of experience and price, and not heavily dependent on niche expectations. Managed horizontal marketplaces such as Uber seem to be a representative example.

Impacts on the organizational development and growth: Centralization vs Decentralization

After having introduced the breakdown of the different marketplace types, we can briefly explore how the characteristics of the marketplace (and of its underlying market and network properties) impact the growth and organizational development patterns that the organization needs to adopt when growing.

Some marketplaces tend to grow more contextually (either locally or in a certain niche) for example needing local customer acquisition teams, or policy teams, active on the field. Others instead grow more easily through centralized management and supply standardization strategies and base their customer acquisition on the pull, magnet factor, that network effects can generate, focusing on online acquisition channels.

Such evolution impacts the organizational structures that the enterprise needs to adopt: is it better to centralize functions or to provide **contextual profit and loss?** Should local or contextual nodes (e.g. categories in a horizontal marketplace) have market developers and General Managers?

Casey Winters in his "Centralization Vs. Decentralization in Marketplaces and Scaling Companies"[31] clearly explains that, in a specific type of markets, especially those when the **growth playbook is replicable** and scalable across different contexts, and the customer expectations are homogeneous we will see a dynamic of **concentration of capabilities in the center** (HQ) of the organization and a reliance on algorithmic leverage, data analysis, and optimized growth hacks that generate more pull than any local (contextual) growth acquisition team could.

Furthermore, these nuanced strategies of growth are sometimes dynamically overlapping and change over time for the same marketplace: if we look at this phenomenon from the lens of the **Innovate — Leverage — Componentize** cycle (from Simon Wardley[32]), a common process of evolutionary innovation, we can characterize:

- the **innovate** phase as the phase of validation of a new marketplace offering and its capability to provide a better user experience than existing alternatives;
- the **leverage** phase as the growth hacking phase, where local/contextual markets achieve liquidity, and demand grows;
- And the **componentization** phase, the one where the playbook is replicated, expanding the market horizontally.

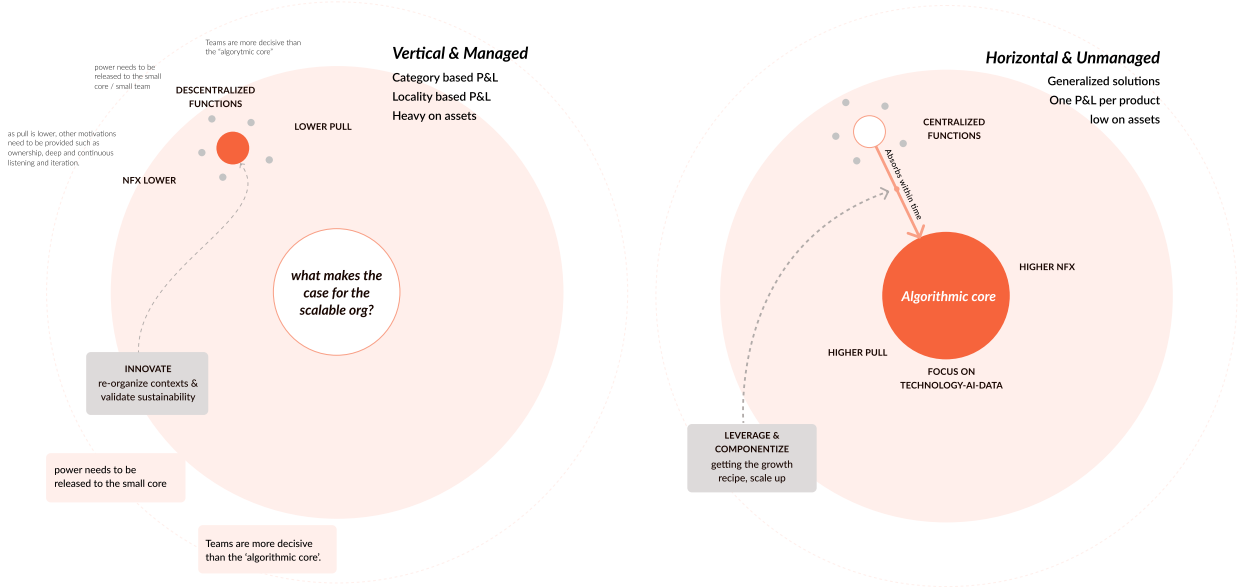
The latter evolution — inherently about generalizing a pattern — prepares the space for a subsequent new vertical innovation phase aiming to climb the value chain with richer value propositions. Something similar to this happened to Airbnb launching Airbnb plus. The wheel then starts again: validation, growth hacking to liquidity, and eventually generalization.

Obviously, not all markets can sustain this process indefinitely: as vertical integration advances, niches become smaller, Average Order Value and/or Frequency need to grow (as the expression of a higher position in the value chain) to make the vertical marketplace business case sustainable.

At some point, the process will stop and require an organization not to centralize but to remain "contextual" to the market that it is serving. As the growth playbook becomes barely understandable and radically contextual: there you're at the effective edge of the ecosystem. (see Figure 1.8).

In highly locally bounded markets, where the playbook is scarcely replicable or with category-dependent markets where an understanding of the suppliers in the category is crucial (such as with Amazon's marketplace for example), leadership, strategy, and sales will need to remain "divisional". Here, the amount of "things that don't scale" that the shaper needs to execute at first with the hopes that they will be possible to centralize, automatize and scale later, will be smaller. In this context, the divisional structure that for example Amazon has embraced - with category managers being effectively similar to business owners with their own profit and loss - makes a great deal of sense. Letting category managers structure their acquisition strategies, and the way they motivate and manage the supply side of their niche markets is effectively crucial and hard to characterize from the center. Flo Crivello - former Head of (several new) Products at Uber explained recently how the company embraced distributed entrepreneurship (with regional P&L ownerships)[33] in the early days of new markets opening.

Figure 1.8: Organizational development and growth: contextual profit and loss vs centralized functions



Some marketplaces (left image) tend to grow more contextually (either locally or in a certain niche), while others instead grow more easily through centralized management and supply standardization strategies and base their customer acquisition on the pull (right side) - this can also be seen as a phase transition.

Intuitively enough, in horizontal markets, the organization is keener to centralize functions in the long run into "algorithmic" cores (with functional integration), while on the vertical side, we may have to see more decentralization. When marketplaces are more managed, more contextual coordination is needed. This is expressed by the adoption of a divisional or entrepreneurial system of cores (each of which will focus on a certain locality or category) in a horizontal marketplace, and with more coordinated decentralized, semi-autonomous nodes in the vertical, managed space.

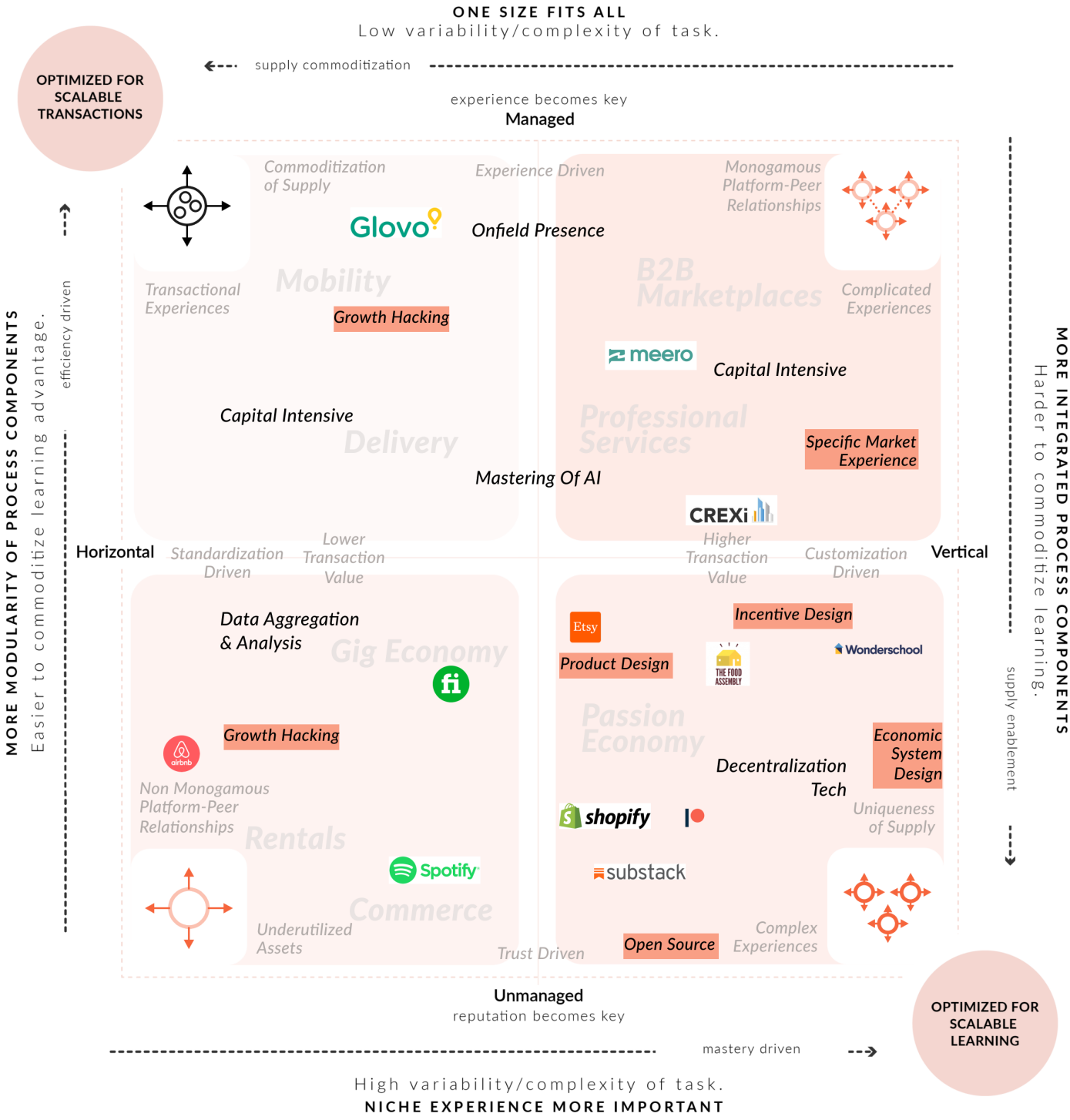
As a rule of thumb:

- Horizontality drives commonality of solutions and favors centralization;
- Vertical integration ask for more context specificity and decentralization of solutions;
- Managed-ness further favors entrepreneurship, managerial leadership, and skin-in-the-game;

Coming back to the starting quote of the chapter by Rita McGrath, if now we accept the radical idea that the marketplace dynamics — the pattern of connecting supply and demand, leveraging technologies and capital to provide exceptional experiences — is really a pervasive one, and follow what McGrath so eloquently explained when she said "…as you start to be able to transact more readily in a digital context you start to see market-based transactions where you used to have only firm-based transactions"[34], we can see that the implications of this not-so-new phenomenon for the nature and shape of the firm cannot be minimized. We'll be covering this trend in detail in Chapters 3 and 4.

A Revised Marketplace Map

Following the just detailed description of the marketplace landscape, we draw an updated marketplace map, following the one released in early 2019[35]. This map provides the reader with positioning examples, and details key competences and key organizational differentiators along with characteristics of the network that the platform-marketplace wants to intermediate. The marketplace map is therefore essentially divided into four quadrants, that resemble the same breakdown as the value chain maps shared above. The arrows on the contour represent how **commoditization** dynamics work versus **enablement** dynamics, and what are the major **value drivers** (**efficiency** versus quality-uniqueness and therefore **mastery**). We also provide information on what zones of the map that are to be related with more easy to commoditize learning advantage (the horizontal, generally as the work is less specific) and what is the relationship between providing a consistent experience (in the managed space) versus giving space to the single provider's reputation to create her own fanbase and therefore control directly the relationship with it. Generally speaking, we see the marketplace-platform pattern moving from its original application quadrants (on the left, the more horizontal) into the right (vertical): the **upper right** is the space where most of the **B2B** revolution is going to happen, while the **lower right** is the space of the **passion economy** flourishing but also that of knowledge sharing intensive business ecosystems.



THE MARKETPLACE MAP

LEGEND

Underutilized Assets	*Market Characteristics*
Data Aggregation & Analysis	*Key Organization Differentiators*
Product Design	*Key Competences*
Gig Economy	*Emergent Spaces*

Figure 1.9: A Revised Marketplace Map

Following the detailed description of the marketplace landscape outlined in this chapter, the Revised Marketplace Map presents emerging examples of platforms across the different dimensions of horizontal-vertical, managed-unmanaged, and according to the commoditization or enablement dynamics with regards to suppliers.

Policymaking and regulation of the platform economy

As the marketplace pervasivity trends play out and affect all spheres of society, the pressure to regulate both existing large players that are expanding globally and new entrants that replicate aggregation strategies and platforms models in new spaces grows. We are likely to witness an explosion of contexts where regulators will be trying to exert control and others where a wholly new approach to regulation will be needed. The nature of our interconnected society brings more issues when we confront technological patterns of disruption: the internet is no more a US-centric phenomenon. Today there are several "Internets": the US one, the European, the Chinese, the Indian, the Russian, the Brazilian, etc… All these sovereign players will try to exercise their control far beyond their boundaries — similarly to what happened with GDPR two years ago[36].

Despite technological trends, the next paradigm shift might be, as in Evans' views, a shift in how much we need to regulate internet-enabled services as they penetrate society: a challenge that, effectively, we still don't understand well[37]. Our limitation in the capabilities to regulate such a pervasive internet is rooted in the industrial nature of our public institutions. **Antitrust**, the most widely adopted regulatory approach for the matter we're discussing, may be great to deal with how companies are "being bad to each other", but has a very limited capacity to regulate the effects that companies and markets have on society as a whole. Even more limited is the capacity of traditional approaches to control and regulate the behavior of single malicious actors using far-reaching platforms to create harm to others.

With new technologies providing possibilities for things like algorithmic pricing and tacit collusion, it is indeed increasingly hard for regulators to detect and prove antitrust behavior: using traditional, ex-post approaches simply does not keep pace with technological evolution. Acknowledging this asymmetry that exists between platforms and regulators, platform experts and university professors Marshall Van Alstyne, Geoffrey Parker, and Georgios Petropoulos[38] provide valuable insights for a possible regulation approach for the platform economy that includes "ex-ante" elements, like for example dialogue between platform players and governments to detect possible harmful practices like tacit collusion, in combination with more traditional approaches to ex-post competition policy. In their framework, the aim should be to prevent platforms from engaging in anti-competitive practices that could compromise consumer welfare and stifle innovation, like for example excessive pricing, inferior quality, or reduced incentives to innovate. Regulation should not, however, reduce network effects since this may also lead to reduced value creation by platforms. When it comes to the demand side, making multihoming possible should be the norm, while for the supply side, transparency and non-discrimination should work to ensure a level playing field. Since data accumulation can lead to higher-value creation - further augmented by the help of AI as we showed above in Figure 1.8 - data sharing principles between existing platforms and new entrants is another possible regulatory piece to prevent stifling of innovation, while of course being mindful of privacy issues.

According to Choudary, policymaking must look at **proactive standardization of supply** - more than active legislation on countering monopoly-monopsony dynamics by policy - to actively prevent the emergence of such power asymmetries. The recipe that Choudary proposes is that of policymakers actively working to standardize supply in consolidated markets, for example by introducing standard listings format, exportable and public identity, and reputation standards[39]. He anticipates that the demand aggregators will be receiving broader competition from new entrants and leave the social capital generated by the market, as a public, social commons. Such possibilities for policy making through standardization of supply can be reinforced by new technologies and application models of crypto technology. We'll come back to this issue and the interplay of it with the future landscape in more length in Chapter 4.

At the same time, crypto-tech is going to make it more difficult to act in this policing and regulatory space, as Evans correctly notes. The intrinsic capability crypto-tech has to provide anonymity, free speech, and distributed ownership makes crypto-networks a hard beast to police and regulate: good luck regulating an unstoppable and headless ecosystem of distributed actors only acting based on predefined incentive structures. You certainly can't ask Satoshi Nakamoto to join a Congressional hearing[40].

From a citizen-centric and bottom-up perspective, initiatives like Salus Coop - a Catalan citizen data cooperative - pushes for increased awareness among citizens about their rights to decide how their data is used and for what purpose, helping to induce **self-imposed standards in the health data ecosystem.** In Europe, the General Data Protection Regulation (GDPR) grants European citizens rights to their own data, including health data which is the focus of Salus Coop. To be able to mobilise and scale a citizen-powered ecosystem around health data, Salus Coop has created the Salus Common Goods licence, a Creative Commons inspired licence for health data that allows data usage for research purposes in accordance with commonly agreed conditions[41].

What you need to know: the *No More* and *Not Yet*.

No More

Horizontal and to some extent unmanaged marketplace opportunities have often been fully explored **#PrivateOrgs**

Tech-powered marketplaces are becoming pervasive and making traditional bureaucratic, planning oriented firms obsolete in many ways: digital markets are often more efficiently coordinated through platform-marketplaces **#PrivateOrgs**

The internet is no more a US-centric phenomenon. Today there are several Internets: the US one, the European, the Chinese, the Indian, etc. All these sovereign players will try to exercise their control far beyond their boundaries — similarly to what happened with GDPR two years ago. **#PrivateOrgs, #PublicOrgs, #Communities**

Not Yet

More markets see further unbundling and re-bundling through trends of verticalization and managed marketplace experiences, such as in more complex spaces like education and health **#PrivateOrgs, #PublicOrgs**

B2B marketplaces are emerging as the next generation opportunity space. Not all new niches may be fruitful, however, requiring a thorough check of Unit Economics and how the balance with investment requirements. **#PrivateOrgs**

Understanding how marketplaces work will be critical to almost any job, regardless of where one sits in the economy **#PrivateOrgs, #PublicOrgs, #Communities**

Marketplace pervasivity enables access-based economies where assets are more efficiently used and idling resources are reduced. This can trigger new citizen-entrepreneurial forms of marketplace-based spaces catering to basic needs **#PrivateOrgs, #PublicOrgs, #Communities**

Platforms-ecosystems will get more sensitive to local policies and issues. In highly locally bounded markets, where the platform-marketplace playbook is scarcely replicable (or with category dependent markets where an understanding of the suppliers in the category is crucial) the interface between communities and platform owners becomes more granular and frequent **#PrivateOrgs, #Communities**

With regulatory approaches enabling data portability and interoperability of platforms, in combination with the digital fragmentation trend, local communities could take more local agency in plugging into global ecosystems. **#PrivateOrgs, #PublicOrgs, #Communities**

Links to relevant tools to apply the concepts in this chapter

- **The Platform Design Toolkit** (released in Creative Commons): This is the most advanced and used toolset to design full platform experiences starting from mapping your Ecosystem players, analysing their context, and combine the design of scalable transaction engines with scalable learning engines in experiences that can be prototyped. The Platform Design Toolkit has been used by more than 70 thousand adopters worldwide (October 2020) and integrated in some of the most advanced brand's innovation and design practices due to its open source nature. *https://platformdesigntoolkit.com/toolkit/*

- **The Platform Opportunity Exploration Guide - An extension to the Platform Design Toolkit** (Interim Update October 2020) (released in Creative Commons): This guide will give you an understanding of how to use Wardley Maps and to map the ecosystem to which you would like to explore the marketplace opportunities. *https://platformdesigntoolkit.com/opportunity-exploration/*

Further readings to explore based on this chapter

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Chapter 2

"When you're facing a complex environment, as human organizations and living systems are, and the setting of ecologies, you have to respond to forces at different scales."

- Joseph Norman

The New Risk & Governance Landscape

In this chapter, we try to acknowledge the scene of the complex risk landscape in which 21st Century organizations and businesses need to operate. We show how the complexity of interrelated risk requires nothing short of a complexity lens to understand the potential multi-scale impacts, and how the rise of networked governance may help to steer the way in this evolving global risk landscape.

We also cover some emerging "complexity friendly" principles for value creation and organizing, like System Value and scale-linking, which prompt us to think about possible futures for scalable organizations to cope and thrive within the capacity of the earth to sustain human activity, and to protect "the whole".

Chapter cover source:
Norman, Joseph. "Organizations as Architectures for Complexity — with Joe Norman". Sound recording and written transcript. Boundaryless, June 16, 2020. Medium. Stories of Platform Design - Boundaryless Conversations Podcast. https://stories.platform-designtoolkit.com/organizations-as-architectures-for-complexity-with-joe-norman-5eebf5d1362e. [accessed: 31/10/2020]

What you need to know

1	**A complexity perspective is needed to understand the unfolding, interconnected global risk landscape of the 21st century**. In this context, applying a **multi-scalar variety** lens can help to identify possible responses at the most relevant scales - zooming in and zooming out - deflating risk to reduce the magnitude of potential impacts that could play out in a centralized system. Increasingly, technology allows problems to be understood and tackled at the most relevant scale, which means that companies and organizations need to be able to respond to global and local policy contexts simultaneously.
2	**We appear to be approaching an inflection point, where the external conditions companies and organizations need to cope with are escalating tenfold.** This calls for unprecedented actions - and a new social compact - to define the relationship between companies and their role in society. This is likely to play out differently in different geopolitical contexts, as digital fragmentation leads to multiple "internets" and diverse expressions of the Information (or Entrepreneurial) Age.
3	**The rise of networked governance offers new models both for organizing around risk response and to create new strategic alliances to tackle broader challenges - like climate change, cybersecurity, or universal health - at multiple scales.** By being able to quickly organize and spread information, networks have the power to shape both scientific and political debates, as witnessed in the pandemic, and help citizens organize around most basic needs like food and social support.
4	**Local resilience, and the ability for communities to connect to global systems "on their own terms" could be adding momentum to the deglobalization trend, at least from a supply perspective.** These forces are pushing towards a renewed focus on economic contexts that for long have been deprioritized: the household, the community, the city, the region, the nation. At the same time, safety and health-driven concerns are also underlying the desire to deflate global risks, including through technologies enabling automation and self-cleaning surfaces.
5	**Salutogenic and sustainability narratives might reshape the opportunity-based narrative space and the constraints in which economic activities take place,** while reckoning with the inherent shortcomings of the existing economic model. It looks like healthy proportionality between forces generating "wholes" calls for local stewardship to achieve healthy systems where value is perceived within the constraints afforded by planetary and social systems.

A global landscape of interrelated risks

In 2020, the World Economic Forum's annual Global Risk Report[1] was published before the acceleration of the Covid-19 outbreak globally. As a result, neither infectious disease nor unemployment was featured among the top-five perceived risks in the multi-stakeholder short-term risk outlook[2]. This shows just how fast assumptions can be overthrown in today's volatile, uncertain, complex, and ambiguous (VUCA) world. In response to this, WEF's Strategic Intelligence portal launched in 2019[3] allows users to receive timely updates on the evolving risk landscape, and further showcases their interconnected nature.

On the WEF portal's Global Risks map, you find the following five interlinked "macro" categories: i. Climate Crises and Biodiversity Loss; ii. Digital Fragmentation; iii. Economic Stability and Social Cohesion; iv. An Unsettling World; and v. Strained Health Systems. Indeed, the sobering reality of risks related to Strained Health Systems has been unveiled by the Covid-19 pandemic. At the same time, we're entering the deepest economic downturn since the Great Depression in the 1930s, leaving masses of people without employment and at risk of falling into poverty, and while *"conspiracy theorists and political extremists are seeking to capitalize on the pandemic, and polarizing campaigns"*- threatening Economic Stability and Social Cohesion - *"disagreement over COVID-19's origin and handling"*[4] re-escalate pre-existing tensions between the US and China, showing signs of An Unsettling World in terms of geopolitical risks. Meanwhile, polarization is carving its way deeper into both the global and the US domestic scene, with repeated political controversies and human tragedies leading to escalating violent confrontations both at the street level and online[5].

On top of these volatile socio-economic settings, risks related to Climate Crises and Biodiversity Loss that were building up before the pandemic have far from disappeared. The 2020 report *United in Science*, by leading intergovernmental organizations like WMO, IPCC and different UN agencies, highlights that the pandemic brought only a temporary decline in greenhouse gas emissions and that the world is — yet again — heading towards hitting its warmest five-year period on record[6].

In this environment, a **complexity lens** is called for to start understanding the magnitude and nature of risks humanity is facing.

A complexity lens on risk: zooming in and zooming out

Owing to several experts, a better understanding of the importance of **zooming in** and **zooming out** to grasp the overall picture emerges. Renowned independent complexity scientist Joe Norman points to a **multi-scale variety lens** to understand how to achieve a deflation of the potential cascading risk factors, since on the one hand — global risks are too big for any nation to deal with single-handedly, while on the other hand, the mixed nature of the harm caused by global failure to deal with risks requires a complexity approach to meeting challenges at all the most relevant scales, including (but not limited to) the global[7]. Dealing with risks at a **decentralized level** thus holds the potential to **reduce the magnitude of impacts** that could play out in a centralized system. Sangeet Paul Choudary also points to the importance - for building resilience - to avoid "single points of failure" of centralized systems, and that empowering the edges of a system can generate resilience advantage[8].

Technology is enabling us to better understand the interconnectedness and multi-scalar dynamics of our risk and governance landscapes, as suggested by Indy Johar in that the democratization of digitized information in the information age means that more and more people can reckon with the complexity and interconnectedness in a "small world scenario". In Johar's own words[9]:

"what I think the information age has done […] or the age of digitized information, is to change the transaction cost of bureaucracy to near zero. And that has basically allowed for the cost of connecting information to become near zero and has — by application — changed our relationship in the world. So it is no longer about how we see things in isolation, but how we see things in a ***small world scenario****".*

This means that, increasingly, problems can be understood and tackled at the most relevant scale, and that companies and organizations need to be able to respond to **global and local policy contexts** simultaneously.

Policy and venture expert Nicolas Colin highlights that — in the context of a technologically transformed albeit fragmenting (digital) world — we're likely to see emerging what he calls the **Entrepreneurial Age**[10] that will not (according to him) take a uniform global expression. For companies, increasing fragmentation of markets will mean having to deal with **multiple geopolitical contexts**. As we move into the age of a multitude of internets embedded in a multitude of socio-political systems[11], organizations will be constrained by local policymaking much more than today. Colin believes that Europe will soon be "on its own", as opposed to forming that Western bloc with the US.

More than (only) a threat, this could be an opportunity to push the development of European local ecosystems and to build scalable profitable companies that — while generating a surplus that enables Europe to remain among the most advanced and developed regions in the world — should be building a **new social compact** for the Entrepreneurial Age. This new social compact will likely be based on a new type of safety nets and on systems that support **entrepreneurial development**, in what seems to be a new phase of re-bundling of the firm, following an evolution where most of the traditional benefits that were designed for the industrial age have been unbundled from the organization and made available as a service.

Zooming out on the societal level, this bids the question if we are in a "Kairos" moment of transition - a critical moment in time - where unprecedented conditions need to be met with unprecedented action. In Rita Gunther McGrath's words, we're currently **approaching an "inflection point"**: a tenfold escalation in external conditions that companies need to cope with and, as a result, we've four possible scenarios (see Figure 2.1)[12]. The most desirable of the four is certainly what McGrath calls **Society 2.0**, where the social compact around organizing is thoroughly renewed — through a massively broader stakeholder inclusion beyond shareholder focus and through long-termism — and we move towards a more socially just and resilient future characterized by some form of economic development. In our interview with Michel Bauwens, he pointed out that the last time we — as a society — worked out a new social compact was following WWII when essentially modern welfare was invented bringing together capital and labor: as Michel pointed out, this may be the moment we create a new one, factoring in the overall systems of nature in a new "pact"[13].

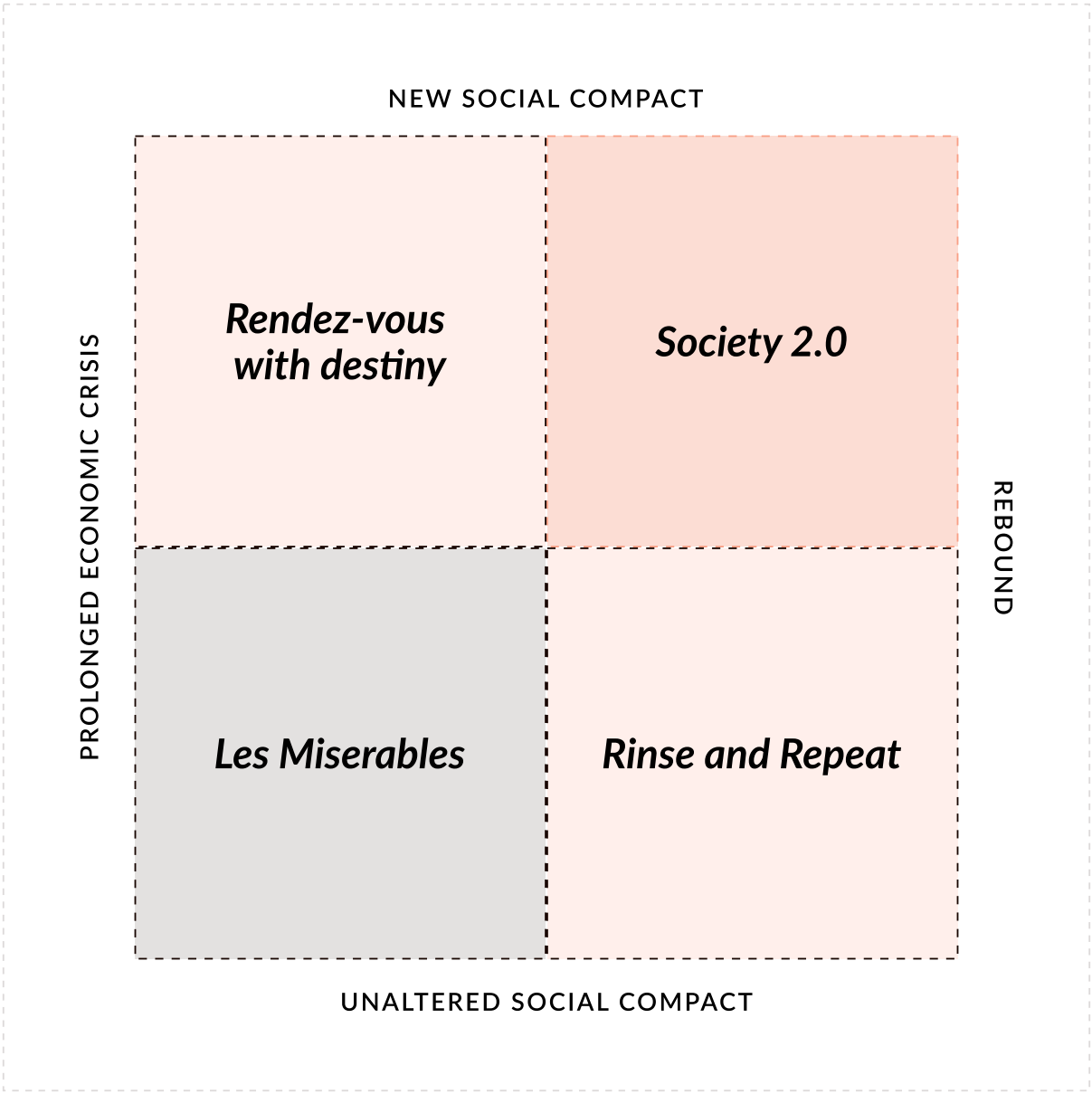

Figure 2.1: "Society 2.0" - a new Social Compact[14]

Besides the most desirable Society 2.0 (where the social compact around organizing is thoroughly renewed), McGrath named the three other quadrants: Rendezvous with Destiny (referencing Franklin D. Roosevelt's age efforts), Rinse and Repeat (referring to a tired re-enactment of the same societal model we used to have), and Les Miserables (a perspective where in front of a deep depression, as seems likely for 2021, we can't adapt and evolve our value production processes and end up using the same old recipe).

The rise of networked governance

If we consider the complexity lens and acknowledge the idea that we are currently at an inflection point, taking an evolutionary view — as in David Ronfeld's **T**ribes, **M**arkets, **I**nstitutions and **N**etworks (**TIMN**) framework[15] — can be helpful. Networks, with their ability to shape decentralized decision-making, are in the TIMN network the most current (and evolving) stage of how we organize our societies, enabled by similar dynamics that have shaped marketplace pervasivity introduced in Chapter 1: by lowering the cost of coordinating and sharing information ("transactions costs"), new technologies make it possible for agents to organize through networks, with the advantage of being able to form quickly, to scale, and to dissolve when they have served their purpose. Thanks to these characteristics, networks also seem to offer perhaps the most suitable

and available "complexity friendly" model of organizing and responding to multi-scale risks.

For example, in early responses to the pandemic, social networks were often ahead of traditional routes - such as global and national institutions' communication efforts, or scientific journals - in examining and communicating about the nature of the risk: Thomas Pueyo's story of writing the anticipatory Medium article "Coronavirus: Why You Must Act Now" that reached more than 25 million people in two days and sparked massive response, stand as an iconic example[16].

Clinician-scientist Simon Pollett and epidemiologist Caitlin Rivers further found that *"Twitter has played a fundamental—but often precarious—role in permitting real-time global communication between scientists during the COVID-19 epidemic, on a scale not seen before"*[17]. Social networks data can further help to slow the spread of a virus by analyzing the interaction patterns between humans, influencing political decision making around crucial measures like school closures[18]. What's more, networks enabled citizens not only to access information and take anticipatory actions (e.g. stockpiling food and other essentials before lockdown), but also helped to build timely responses to disruptions to for example global food supply chains. The impressive 900% increase in demand for online food hubs within the Open Food Network in the UK is a telling example, with networks helping to quickly redirect the food supply fast from producers who had lost key demand, such as from the hospitality industry that used to make up 20-30% of the UK's food consumption, to supermarkets that saw their shelves emptying out[19].

Finally, networks have been able to help organize the production of essential equipment (Case Study Box 2.1) and proved their value in terms of governance, with new strategic alliances being unlocked in the face of an emergency — between governments, non-state actors, and research institutions — leading Mary Meeker to proclaim that *"this type of global, collective technology-assisted rapid response to a health-related problem has never happened before"*[20].

Case Study Box 2.1: Networks in the pandemic response: Open Source Medical Supplies

As many governments struggled with everything from response coordination to insufficient supply of Personal Protective Equipment (PPE) for key workers, the Maker movement demonstrated the power of networks to organize at scale to help meet unprecedented needs. One example is Open Source Medical Supplies (OSMS) launched in March 2020, which has brought together a global network of over 70,000 makers, fabricators, community organizers, and medical professionals worldwide[21].

As a key enabler of information sharing and supporting local hubs to establish, the global OSMS network provides high-quality information, as well as platforms for collaboration, and strategic support to local hubs. It helps to make sure that Maker communities get an overall understanding about the utility, availability, and manufacturability of PPE and medical supplies, curated by a global team of medical advisers.

Brazil provides a good example of where OSMS has been essential to coordinate decentralized actions to complement the otherwise lax response by the federal government to the Covid-19 outbreak. Dozens of local networks of makers have produced PPE throughout Brazil since March 2020, mostly based out of universities and existing FabLabs and Makerspaces, regionally coordinating through WhatsApp groups and often supported by local governments[22].

Out of this web on local networks, the national organization ProtegeBR evolved on top of an existing Makerspace in Rio de Janeiro in May 2020. Organized through weekly zoom calls, it connects 250 citizen initiatives and organizes the contacts of the state health departments of the 27 states and Brazil's main cities. Thanks to funding mainly from private and corporate donations (e.g. Google.org) - and some funding from local governments (e.g. Curitiba) and federal and state universities - over 1m PPE have been produced and donated through local makers initiatives associated with ProtegeBR.

More on this topic:

Open Source Medical Supplies (OSMS). "National Case Study: Brazil's Maker Response Against COVID-19". *https://opensourcemedicalsupplies.org/national-maker-response-case-studies/brazil/*

Yet, with networked governance on the rise and decentralized organizing and decision-making becoming an increasing reality, the question is — as posed by John Robb: how we may use these to our advantage?[23] And what's the role of emerging organizational frameworks in this process? **Positive narratives** to reinforce healthy networks is key, not the least to counterbalance the power of networks to fuel "dark" purposes like influencing election results through obscure means (think Cambridge Analytica) or even shaping ***"tribal totalitarianism"***, as John Robb called it, witnessed in the polarization between the left and right in US politics in parallel to - among other things - Black Lives Matter protests[24]. Since the creation of the Platform Design Toolkit, opportunity-based narratives have been key elements of platform strategies, owing not the least to the writings of John Hagel and his seminal book - together with John Seely Brown and Lang Davison - *The Power of Pull*[25]. Our projection for the next wave of platforms and ecosystems is that positive narrative will not only be gaining in importance but also in complexity and profoundness.

Indeed, some of our most important threats — climate change, cybersecurity, universal health — require not just a distributed organizational improvisation through networks, but also new forms of coherence in global governance, as highlighted in the latest RAND report — *Whose Story Wins: Rise of the Noosphere, Noopolitik, and Information-Age Statecraft*[26].

For example, the connection that David Ronfeldt and John Arquilla draw between governing global commons and the idea of **noopolitik** they introduced in the late 1990s[27] - in sum *"an approach to diplomacy and strategy for the information age that emphasizes the shaping and sharing*

of ideas, values, norms, laws, and ethics through soft power" - offers interesting perspectives. They depict that **climate change has become a "threat multiplier"** that could affect *"not only the military's own operations, infrastructures, communities, supply chains, and budgets, but also its outreach roles in humanitarian assistance, disaster relief, and border security missions, especially in the event of massive population displacements"*[28]. In light of such threats, the age of networks may help to *"re-validate the global commons concept"* by drawing together new allies to promote the protection of the global commons. To achieve such a positive power of networks, Ronfeld and Arquilla propose that we need to work on frameworks to *"organize multilateral cooperation in myriad senses"*, including a multitude of structures like intergovernmental, state-non state, public-private, IGO-NGO, civil-military, local-global, and hierarchical-networked[29]. The noopolitik that the authors propose offers a common ground for such **networked, or "system" leadership on behalf of the global commons**[30], taking up the mission of bringing an ethical — or at least a data-informed and data-poietic[31]— stance to statecraft.

At the same time, facing systemic risks like climate change may require removing what Indy Johar calls "structural lock-ins" that are deeply entrenched in our current globalized economic model - such as racial or colonial injustice, the need to generate short term shareholder value, or the need to continue to pursue environmental exploitation at the expense of one's own livelihood - and to unleash **the "inherent morality" of interconnectedness**[32]. In other words: once we understand that treating things in isolation (hence compartmentalizing and externalizing them) creates dangerous feedback loops, we need to develop the capabilities for dealing with interdependencies. In the words of Associate Professor in Business Ethics, Alicia Hennig, who specialises in Chinese philosophy: *"if we really believe in embeddedness and inter-relationality, we have to adopt a more network structure kind of thinking"* because whatever the seemingly individual agent does *"resonates through the network"*[33].

Responding to risk: local resilience and systemic health

If decentralization and networked governance could help to achieve the deflation of risk and a major improvement in resilience, how is this going to happen?

The re-localization of supply and value chains in response to increasingly common future disruptions — of which the pandemic is a harbinger — seems to be an immediate and intuitive outcome, at least from a supply perspective. Major impacts can be expected and are already being experienced — as a major consequence of rising **environmental and social unpredictability** — in terms of job loss, and growth stagnation. These forces are pushing towards a renowned focus on economic contexts that for long have been deprioritized: the household, the community, the city, the region, the nation. De-globalization or "slowbalization" has been playing out as a pattern since 2008, and according to Douglas A. Irwin from PIIE: *"the pandemic adds momentum to the deglobalization trend"*[34].

As a renowned systems thinker like Dennis Meadows has noted, **efficiency and resilience can be opposites** when it comes to the former's stride to reduce diversity, noting that *"over the past century, there has been wholesale abandonment of resilient systems in favour of efficient systems — larger scale, less diversity, lower redundancy"*[35].

This chimes with the idea that John Robb raised in our interview in April 2020[36]: that local resilience can be achieved only when communities can connect to the global systems *"on their own terms"*, rhyming with Jack Murphy's framing of an ending ***"age of indiscriminate connection"*** towards what he calls an ***"era of strategic disconnection"***[37].

As it seems therefore likely that an increasing level of stress on supply chains can be expected as

a result of rising complexity and unpredictability caused by interconnected risks underpinned by environmental degradation and a destabilizing climate, building parallel **redundant supply chain lines** is one of the key strategies to pursue to ensure operational continuity[38].

This points us in the direction of re-entangling our organizational and global governance models in more local contexts, landscapes and communities, creating the redundant capacity to deal with disruptions — such as with global food supply chains or the electricity network — at the expense of industrial age efficiency.

Yet, this is not the only side of the coin in the re-localization hypothesis: **safety and health-driven concerns are also underlying the desire to deflate global risks**. For example, to reduce exposure to risks for infections among workers, accelerated automation can lead companies to bring back production closer to home and increase online sales versus physical retail spaces[39]. Mary Meeker's Coronavirus Trends Report from April 2020 noted that online presence and safe, undisrupted delivery is gaining indeed increasing importance through the pandemic[40], while Jeremiah Owyang also took note — in our interview in July 2020 — that one key trend in ambient computing that his firm is researching is that of self-cleaning surfaces[41]. At the same time, people are starting to monitor new metrics that were formerly in the shadow of economic progress, like the performance of countries' health systems, life expectancy, and other public health indicators[42]. This is likely to have far-reaching impacts in the progress narratives sought by business and national leaders alike, as EU Commission's president Ursula von der Leyen's State of the Union address delivered on early September 2020 pointed out[43]:

> *"It [the virus] laid bare the strains on our health systems and the limits of a model that values wealth above wellbeing. It brought into sharper focus the planetary fragility that we see every day through melting glaciers, burning forests and now through global pandemics".*

Value creation narratives: focusing on the small to ensure thrivability of the systemic

In line with this growing trend of "salutogenic" thinking, the quest for a systemic shift towards business based on regenerative economics continues to build momentum, and further speaks to the need for a complexity lens put forward in this chapter.

To further explain this connection, we draw on some recent thinking spearheaded by Bill Baue and Ralph Thurm in the r3.0 *Value Cycles Blueprint*, which brings together decades of thinking on both planetary boundaries and social equity, where sustainability — and by extension their vision for regeneration — is seen as the quest of aligning fact-based ("*what is*") and normative ("*what ought to be*") value definitions[44]. They advocate for an approach to defining value that entails assessing performance within sustainability thresholds and resource allocations, and to create or so-called "System Value", where the main determinant of value is *"what the corporation, society, and the environment can tolerate and still survive"*[45] (see Figure 2.2). In this light, "disentangled" value definitions, like the good old shareholder value, get under close scrutiny due to their failure to deal appropriately with the ideas of **carrying capacity, thresholds, planetary boundaries, feedback loops**, and the "wholeness" of the system.

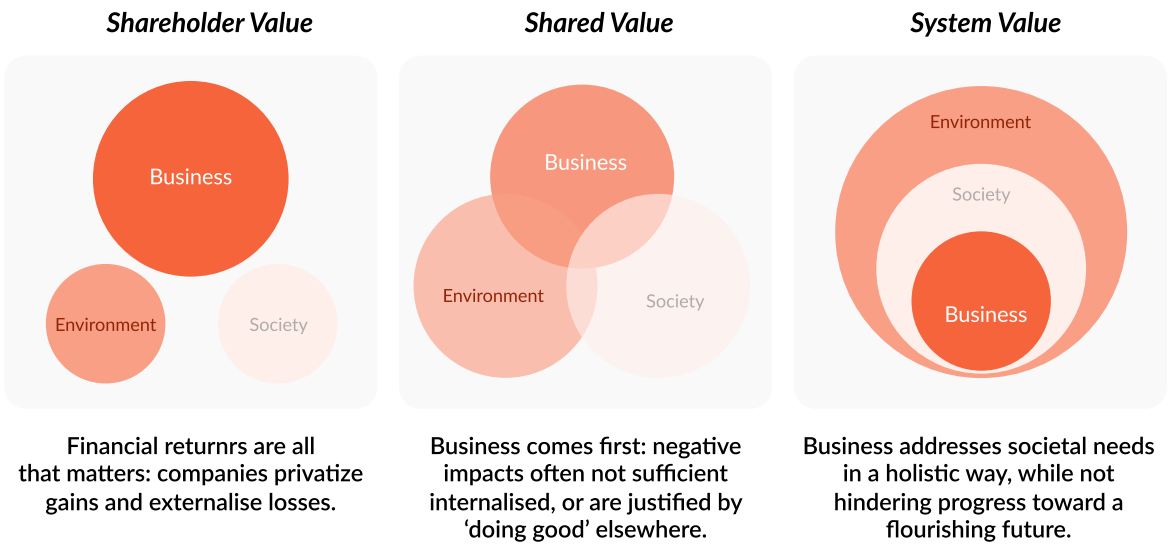

Figure 2.2: System Value visualized by r3.0[46]

The visualization of System Value comes from r3.0's "Blueprint 7: Value Cycles" and shows how the value generated by businesses must take place within societal and environmental boundaries. It has been adapted to fit the design of this Whitepaper, while the contents remain as in the original visual. The Blueprint is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License: creativecommons.org/licenses/by-sa/4.0/

In order to cultivate System Value, both linearity and circularity are seen as integrated scale aspects in a "fractal economy", referring to the fact that all dynamics — whether linear, circular, cyclical, and spiral — are interdependent and depend on the scale at which they are observed.

For instance, the growth of a tree may seem linear when measured in terms of days, whereas a seasonal lens provides a cyclical view: buds in spring, leaves in summer, and dormant in winter[47].

The point that emerges here is: what if the overall health of a system then is to maintain "healthy proportionality" between different linear and cyclical dynamics? What if the health of a system

can only be seen through a fractal lens?

When such across-scale proportionality is disturbed, we see disturbances at the system level caused by seemingly small-scale factors. In regeneration expert Daniel Christian Wahl's words: *"Many of the factors that will cause a loss of resilience at one particular scale, for example within a community and its local ecosystem, will also affect resilience at another scale, the national or planetary level"*[48]. Or, as Founder of Capital Institute John Fullerton put it[49]:

"Regenerative economies are built on nested, fractal relationships across many levels, ranging from individual human beings, their families and communities to their regions, countries, global civilization, and the biosphere as a whole".

A powerful frame of reference when thinking about the conservation of our planet, and habitat, could thus be the one of stewardship of the integrity of our **micro-environments**, such as communities and bio-regions.

As complexity scientist and promoter of localism Joseph Norman, who we referred to at the outset of the chapter, points out in his "Generating Wholes": we must be humble in our ability in term of "imagining wholes", since the scales at which our perception can operate is finite and *"the stewarding process is a local one, grounded in practice, and relatively uncorrupted by false abstractions"*[50].

If value creation narratives for the 21st century thus point us in the direction of the protection of wholes, on cultivating wisdom through seeing fractals and cycles, the next question for our inquiry becomes: what are the most meaningful organizational efforts that can make sense and operate through these constraints — or "safe operating spaces" — provided by the emerging global risk landscape? This is what we explore in Chapter 3, where we first suggest that the *Entrepreneurial Ecosystem Enabling Organization* might be a viable candidate for navigating the current risk landscape.

What you need to know: the *No More* and *Not Yet*.

No More

- We're approaching an inflection point - a critical moment in time - with a tenfold escalation in external conditions that companies and organizations need to cope with. Global risks are not only escalating, they are further tightly interconnected with largely unpredictable outcomes. **#PrivateOrgs #PublicOrgs #Communities**

- Industrial age efficiency and ways of organizing no longer provides the best competitive advantage in an uncertain and unpredictable global landscape. **#PrivateOrgs #PublicOrgs**

- Globalisation as we know it appears to be fragmenting, with decoupling forces like those between China and the US economies resulting in increased importance for organizations to understand and operate across multiple local contexts and internets. **#PrivateOrgs #PublicOrgs**

- The pandemic has revealed the fragility of our current economic and social systems, where environmental degradation of a destabilizing climate contribute to the likelihood that this pandemic - unless urgent action is taken - is "just the beginning" of cascading impacts resulting from decades-long overconsumption of natural resources and dwindling social capital. **#PrivateOrgs #PublicOrgs #Communities**

Not Yet

- Companies and organizations need to develop "complexity friendly" capabilities to deal with VUCA environments, responding adaptively to interrelated risks across multiple scales.**#PrivateOrgs #PublicOrgs**

- Networked governance seems to provide one of the currently most apt organizing models in a rapidly changing world, as often showcased in the pandemic. **#Communities #PrivateOrgs #PublicOrgs**

- New alliances - across private, public, and civil society spheres - can come together through networked governance where noopolitik can help shaping and sharing of ideas, values, norms, laws, and ethics through soft power in the Information Age. **#Communities #PrivateOrgs #PublicOrgs**

- As we enter the "Entrepreneurial Age" in a fragmented (digital) world, a new social compact for the role of business in society will require companies to pursue massively broader stakeholder inclusion and become increasingly "entangled" in the local context. **#PrivateOrgs #PublicOrgs #Communities**

- With maturing salutogenic and regenerative narratives, looking at value creation through a system value lens underscores the need to entangle economic activity and organizing at local and hyperlocal scales. **#PrivateOrgs #Communities**

- The "inherent morality" of interconnectedness further underlines this thesis of entanglement, with local stewardship contributing to the overall health of systems (the "whole") through fractal, scale-linking dynamics. **#PrivateOrgs #Communities**

Further readings to explore based on this chapter

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Chapter 4

"Machine Learning and Crypto represent new ways to find meaning and intent, to build networks connecting desires, behaviours and value, in a decentralized and permissionless way; they effectively are a potential market reset."

- Benedict Evans

Incoming Tech Revolutions & Narrative Shifts

At this point in the paper, we need to introduce dynamic and evolutive factors that we expect to be pushing the evolution of the economic and industrial landscape and the related design practices we have been mentioning. As we explain widely in the previous chapters, indeed this pattern of unbundling of the firm, and re-bundling it around aggregation is to be considered operating both inside and outside the firm, effectively questioning the very idea of differentiation between the two spaces. Being a pervasive pattern, we believe this will reshape the landscape of organizing, the economy, and the idea of the firm in the 21st Century. On another hand, we need to do this with a grain of salt: recognizing the "nexus" moment we live in these days needs to trigger our epistemic humility and remind us that any prediction we do now cannot be considered more than just a — even if grounded — speculation.

For the analysis presented in this chapter, we are considering two main areas of influencing trends: technology-related and risk-narrative related. For each of these trends, we will offer a quick, heuristic-based analysis of potential impacts and we'll derive direct value chain direct impacts that we will, in the end, reorganize visually for the reader's better understanding.

Chapter cover source:
Adapted from: Evans, Benedict. "The end of the beginning". Presentations. November, 2018. https://static1.squarespace.com/static/50363cf324ac8e905e7df861/t/5e45ca2b5750af6b4e5fcb14/1581632374050/2018+Benedict+Evans+End+of+the+beginning.pdf [accessed: 23/10/2020]

What you need to know

1	**The impact of AI on suppliers on a platform will play out differently depending on how commodifiable the learning advance of the job is.** While simple and repetitive jobs could be replaced, complex jobs could be augmented by AI and further fuel a "superstar economy".
2	**On the platform side, AI can help to boost efficiency by only requiring human intervention when strictly necessary**, otherwise letting AI and machine learning deal with issues from the integrity of transactions and dynamic pricing, to providing forecasting abilities with regards to for example physical assets.
3	**"Design breakthroughs" in crypto-technologies increase the capability to design functions that connect both financial and governance incentives to dynamics of participation, investment, and collaboration.** There are now maturing components in **DLTs** (Distributed Ledger Technologies) and an increasing number of building blocks to build Decentralized Autonomous Organizations (DAOs), like Augmented Bonding Curves and Conviction Voting, that allow for the emergence of co-governed shared mediation layers between firms and for "co-entrepreneurial users" to have skin in the game both in governance and through financial incentives to manage shared resources (and commons).
4	**Other technological impacts, such as from 5G and computing beyond serverless towards "conversational programming", will allow for deploying smaller and more niche technology solutions to organize a certain ecosystem.** Technological barriers will continue to disappear and access pervades all resources and infrastructures in a process of "onlinification", where platforms connect digital and physical worlds.
5	**Impacted by major trends in the global risk landscape, platform-ecosystem value chains will see trends of relocalization and partial decentralization of elements of the lower part of the value chain (such as in manufacturing).** The major risk trends estimated to influence value chains include the "decoupling" of the US and China at the geopolitical stage and interconnected risks related to our strained health systems and climate change.
6	**An increased value perception in security, health, and resilience is to be expected**, in parallel with two major labor-related trends: more inclination towards parcelized work (in lack of traditional employment) and more interest towards entrepreneurial opportunities related to the project of rebuilding the economies of essentials through a broader engagement of citizens.
7	**Through the combined lens of technological advancements and risk factors, horizontal and vertical marketplace spaces can be expected to evolve slightly differently:** in the horizontal space, where specialization is less important, and learning advantages are easier to commoditize, producers will be pushed towards commoditization more easily and actual p2p marketplaces will increasingly be replaced by the prescriptiveness of algorithms that can choose the right option for the customer based on increasingly available data. In the vertical space where specialities and niche capabilities of producers may be more important (in B2B for example), we'll see a radical abundance of specialized SaaS offerings aimed at augmenting a professional that is made more visible, further paving way for more inter-contextual experiences and paths of value creation for super producers to develop their capabilities.
8	**Rapid prototyping of new experiences in the face of unpredictable changes will likely push for the unbundling of identity and reputation and their re-bundling into new and shared work-coordination infrastructures.** These infrastructures will serve as interoperability systems and as "wrappers" of access to more tangible resources (from heavier industries).

Impacts of key foreseeable technological innovations on the market-place-platform value chain

Despite the fact that technological breakthroughs abound these days (e.g. in new fields such as synBio, space, VR and AR, and more) we currently believe that — due to their nature — four main technological advancements really have a major potential to impact widely on the platform value chain. These four are: the further development of AI and Machine Learning systems, the penetration of crypto technologies (mainly tokenization), the deployment of 5G and pervasive IoT technologies and finally the evolution of (cloud) computing beyond serverless into conversational programming.

AI impacts

For the sake of our analysis, the impacts of the development of more powerful usage of AI and — probably more specifically — Machine Learning (ML) can be classified in two major types: those on the providers, and those on the platform.

On the providers' side, AI/ML can help at least partially automate repeatable tasks, while on the other hand provide features that can "augment" providers while performing non-repeatable tasks. AI/ML can also have a role in commoditizing learning advantages (as an example by commoditizing a large part of the anamnesis process in a doctor consultation).

As a combined effect of this, we can probably state that, if we distribute workers on a spectrum, going from A to C (see Case Study Box 4.1):

A. repetitive/tedious jobs;
B. simple jobs/predictable tasks — low cognitive load;
C. complex jobs/unpredictable tasks — high cognitive load;

we may see workers tending to the A-side of the spectrum being more easily commoditized by AI, as AI-powered solutions compete directly with providers (e.g. in translation, transcription, etc…) while workers tending more to the C side, would likely be empowered by AI/ML as an amplifier of their capabilities. As a consequence we can foresee AI/ML to have a twofold impact: on the one hand, **reducing barriers to entry** to the market (for consumers) by unlocking low cost, semi-automated supply and on the other **reinforcing polarization**, through the Matthew effect and superstar economy trends already playing out due to the polarizing nature of platforms (see Chapter one for an overview on control and commoditization dynamics).

Case Study Box 4.1: Ways Automation is impacting Jobs already

CASE STUDY FOR REPETITIVE/ TEDIOUS JOBS (A)

Digital Weeder - Farmwise[1] automates repetitive, tedious tasks traditionally performed by farm workers, distinguishing between weed and crop. Farm workers get trained in computer-based work, learning how to manage data-driven decisions on a tablet. Digital Weeder improves job quality and allows farm workers to become the "operators" of a digital machine, while taking over the repetitive, tedious jobs[2].

Marketplace Example:
Talad App. *talad.co/en/home*

CASE STUDY FOR SIMPLE JOBS/PREDICTABLE TASKS (B):

The Mall Security Guard - The simple job of physical security guards is transformed from an individual role to an AI-enabled, robot-assisted, and networked role. While the security guard is traditionally always on the move, patrolling, an AI-enabled Smart Operations Center assists and gives instructions where to go and what to look for. The security guards and the rest of the security team are now an integral part of a well-coordinated network of individuals and intelligent support systems, linked through digital means and supporting each other through two-way interactions. This has substantially changed the way that security guards spend their time each day[3].

Marketplace Example:
Bannerman
www.bannerman.com

CASE STUDY FOR COMPLEX JOBS/UNPREDICTABLE TASKS (C):

The Next Best Action System for Financial Advisors - Financial Advisors (FAs) have, on average, to manage comprehensive wealth management decisions for about 200 clients. Given each client's investment goal and risk tolerance level, FAs may receive 20 or so possible ideas for each client and decide which proposal to send to which client. It used to take 45 minutes to come up with a personalized investment idea for a client, now the machine generates them automatically: in the end, financial advising is a relationship-driven business and that's the work the advisor should be focused on, while machine-learning can augment the FAs' speed and analytic capability[4].

Marketplace Example:
Wealth Mosaic
www.thewealthmosaic.com

More on this topic:

- Tom Davenport (ROAI™ Institute). "The Future Of Work Now: Digital Weeder". Forbes. March 21, 2020. *https://www.forbes.com/sites/tomdavenport/2020/03/21/the-future-of-work-now-digital-weeder/?sh=52e614522031#d72956c22031*
- Tom Davenport (ROAI™ Institute). "The Future Of Work Now: The Multi-Faceted Mall Security Guard At A Multi-Faceted Jewel". Forbes. September 28, 2020. *https://www.forbes.com/sites/tomdavenport/2020/09/28/the-future-of-work-now-the-multi-faceted-mall-security-guard-at-a-multi-faceted-jewel/?sh=7b6f822072ff*
- Tom Davenport (ROAI™ Institute). "The Future Of Work Now: Morgan Stanley's Financial Advisors And The Next Best Action System". Forbes. May 16, 2020. *https://www.forbes.com/sites/tomdavenport/2020/05/16/the-future-of-work-now-morgan-stanleys-financial-advisors-and-the-next-best-offer-system/?sh=423096017027*

On the side of the platform, AI can help oversee transactions and ensure more integrity, by helping, for example, with **anomaly and fraud detection**, letting human intervention to show up only where and when truly necessary. AI/ML can also of course help platforms optimize for **prescriptive analysis** by leveraging on the vast amounts of data a platform can collect, with

some degree of danger of indulging in self-fulfilling prescriptions. AI/ML also can provide effective forecasting capabilities, especially in platforms that depend on economies of the tangibles when part of the inventory is perishable, and help with dynamic pricing, yielding, and revenue management as well as logistics, scheduling, and supply chain management.

Overall, in terms of value chain impacts, we will have **broader access to commoditized supply** and — at the same time — more **differentiated supply** (superstars), **higher transaction integrity**, and **better matchmaking.** As a side effect of the importance of reputation (for non-commoditized learning advantages) an affirmation of AI support tools could also grow the case for the reputation to be "unlocked" from a certain platform and made more sovereign and portable, a trend that, as we will see, may be reinforced by the impact of crypto.

Crypto impacts

The uptake of Crypto technology in business and products is being actively explored now for more than a decade, since the launch of Bitcoin in 2008. More recently, following the emergence of programmable layers on top of the more financially oriented ones and the crazy explosion of crypto currencies and ICOs (Initial Coin Offering), in 2017, Chris Dixon dubbed crypto tokens "a breakthrough in open network design"[5] and later on in 2018 when Ben Evans touted crypto as a potential "market reset"[6] technology.

The crypto industry itself improved and evolved radically since 2017: some essential design breakthroughs have increased even more the capability to design functions that connect both the financial and the governance incentives to powerful dynamics of participation, investment and collaboration: bonding curves, curation markets, mechanisms of voting on proposals, mechanisms of fund allocation and much more (See Deepening Box 4.1).

In the context of this chapter, we want to investigate the broader, systemic impact of crypto on the future of platforms and the related value chain, with a focus on core capabilities that crypto technology provides such as **smart, self-executing, contracting, transparent data layers, sovereign identities**, and the possibility to **embed financial, governance and access** rights into digital tokens that can be traded, transformed and exchanged.

One of the key aspects of the penetration of crypto is indeed the broader capability that crypto tokens design give designers and architects in terms of new capabilities to design financial and other types of incentives into an ecosystem mobilization strategy: according to Akseli Virtanen, co-founder at Economic Space Agency and Robin Hood Hedge Fund, "*Cryptoeconomics opens to us economy itself as design space*"[7].

Dixon successfully captured one of the the radical innovations that crypto tokens offered designers with his famous graph as follows[8]:

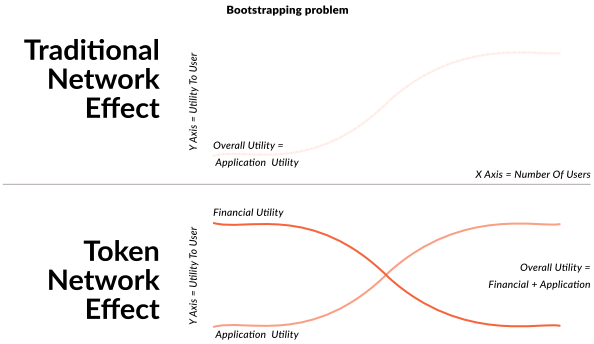


Figure 4.1: Traditional vs. Token Network Effects
Traditional network effects provide a value function that grows at lower stages, only when numbers grow, while leveraging token design gives teams the ability to create financial utility for users at the very start and let this utility diminish over time. Image credit: Cris Dixon: https://medium.com/@cdixon/crypto-tokens-a-break-through-in-open-network-design-e600975be2ef

According to Dixon, traditional network effects provide a value function that grows at lower stages, only when numbers grow (as they only provide a use-value that is sensitive to the number of users that share the same platform context). Instead, leveraging token design gives teams the ability to create financial utility for users at the very start and let this utility diminish over time, when the use-value ramps up: the resulting value function is flat and the proportion of financial value and use value rebalance over time. This is just one way to look at the relationship between financial and use value and surely its simplicity doesn't capture the more dynamic portfolio of solutions and patterns that we have seen emerging and we tried to capture in past writings[9], but it gives a good glimpse of what's achievable when one starts to combine two different incentive design layers. If we couple these broader capabilities to design financial incentives in networks, with smart contracting layers that are able to execute on shared rules, including aspects of governance, this gives rise to a whole new set of possibilities to see **shared coordination infrastructures** emerging and **cooperative integration layers** of which many organizations can share ownership, governance and execution duties. As an example, with this arsenal of tools, a group of firms could co-own a shared procurement infrastructure, a system of towns could co-own and manage a shared currency system, and a group of concerned citizens could manage the shared investments and management needed to get an electric microgrid off the ground.

Particularly interesting from this perspective is the potential of progressive decentralization patterns — as first identified by Jesse Walden — in funding and getting off the ground shared information coordination and work coordination infrastructures. In this sense, Walden touts crypto-networks as "pioneering a new form of "cooperative capitalism" and explains that "*beyond the ability to crowdsource funds from members of the network, crypto networks can compete with better-capitalized corporations on other dimensions — especially those that require high degrees of trust*"[10].

By leveraging such a progressive decentralization mechanism, one organization may first take care of creating new coordination infrastructures that can serve an ecosystem and, within time, transition the ownership and governance of that to the broader, ecosystemic set of stakeholders, by crafting the right incentives needed to run and evolve the infrastructure over time[11].

Another convergent capability that blockchain technology has brought to attention is the possibility to create **data layers** where information is openly available and verified. In July 2019 PWC touted that blockchain-enabled so-called "Self Sovereign Identities", digital identities owned by the very user, instead of being issued by a particular third party, could "*represents a major breakthrough, the impact of which will extend far beyond what people typically think identity means*"[12].

As Choudary reminded us in our expert interview[13], the potential of open-public identity and reputation registries - which as said above, could easily be based on a crypto-token powered

Decentralized Autonomous Organization (DAO) that brings forth the incentives for the operation of the infrastructure - may well represent part of that "standardization of the supply" trend that, according to Choudary, could help mitigate monopsony-monopoly patterns in the market, thus hindering the power of winner takes all dynamics.

In terms of value chain then, the major impacts can be identified in **the emergence of the role of investor** (sort of co-entrepreneurial user) and a more prominent role of the financial incentives in the value chain. Further impacts are the **progressive unbundling of demand aggregation from supply standardization** (e.g. through the abstraction of identity and reputation from one single platform) and the emergence of **co-governed shared mediation layers between firms and organizations more in general** (work coordination, financial coordination, etc…), plus the overcoming of vetting towards more permissionless, reputation-centric selection processes.

Case Study Box 4.2. DAOs: Aragon and Commons Stack

ARAGON: UNLOCKING THE LONG-TAIL OF DECENTRALIZED AUTONOMOUS ORGANIZATIONS (DAOS)

Aragon defines Decentralized Autonomous Organizations (DAOs) as: "*an internet-native entity with no central management which is regulated by a set of automatically enforceable rules on a public blockchain, and whose goal is to take on a life of its own and incentivize people to achieve a shared common mission*"[14].

Typically, DAOs use blockchain technology to provide a secure digital ledger to track financial interactions across the internet, hence eliminating the need for third-party mediated transactions. In this way, users can enter into loosely coupled peer-to-peer (and many-to-many) smart contract collaborations that are not controlled by a central entity. In the words of Aragon: "*By providing the tools for people to turn a community, cause, or even just a meme into its own economy, we can unlock a long-tail of DAOs that are not limited just to protocols*"[15].

Aragon itself is an open source community-driven project whose mission is to facilitate the creation of DAOs. Their "flagship product" is the Aragon client, a tool for creating and participating in decentralized organizations on Ethereum. The project also includes a legal non-profit organization based out of Switzerland - the Aragon Association - and the ambition to build a whole jurisdiction through the Aragon Network.

Aragon helps communities (or a less identifiable entity) around the world to set up these collaborative structures, using different Apps and services as building blocks allowing peers to e.g. raise funds, pay people, create votes to make decisions and more. On top of that, they provide standard templates based on the most common use cases, further reducing the barriers for new DAOs to be created.

More on this topic:

- Aragon Wiki. *https://wiki.aragon.org/about/what_is_aragon/*
- "Building a DAO Powering Platform with Luke Duncan from Aragon". Boundaryless B Sides Stories. *https://youtu.be/eP1sQ2HnƑZM*

COMMONS STACK: DEMOCRATIZING A NEW STANDARD FOR TOKEN DESIGN

Similarly to Aragon, Commons Stack aims to democratize the knowledge and tools needed to create DAOs, specifically focussing on **scaling trust and the commons** by "*creating an open-source library of components that enable purpose-driven communities that are united around any cause* [...] *giving them the ability to raise money, make decisions about how to spend it, and to measure impact*"[16].

In the "Minimum Viable Commons", which they aim to make a new standard for token design, there are four key components:

- **Augmented Bonding Curve (ABC)**, providing for the sustainable funding for communities (see Deepening Box 4.1);
- **Giveth Donation Application ("Giveth Dapp")**, a proposal and escrow service under development;
- **Conviction Voting**, a continuous decision making governance process (see Deepening Box 4.1);
- **Commons Analytics Dashboard** (powered by **cadCAD**[17]) to measure the value produced in the communities.

Each of these components are being worked out according to rigorous token engineering processes, then tested before implementation. Part of the value proposition to the community is thus reliable and tested components, saving both time and resources for communities wishing to apply them.

More on this topic:

- Jeff Emmett. "The Commons Stack: Scaling the Commons to Re-Prioritize People and the Planet". Article transcribed by Don Adams, edited by Kris Decood. Medium, 29 August 2019. Giveth. *https://medium.com/giveth/the-commons-stack-scaling-the-commons-to-re-prioritize-people-and-the-planet-fdc076aec4eb*
- "Crypto-Powered Commons-Engineering with Jeff Emmett from Commons Stack". Boundaryless B Sides Stories. *https://youtu.be/eI6yhPdfOnE*

Deepening Box 4.1: Commons Stack's Augmented Bonding Curves and Conviction Voting

A bonding curve contract can be defined as "*automatic market maker*" (a smart contract that enables users to buy and sell tokens) with the following properties:

- A token can be minted (bought) at any time according to a price set by a smart contract.
- This price increases as token supply grows.
- The money (like ETH or DAI) paid for tokens is kept in the smart contract (reserve pool).
- At any point in time, a token can be burned (sold) back to the contract.

Bonding curves are so-called crypto-primitives (incentive design patterns) designed to incentivize early adopters but have some shortcomings - mainly that of lacking long term commitment incentives.

Commons Stack update: the Augmented Bonding Curves (ABC)

As Commons Stack advisor Abbey Titcomb describes it: "*Augmented Bonding Curve (ABC) design can be conceptualized as a typical bonding curve with the addition of a funding pool, a token lock-up/vesting mechanism, and inter-system feedback loops*"[18].

The ABC system is based on two separate pools, the collateral pool and the funding pool, and works in two phases: the Hatch phase and the Open phase. The intention of the ABC is to provide the conditions for a continuous organization to have a self-sustaining funding mechanism, overcoming some of the shortcomings of typical bonding curves. The idea is that the ABC can help community incentivization, for example, to care for the commons.

In the Hatch phase, a community crowdfund initializes the two pools (funding and collateral) around an initiative they believe in. The original community members receive dual-purpose tokens, which provides stake in one part of the collateral pool and governance (voting) rights over the funding pool. In the open phase, people who want to share the governance rights buy-in, while each time someone sells their tokens, they pay an "exit tribute" (part of their collateral), which is put into the funding pool funding community projects.

As Jeff Emmett succinctly summarizes:

"We have incoming capital that gets split between the funding and collateral pool, we have funds flowing from the funding pool to complete proposals and provide value to the community and perhaps the world at large, and you have exiting capital which creates this circular flow from the collateral pool into the funding pool, so that you get sustainable funding into your community"[19].

With such an update one can create a mechanism for funding collective projects that not just awards early adopters but also pushes towards long-termism and commitment.

Conviction Voting

Conviction Voting is part of the governance component in Commons Stacks' Minimum Viable Commons (see Case Study Box 4.1 above). It is a process for helping communities make decisions about funding (or not) proposals by looking at the aggregated preference of community members, expressed continuously rather than in a single, time-boxed way.

In Conviction Voting, which initially draws on "*Social Sensor Fusion*" by Dr. Michael Zargham, "*humans are the 'social sensors' reacting to proposals in their communities, each broadcasting continuously evolving preferences that are 'fused' into an aggregated social signal*"[20].

CV does not work in an "A vs B fashion", but rather lets communities vote on proposals that can be seen as "buckets" that they can fill up with the proportion of their voting power they choose.

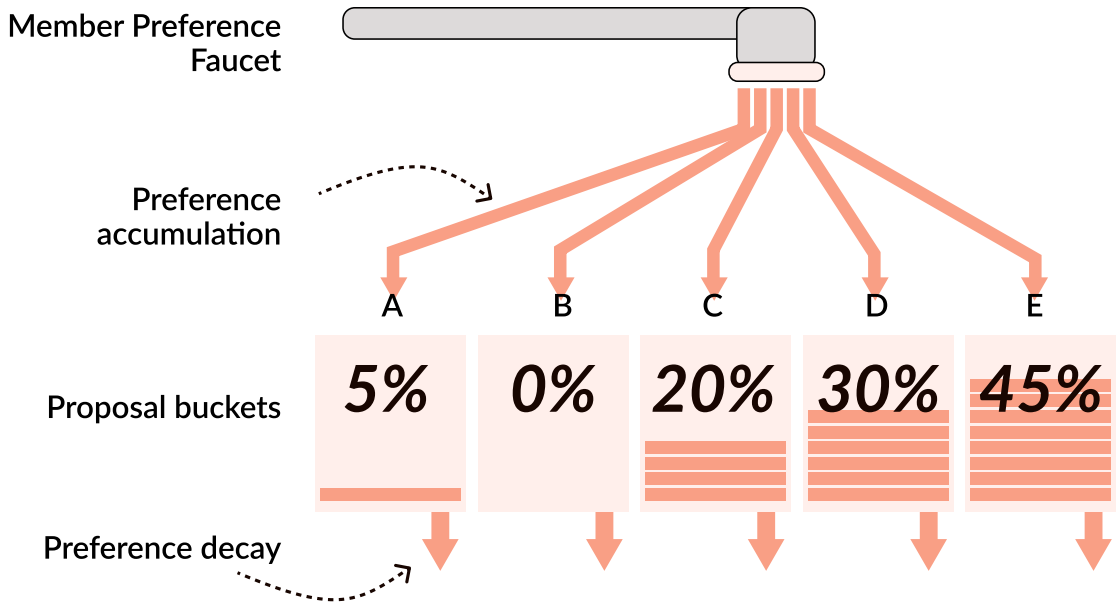


Figure DB.4.1: Conviction Voting

CV lets communities vote on proposals that can be seen as "buckets" that they can fill up. Image credit: Jeff Emmett, Commons Stack (see "more on this topic").

Another interesting feature of the CV system is that the weight of preferences grows over time according to a decay function (up to a limit). If, on the other hand, you withdraw your preference and switch to another bucket, the decay function will make it appear as though there was only a small hole in the bucket. This mitigates against last-minute vote swings. As soon as a proposal reaches a preset threshold of community preference, it is approved.

CV provides a well needed tool for taking into account people's needs and desires in decision-making processes, especially as complex algorithms analyze data and increasingly make decisions for us. CV is thus a fundamental piece in DAO governance and is firmly rooted in research on multi-agent coordination problems and behavioral economics.

CV offers a decision-making process that funds proposals based on the aggregated preference of community members, expressed continuously. Members can change their preference at any time, the longer they keep their preference for the same proposal, the "stronger" their conviction gets. This added conviction gives long-standing community members with consistent preferences more influence than short term participants merely trying to influence a vote.

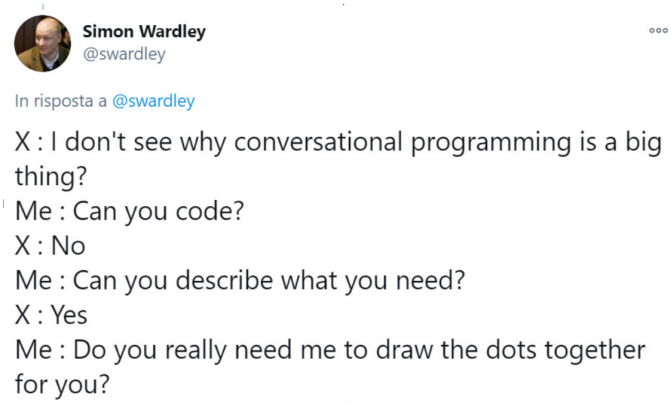
More on this topic:

- Jeff Emmett. "The Commons Stack: Scaling the Commons to Re-Prioritize People and the Planet". Article transcribed by: Don Adams, edited by Kris Decood. Medium. Giveth, 29 August 2019. *https://medium.com/giveth/the-commons-stack-scaling-the-commons-to-re-prioritize-people-and-the-planet-fdc076aec4eb*
- Abbey Titcomb. "Deep Dive: Augmented Bonding Curves". Medium. Giveth, 10 April 2019 *https://medium.com/giveth/deep-dive-augmented-bonding-curves-3f1f7c1fa751*
- Jeff Emmett. "Conviction Voting: A Novel Continuous Decision Making Alternative to Governance". Medium. Giveth. 3 July 2019. *https://medium.com/giveth/conviction-voting-a-novel-continuous-decision-making-alternative-to-governance-aa746cfb9475*

Other key technological impacts

After having explored deeply the impacts of AI and Crypto, we want to investigate two other major technological advancements that we believe may have a lasting impact on the platform-ecosystem future: 5G (and more generally pervasive, low latency connectivity of things), and the evolution of computing beyond serverless into further modularization and the so-called "conversational programming": the capability to vocally and visually mix and match cloud-based software components to quickly create solutions.

Let's start from the latter: to quote Ben Basche, Senior Manager, Product Development at MultiChoice Group[21], the future of cloud computing can see the emergence of "*an ecosystem of Intent-defined, high-level serverless components close to the user (checkout flow, online store, blog, subscription widget, dashboard, etc…)*" and a codeless, natural language-based control panel on top of it, thus bringing "Software moats" to zero - a consideration that is fairly resonant with one of Simon Wardley's now-famous imaginary Twitter conversations[22], from 2018, highlighting how the impact of technology such as conversational programming (what Basche defines "a codeless, natural lang control plane" might have on the application development value chain).



If we add — on top of this — the effect of 5G technology, mainly a broader penetration of real-time sensory information in complex contexts, such as industrial ones, or more generally a broader penetration of connectivity across the infrastructures deployed locally thus improving further our capabilities to connect and organize it, the effects on the value chain that we can extract tell us about broader composability of infrastructures and resources on one side and — on the other — an easier way for designers to move from an abstract idea of organizing into tangibly deployable technological solutions, on a much nicher, smaller scale. In a few words, deploying smaller and more niche technology solutions to organize a certain ecosystem will be increasingly possible as technological barriers will continue to disappear and as access pervades all resources and infrastructures in a process of "onlinification".

Global disruptions and emerging narratives

In Chapter 2, we presented a deeper reflection on a new landscape of risk and its implications on organizational evolution: here, we explore further how an abstraction of that complex risk landscape we presented will impact the value chain of platforms and ecosystems.

The first trend is the so-called "decoupling" of the US and China and, more generally, the end of globalization as we know it. The world moves away from US cultural and trade domination towards a more multipolar perspective and digital markets are also fragmenting regionally as we have explained already thinking that digital markets will always be global is an illusion[23] and we recently woke up to a world where now competing regulations often reach beyond the country of residence of the actual digital services user.

According to Choudary[24], sovereign states initiatives to deploy digital — and non-digital — coordination infrastructures (in trade, logistics, finance, communication, IT and more)[25] and that of imposing those as standards globally is going to be the place where most of the geopolitics of technology is going to be played in the future, and a major way in which countries will exert their influence globally.

Secondly, the Covid-19 pandemic can be taken as representative of two more major trends: an i**ncreased "basal" unpredictability** in the economy and society and the growth of narratives increasingly focused on health and sustainability, as we've anticipated in the chapter on risk. As a result of these shifts, massive investments and public subsidies are being currently deployed worldwide to rebuild key infrastructures and revamp the economy — many linked with sustainability and salutogenic narratives[26] — and the involvement of citizens in the rebuilding a **less brittle** and **more resilient** system of production, one that is **subsidiary** and **integrative** to the private-public dichotomy that dominated the 20th century seems likely, as a way to ensure more local resilience and operational continuity and provide new opportunities to direct the productive potential of otherwise jobless citizens.

As a result of those trends - and as largely anticipated in Chapter 2 - we can likely expect a series of value chain impacts. The first would be a trend of relocalization and partial decentralization of elements of the lower part of the value chain (such as in manufacturing). Natural resources and materials use will likely be subject to new and emergent ways of flow-based accounting for circularity such as with Kate Raworth's doughnut economics of which we're starting to see uptake as a model for building a post-pandemic recovery in cities such as Amsterdam[27], and countries such as Wales[28]. In this area, uncertainties abound related to the effective development of international agreements to tackle climate change, environmental degradation and resource consumption. Today's rising geopolitical instability and the strong uprising of nationalism and regionalism trends point out that the possibility for such sustainable and circular coordination infrastructures to emerge may be according to the sphere of the political influence of specific geopolitical powers such as the US, China, the EU, and, to some extent, Russia and India.

As a result of this evolutionary pressure for transformation, coupled with the efficiency drivers of competition, we foresee an evolution towards increased composability, reuse, and circularity for resource optimization in technologically and resource-intensive industries. According to the principal of Deloitte's Mergers and Acquisitions Consulting practice Mark Purowitz: "*as businesses prepare for a post–COVID-19 world, including fundamentally reshaped economies and societies [they are] starting to expand their definition of M&A to include partnerships, alliances, joint ventures, and other alternative investments that create intrinsic and long-lasting value*"[29] hinting towards not only consolidation trends aimed at optimizing, but wider inclusion trends that will push organi-

zations to look at scalable ecosystemic partnerships to achieve broader resilience.
This evolution will possibly play out at two major layers:

- the optimization through **mergers and consolidation** (at least on a regional influence scale) will continue to play out to increase efficiency and optionality;
- further ecosystemic strategies will be focused on experimenting with production models that will make globalized (or likely regionally consolidated) infrastructures coupled with more local, distributed entities and vertical specialized entities.

In an industry such as manufacturing, for example, such a cooperation model could be envisioned as a collaboration between global brands and locally owned micro-manufacturing facilities, and fulfillment centers, optimized for reuse, fixing and circularity. As a consequence of such trends, in parallel with a growing demand for parcelized work driven by platforms (in lack of traditional employment), the increased value perception in security, health, and resilience and the transformation of hard industries in the way highlighted above is expected to generate further entrepreneurial opportunities related with the project of rebuilding the economies of essentials through a broader engagement of citizens.

Putting everything together

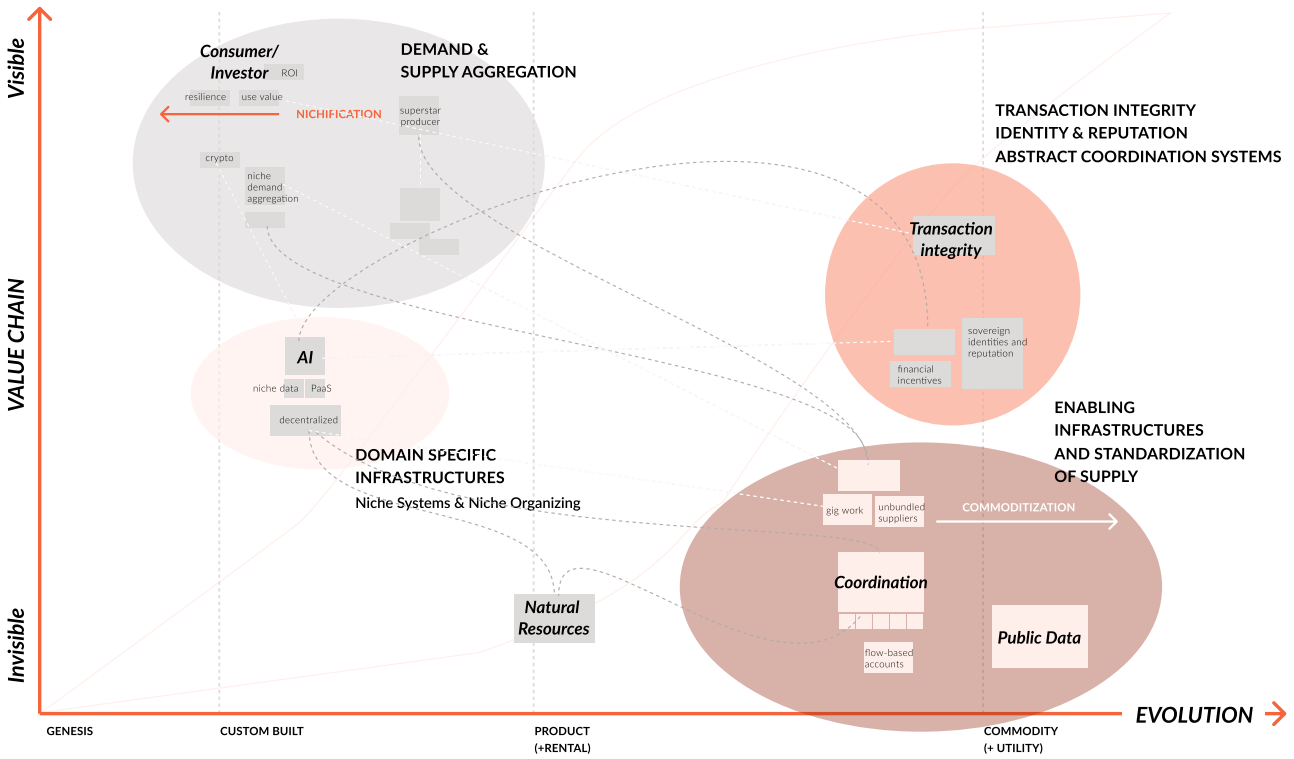


Figure 4.2: Incoming tech revolutions and narrative shifts: picturing the shifts through a Wardley Map
Putting together all the impacts outlined in the first part of the chapter, the Wardley map depicts the different zones of impact.

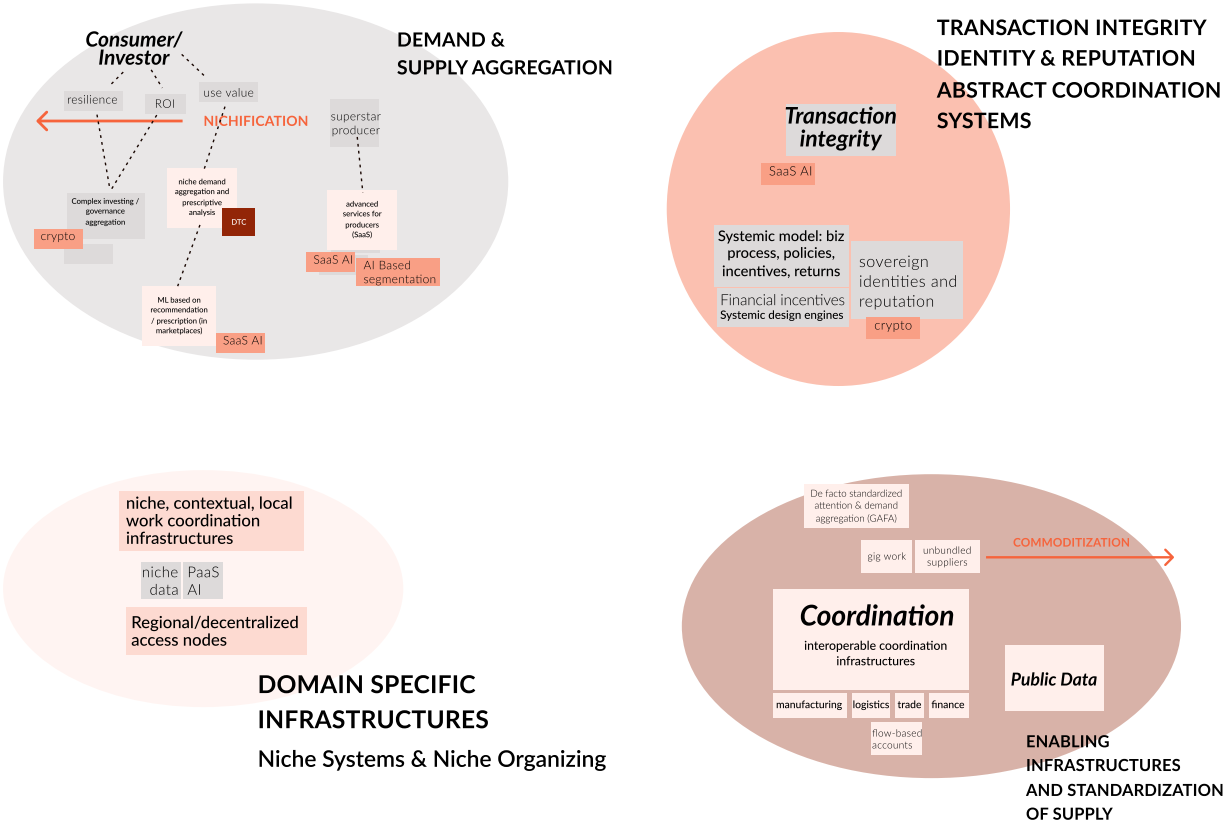
In putting together all the impacts we mentioned above, we will show them on the Wardley map: using such a map as a "background" will allow us to project the "zones" where most of the impacts "coalesce" in certain "areas" of the value chain.

Four macro areas of influence can be identified overall:

- evolution of demand and supply aggregation in low distribution cost markets;

- transactional integrity, identity, and reputation and abstract coordination system;
- domain-specific infrastructure towards niche organizing;
- enabling infrastructures and standardization of supply.

Below we'll explain that in more detail.



The first area (*grey*) on the top left covers the most important shifts that we can expect by composing all the trends. In this area we could expect a dual direction: on the one hand **traditional demand aggregation will become increasingly niche** in continuity with what we're seeing today (vertical markets) and will become more direct to customers (DTC) and more managed. In this context, the consumers will receive ever prescriptive recommendations thanks to AI and data, and super producers will be leveraging machine learning powered tools to increase their reputation and thrive, while others will struggle.

On the other hand, the users' needs for investing in creating resilience will be met by more complex platforms that will entail co-investing and possibly co-managing capital allocations into developing **new forms of entrepreneurship** to complement a stagnant industrial economy, including and possibly focusing on building resilience in the local context. These initiatives that will be increasingly focused at the community, town, and regional level will need to tackle opportunities to rebuild new models for the production of key services where market failures and traditional public policy failures will happen as a result of rising unpredictability. This will happen in key social sectors such as welfare but also in the essential economy areas (food, energy, housing, micro-manufacturing, etc…).

In a second impact area (*pink*) on the upper right, that of **transactional integrity, identity,** and **reputation** and **abstract coordination system**, we'll see more transaction standardization: one of the key expressions of the aggregation theory on the value chain. AI will help to

ensure better transactional integrity and the standardization will expand below, including the emergence of **sovereign identities** and **portable reputation systems** based on shared and standardized protocols. Furthermore, one can foresee the emergence of system design models and engines that will provide **easy to instantiate and composable elements of financial incentives design, governance models, and more**, such as the ones we're seeing emerging in the DAO space, with projects such as the already introduced Commons Stack or Aragon (see Deepening Box 4.1). These newly emerging technological and model stacks will essentially power a "standardized" approach to organizing.

These tools will, in turn, enable another evolution towards a more **domain-specific infrastructure for niche organizing,** represented in the *light pink* space on the lower left. In this *light pink* space, instances of the standardized systems depicted above in the upper right *pink* space will be implemented and run contextually (for example locally) to power the new aggregation strategies that also involve managing investments and assets and collective governance we depicted above. These contextual work coordination infrastructures will be powered by niche and contextual data and by Platform as a Service AI engines that will use specific domain models training. As an example, aggregation systems of co-investing and co-managing regional regenerative agriculture plans, or the development of shock resilient microgrids, or even city-specific systems of welfare and care will need AI to be trained on local specific data and local specific models.

In turn, such domain-specific infrastructures for niche organizing — and the one on the upper right (*pink*), the systems for transactional integrity, identity and reputation, and abstract coordination — will be both connected with an enabling infrastructure, standardized supply & commodities.

This ultimate area of impact in the lower right (*brown*), will likely see the consolidation of GAFAs as the ultimate **attention and demand aggregators** that will continue to tax new entrants through advertising and positioning services for distribution (especially obviously the increasingly niche DTC aggregators) and, just below that, a tumultuous standardization and commoditization of the unspecialized gig workers, coupled with the emergence of a strongly automated, remotized and AI-powered supply, both increasingly turning towards further commoditization. Here, the impact of rising unbundled digital unions and platform cooperatives can have decisive implications for the welfare of such workers although the impacts of such cooperative re-bundling patterns are still hard to evaluate in the long term.

On the lower part of this area of impact, it is foreseeable that key processes with strong social and environmental footprint such as manufacturing, logistic, trade, and finance will evolve towards more interoperability and standardization: this interoperable infrastructure — based on **shared standards and shared coordination structures**[30] — will offer "pluggable" opportunities for public institutions, entrepreneurs and cooperatives to cooperate and develop last-mile regional/decentralized access nodes, as anticipated above (in connection with the *light pink* zone).

The analysis we just provided leaves us with two major "lines". One connects the *grey, pink* and *brown* dots through the dashed line and represents the area of the market where mainly intangible and globally tradable products and services are going to be exchanged. In this part of the market, demand aggregation is going to become nicher (vertical) and managed, with more reputable super-suppliers leveraging AI. Here the market will largely be **convenience focused,** and the need to increase use cases will push for **inter-platform interaction** and **composability** which is going to increase thanks to common component libraries, common IDs, and reputation and make the whole idea of aggregation more transient, accessible and democratic. The other route, which connects more profound design challenges that involve **new forms of finance,**

collective investing, and governance to **manage infrastructure** and **production,** is definitely more local, citizen involving and niche and will be the space where a profound reinvention of the economy — in terms of resilience — is bound to happen as an answer to a newly emerging risk landscape: quoting American entrepreneur Matthew Smith *"the revealed fragility of […] complex systems will drive a societal shift from globalism to localism. And this shift represents the greatest broad-based, entrepreneurial opportunity America has seen in my lifetime"*[31].

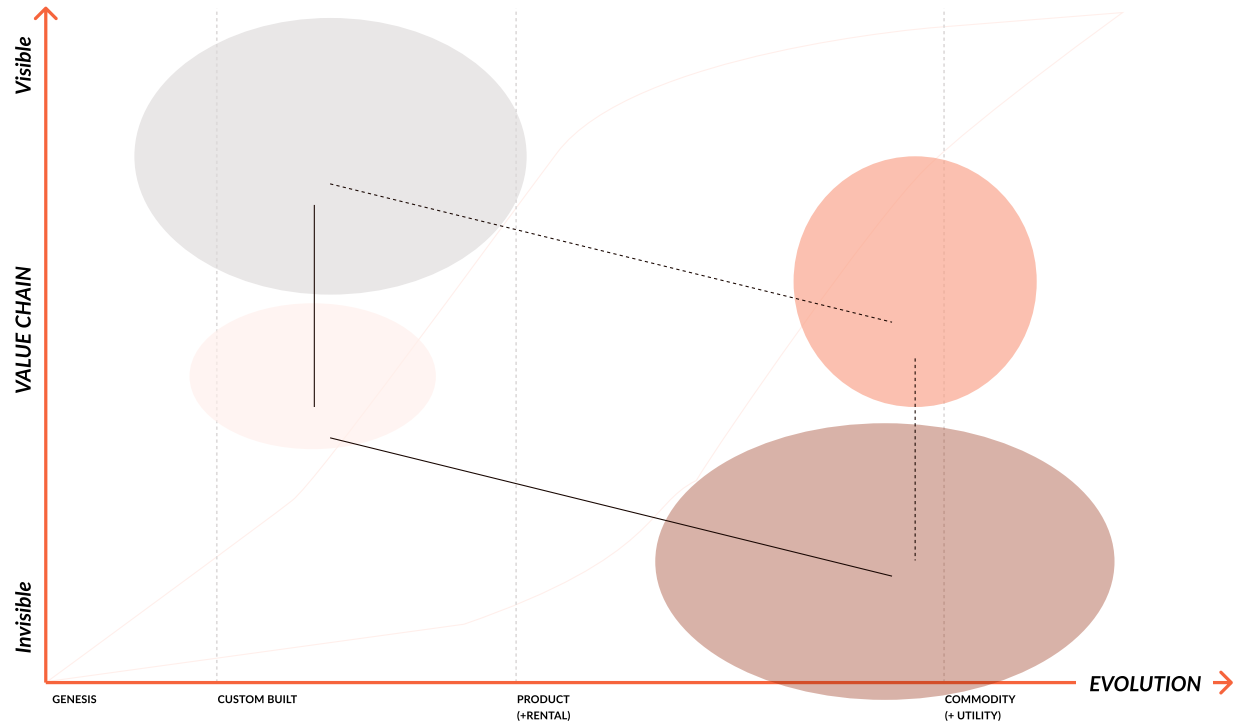


Figure 4.3: Connecting the impact "Zones" on the value chain

Connecting the grey, pink and brown dots through the dashed line and the area of the market where mainly intangible and globally tradable products and services are going to be exchanged, while the other connects more profound design challenges that involves new forms of finance, collective investing and governance to manage infrastructure and production.

Impacts on the marketplace value chain

As a further process of integration of these insights, we want to offer a visualization of how these macro trends play out in the four quadrants making up the marketplace map introduced in Chapter 1.

Impacts on the value chain will be common to the whole scope of the pervasive, marketplace-based organizing landscape, although depending on the characteristics of each quadrant the impacts will be playing out slightly differently. It's worth noting that in the horizontal space, where specialization is less important, and learning advantages are easier to commoditize, producers will be pushed towards commoditization more easily and actual **peer-to-peer marketplaces will increasingly be replaced by the prescriptiveness of algorithms** that can choose the right option for the customer based on increasingly available data. At the same time, the push towards niche marketplace organizing will likely reduce the applicability of horizontal marketplaces overall.

On the other hand, in the vertical space where specialities and niche capabilities of producers may be more important (in B2B for example), we'll see a radical abundance of specialized SaaS offerings aimed at augmenting a professional that is made more visible. In the same way, the pressure to achieve more composability in platforms as a way to provide more inter-contextual

possibilities for super producers to develop their capabilities and, on the other hand, to allow rapid prototyping of new experiences in the face of unpredictable changes (the pandemic being a good example). This, in turn, will push for the **unbundling of identity and reputation** and their re-bundling into new, shared, **work-coordination infrastructures** that will serve as both interoperability systems and as "wrappers" of access to more tangible resources (from heavier industries).

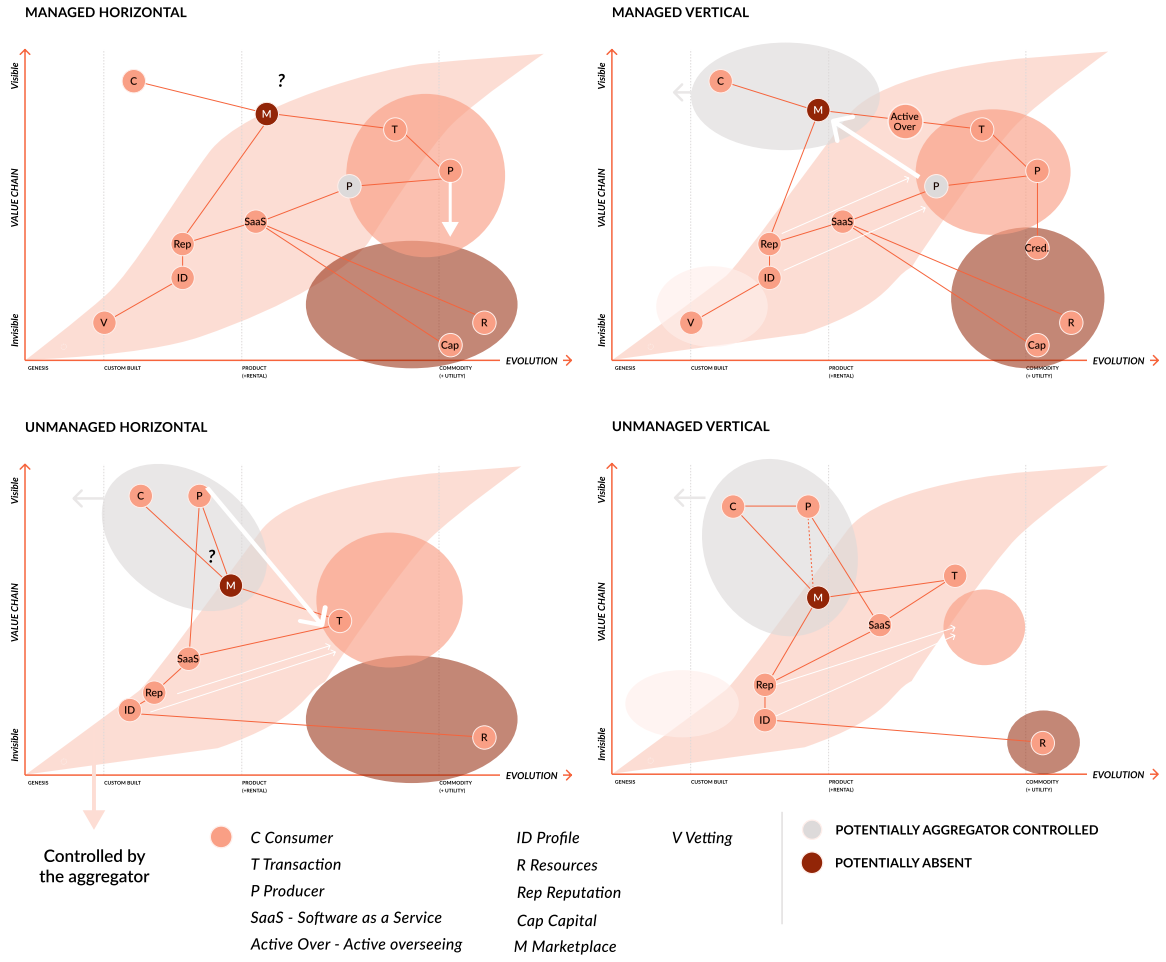


Figure 4.4: Macro trends in the four quadrants of the marketplace spectrum
Depending on the characteristics of each quadrant the impacts on the value chain will be playing out slightly differently.

A new landscape of scalable organizing

If we try to tie everything together, based on a foresight exercise that projects our grounded assumptions in the future all at the same time, we can imagine something similar to what follows.

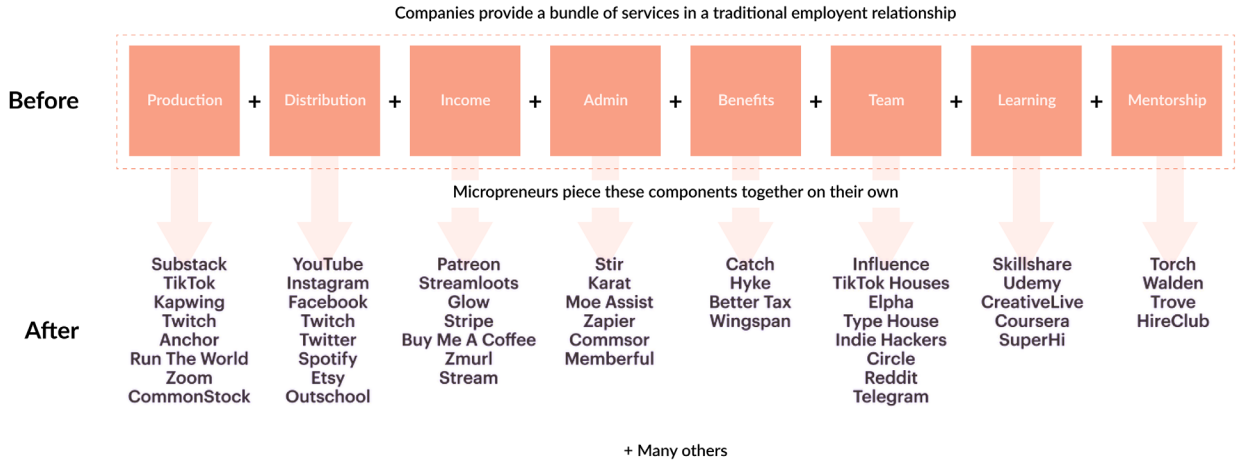
The very basic force that is putting things in motion is definitely the unbundling of the firm. As we have already explained, plummeting transactions cost and the progressive unbundling of the Fordist bundle, coupled with the incredibly pervasive nature of open knowledge and open software makes the **micro-entrepreneurial unit ever more capable to rebundle markets**, and organizations, around problems to be solved. We're seeing indeed this trend happening already in the corporate world, with most of the protagonists of the rampant digitized markets adopting **radically unbundled organizational models** that allow teams to explore opportunities and organize around them. But micro-entrepreneurial teams are — of course — also now thriving in the economy of intangibles, with the powerful emergence of the passion economy, and the disintermediation of industries such as media and news as brilliantly explained by Li Jin in her thesis

around the unbundling of work from employment[32].

Despite the revolution of micro-entrepreneurship still being slow to be expressed in the context of what we called here the civic **economy of essentials** (such as in care, welfare, local food production, micro-energy, and similar key civic processes) key experiments — often led by far-sighted corporates or cooperatives — are being run: the thinking goes to organizations such as Buurtzorg, reorganizing care around local nurses' teams or Participatory City providing space for citizen-entrepreneurs to cater for what they need "to survive and thrive" (see Case Study Box 4.3), fueling a blossoming of an economy of small businesses, active in the context of essentials, around a shared infrastructure investment (in warehouse, tooling,…) and regenerating part of the city of London in the process.

Figure 4.5: Unbundling Work from Employment

Micro-entrepreneurs are able to bundle together traditional employment benefits on their own. Image credit: Li Jin:



https://li.substack.com/p/unbundling-work-from-employment

Case Study Box 4.3: Participatory City

Participatory City is an initiative that started in the London borough of Barking and Dagenham. Its is mission to build a first-of-its-kind large-scale, fully inclusive, practical participatory ecosystem at neighborhood scale. The idea - in a nutshell - is "*places created by many people working together through a large network of practical 'participatory culture' projects and community businesses, built into the fabric of everyday life*"[33]. The challenge that Participatory City seeks to resolve is to radically increase the scale of participation in local neighborhoods by - through design - **making participation more accessible, attractive and convenient.** The aim is to go beyond the typical "heroic or extraordinary efforts of a few individuals" that make up a small 3% of active neighborhood participation, and make everyone on the co-producers and co-consumers of the place where they live.

The key characteristics of the "participatory culture" incorporated into this approach - that we had the chance to explore with founder Tessy Britton[34] - are:

- equality – attracting a diverse range of participants;
- mutual benefit – people contributing and benefiting in a single action;
- peer-to-peer – people working peer-to-peer on an equal footing;
- productive activity – involves producing tangible things together;
- open accessibility – involving as many people as possible, through working to reduce all types of participation barriers.

Integrating a welcoming culture of "no judgement" into the neighborhood network has been central to the success of the initiative. There are frequent "touch points" (nodes) distributed throughout the neighborhood ecosystem, where anybody can easily get information about a large variety of activities at different levels of engagement and availability requirements (e.g. organising events during the weekend to allow people that work day time to assist, or having parallel events for kids allowing parents to participate).

They've found that letting people work on practical projects together to co-produce tangible things is the best way to achieve participatory culture. One example is the initiative "Every One, Every Day" launched in 2017, where citizens come together to produce **essential products** like clothes, food, ceramics, all according to an evolving set of inclusivity principles and in the belief that some services — no matter how well funded — are better developed by citizens themselves than the government. With two high street shops and a warehouse opened in the first year as "core spaces", activities will be expanded through the use of smaller functional spaces for the projects (kitchens, workshops, storage spaces etc), websites, newspapers, festivals, workshops and business development incubator programmes, etc. By experimenting with "collaborative brands", the risk for each individual entrepreneur is further lowered, and barriers further reduced[35].

More on this topic:

- Tessy Britton, "Universal Basic Everything, Creating essential infrastructure for post Covid 19 neighborhoods". Medium, 30 May, 2020.
  https://medium.com/@TessyBritton/universal-basic-everything-f149afc4cef1

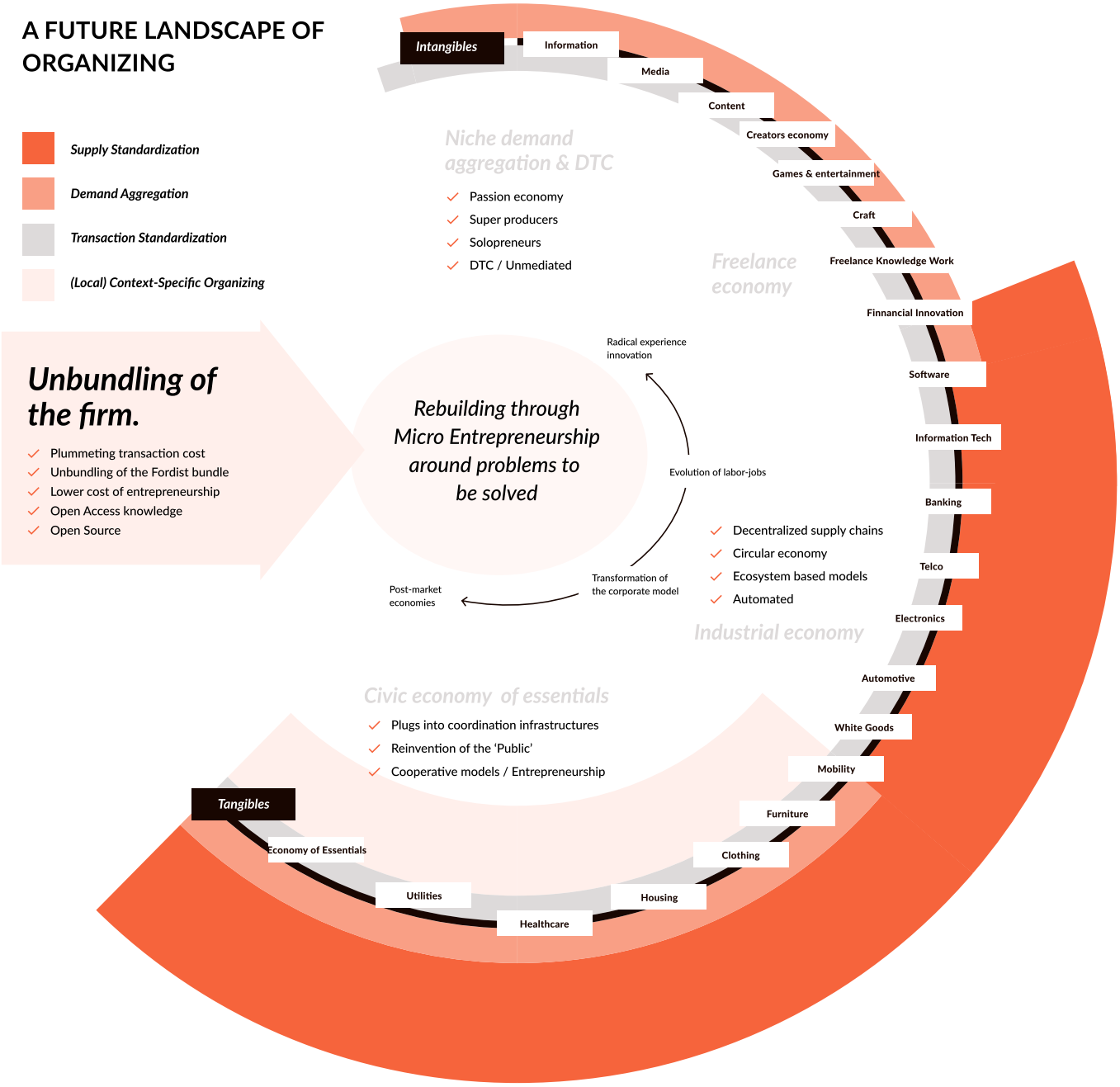


Figure 4.6: A Future Landscape of Organizing

Complex dynamics of niche demand aggregation will be playing out almost everywhere in the economy (and society), probably except for (or "waiting for") a part of the economy that will still rely on traditional distribution all the rest is being reorganized by standardizing a great deal of the transactions and interactions.

The picture above illustrates how dynamics of niche demand aggregation will be playing out almost everywhere, probably except for a part of the economy that will still rely on traditional distribution — although business models based on access are rampantly being experimented[36]. Transactions standardization as well will likely be a pervasive trend, with the rapid consolidation of payment systems — Stripe is a good example — and the emergence of interoperable work coordination infrastructures to facilitate interaction between small and big firms, and between externally focused firms and their ecosystems[37].

Supply standardization will be inevitable across the whole spectrum of accessing tangible resources — for the reasons we explained above (peak resources, environmental degradation, dynamics of competition…) and the **interplay with local organizing** will be essential to allow local entrepreneurs to access infrastructures and resources provided by the industrial players, recombine them with systems of funding, governance and finance, and create **locally managed and locally optimized organizing solutions.** This interplay between an ever more consolidated and, at the same time, bounded by its environmental impacts, industrial economy, and a civic economy that extends, contextualizes and implements last-mile distribution, and recombination, is probably the sweetest spot for organizational experiments in the coming decade.

What you need to know: the *No More* and *Not Yet*.

No More

The capability to centralize power and generate and leverage on winner takes all dynamics in platforms and ecosystems is being put under pressure by evolutionary dynamics pushing towards broader integration and composability between platforms **#PrivateOrgs #PublicOrgs**

Platform related and digital policymaking needs to let go old approaches mostly based on antitrust and passive, post-facto regulation and embrace more proactive regulatory stances based on supply standardization that could break the power that derives on demand aggregation control: this policymaking dynamic will be accompanied by new technological enablers such as crypto technologies **#PrivateOrgs #PublicOrgs**

The idea of scarce overlap between community and public interest and private initiatives is going: the future of the economy is pointing in the direction of broader overlaps between those spaces, with more possibilities emerging for local, citizen led organizing to create strategies for resilience, by leveraging on technologies that on the one hand provide access to a growing number of digitized infrastructures, on the other provide the primitives of organizing collectively (taking decisions, investing, managing, ….) **#PrivateOrgs #PublicOrgs #Communities**

Not Yet

Most of the value is being pushed in niche, user driven, vertical applications **#PrivateOrgs**

Critical sectors, so far neglected as "commodities" will need to be rethought completely in a more sustainable, circular, participatory key: this may be the most important opportunity for local and contextual development in the early 21st century **#PublicOrgs #PrivateOrgs #Communities**

Crypto technologies have the potential to expand the domain of design way beyond just connecting consumers and producers towards financial incentives, governance and collective enterprising, opening new spaces for platform thinking **#PrivateOrgs #PublicOrgs #Communities**

The platform mediated economy seems to bifurcate in two main directions: i. one mostly focused on enabling DTC, highly scalable, mostly intangible based markets (such as in media, digital services, content...) that will evolve more and more into more niche value propositions and more vertical ecosystems, and ii. an area of capital, technology or labor intensive systems where ecosystem dynamics will play out mostly through decentralization with an interplay between standardized/centralized infrastructures and domain/context specific organizing **#PrivateOrgs #PublicOrgs #Communities**

AI and Machine Learning have the potential to exacerbate the "superstar" economy of platforms where the best players get better and more visible and the others end up with marginalized and commoditized positions **#PrivateOrgs #PublicOrgs**

Opportunities will grow in creating digital "wrappers" that make existing industrial components exposable as composable elements **#PrivateOrgs**

Further readings and resources to explore based on this chapter

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Chapter 3

"The next generation of organizational design is about contextually unique solutions to emerge and adapt based on a coherent whole."

- Dave Snowden

The Entrepreneurial Ecosystem Enabling Organization

In the last chapter, we painted the background picture to which organizations in the 21st century need to adapt and operate. We showed how the unfolding events in 2020, with the covid-19 pandemic leaving shaky grounds and hard to predict long term consequences, add up to a world already threatened by the effects of climate change, by rising geopolitical instability, widespread social unrest, and a somewhat hard to control technological change that offers both exciting opportunities and radical challenges for organizations.

As organizations adapt to the need to retool themselves for this new reality, we believe that the direction will be towards "ecosystemic evolutions", whereby organizations destructure into loosely coupled networks, with small independent entrepreneurial teams exploring market opportunities to create value, while being adaptive to rapid change.

In this chapter, we describe what we mean by Entrepreneurial Ecosystem Enabling Organizations, starting with the key trends that we believe lead to their emergence: marketplace-platform trends playing not only outside, but also inside organizations, the need for ecosystemic approaches and radical divisionality as organizations need to retool themselves for both a VUCA world and the new opportunities of growth that largely depend on vertical niches. Finally, we cover the main organizational features of EEEOs, according to our latest abstraction of the evolving model.

Chapter cover source:
Snowden, Dave. "Dave Snowden and Friends: A Conversation about Organizational Design—I". Video recording, 59:16. YouTube. Nigel Thurlow, July 23, 2020. https://youtu.be/uKALuME8E9g [accessed: 27/10/2020].

What you need to know

1	**The conjunction of three major factors—plummeting transaction costs, unbundling of education, and unbundling of benefits (among others)—is threatening the very existence of the bureaucratic organizations**, at least in the sectors where capital and infrastructure advantages are not such a decisive and competitive and competitives one. We find ourselves in a society where the individuals and small teams (micro-entrepreneurial units) have broader and broader capabilities thanks to technological developments; knowledge and learning have been (or are on the verge of being) almost completely unbundled from the traditional paths to education.
2	**In arenas with capital intensive infrastructure, evolution is pushing infrastructural layers towards broader consolidation and componentization.** These infrastructures become more easily accessible to small micro-entrepreneurial teams (think Twilio for telecommunications, Stripe for Financial Services), while the industrial Internet of Things further enables componentization of physical assets like heavy industries or rail networks (such as seen in Siemens's Railigent platform).
3	**To be able to thrive in a truly post-industrial, networked ecosystems' world—the organization itself needs to mold into one.** Amazon, for example, broke down functional hierarchies and restructured organization into small, autonomous teams (two-pizza teams) and enforced the obligation to interoperate and communicate with each other in an asynchronous API mediated programmable interface. This structural decision produced three main effects: virtually infinite scalability, tendency to produce the lowest common denominator in the product buying experience, and, importantly: the substantial equivalence of internal and external units with regards to the contribution to the business model.
4	**The deep penetration of unbundling trends is bringing us to a substantial "many markets-many firms" perspective**, where markets fragment, and the organization needs to fragment to be able to echo such a new structure of opportunities. At the same time, ensuring coherence is needed at both market level, with value propositions and business models (marketplaces), and organizational level (through Entrepreneurial Ecosystem-Enabling Organizations).
5	**Outside-in aggregation theory can be applied inside networked organizations to understand common organizing patterns**. The Platform Design Toolkit's strategic six "Platform Plays" are useful to understand not only what happens outside the organization, but also inside it. Companies composed of networks of loosely coupled entrepreneurial teams empower micro-units (or individuals) to evolve, gain reputation and trust, and often organize through intelligent use of SaaS to replace cumbersome bureaucratic processes.
6	**A truly ecosystemic organization also needs to be able to play on a full bidimensional spectrum of radical divisionality and functional organizing:** from customer focus to ecosystem services, from modularized to integrated products, from radical divisionality (such as with Haier's Micro Enterprises and Amazon's two-pizza teams) to functional integration in the form of supporting platforms providing basic services such as scalable manufacturing or HR, like in Haier's case.
7	**It appears that outside-in and ecosystem driven organizations are more apt to cope with a VUCA world:** it is easier for an organization based on networks of loosely coupled units to let pieces of the organization die by creative destruction and — at the same time — to create new ventures that can rapidly organize around emerging opportunities ("re-bundle around problems to be solved" in Choudary's word) or deal with growth with the complexity that the new business landscape requires.

Marketplaces-platforms and the shape of the firm: effects of unbundling (and re-bundling)

In line with what we shared in chapter one, we are seemingly living an age of marketplace pervasivity. We have been able to justify the successful adoption of the marketplace model of organizing markets based on a couple of key assumptions. First, acknowledging the capability of such an organizing model to produce the exponential value growth typical of network effects, and, on top of this, their tendency to generate vast amounts of data that, in turn, provide stronger and stronger possibilities to optimize by "unveiling the math" behind the social interactions. Second, by recognizing that plummeting transaction costs make marketplaces not only possible but the very way to go: as Rita McGrath put it "more transactions can be conducted in markets that used to require a firm"—so why bother adopting traditional, over-bureaucratic models?

It's therefore vastly important to acknowledge that the penetration of such dynamics of organizing markets is an expression of a very profound and clear economic and technological trend of unbundling. On top of the ever reducing transaction cost, due to ever more powerful communication technologies and to the ubiquity of computing[1], other major trends complete the picture of unbundling of the industrial economy. First, we find ourselves in a society where the individuals and small teams (micro-entrepreneurial units) have broader and broader capabilities: technological developments provide small units with more and more power, knowledge and learning have been (or are on the verge of being[2]) almost completely unbundled from the traditional paths to education.

Furthermore, the unbundling of the **Fordist bundle** seems to be well underway: in the words of Andreessen Horowitz's alumna Li Jin we're seeing *"companies like Hyke, Catch, Better, Wingspan, Decent, Keeper and others are facilitating self-employment by providing services related to the administrative side of freelancing" and "communities—both online and offline […] filling the team and community support gap for micro-entrepreneurs"*[3].

The conjunction of these three major factors (plummeting transaction costs, unbundling of education, and unbundling of benefits) and others, is certainly threatening the very existence of the bureaucratic organizations, at least in the sectors where capital and infrastructure advantages are not such a decisive and competitive one.

In the arenas where capital intensive infrastructures are instead essential, such as in manufacturing, telco, finance, and healthcare, evolution is pushing infrastructural layers towards broader consolidation and componentization so that these infrastructures become more easily accessible to small micro-entrepreneurial teams. Telecommunication is a good example with the revolution that a company such as Twilio—funded in 2008 and now worth +1B annual revenues—has been able to do by abstracting access to the technological intensive infrastructure of carriers worldwide that, in the meantime, are in a long-wave of consolidation[4]. An almost identical pattern can be seen in the phenomenal development of Stripe—up to a staggering 35B valuation[5]—and of its role of abstracting the Financial Services industry and optimizing it for small teams and startups. Similar patterns are now playing in industries that are even less infrastructure intensive: as Choudary noted in the already referenced conversation[6] making the example of Agora's role in developing stable and scalable video-calling APIs enabling the proliferation of video calling features to be embedded in more niche applications[7].

On top of this, the 4th industrial revolution and industrial Internet of Things leads to the emergence of platforms like "Railigent": a B2B software-as-a-service platform for rail applications, which effectively combines physical and digital worlds through platform dynamics, decoupling

hardware from software. Using sensors, the platform can predict things like broken train doors and make the services run at full capacity all the time. As Siemen's Dr Roland Busch put it, cited in the MIT platform strategy summit report: *"not only will software and hardware be decoupled, industries will change from linear to networked value chains"*[8].

After this wave of unbundling we're now seeing re-bundling through a new theory of organizing that is effectively overcoming Coase's earlier Theory of the Firm. The question on our table today is indeed largely about how the post-firm bundle is going to be reorganized. According to Choudary, the process is still ongoing, and marketplace-platforms (as we see them playing out today) may be just a step in a longer process[9].

Looking at this evolution through a Conway's Law lens: towards radical divisionality

We've often referred to Conway's law when describing the evolution of platforms and organizations in the past, namely that: *"organizations that design systems mirror their communication structure"*[10]. Therefore, to be able to thrive in a truly post-industrial, networked ecosystems' world, the organization itself needs to mold into one. There is reason to believe that being able to look through Conway's law lense will take on a new level of importance as two major trends emerge:

- First, working practices evolve towards much more distributed patterns of work—as Mary Meeker noted in her early reflections on the pandemic, most companies believe that *"after the experience of forced remote work — they will shift to more distributed work"*[11].
- Second, value chains will need to be reorganized to work differently across regional geographies, to ensure better resilience and less dependence on global supply chains that — in the mind of policymakers and national leaders have substantially "gone too far" in the direction of brittle efficiency[12]. New organizational players and entrepreneurial opportunities will arise to take a fundamental role in the creation of a somewhat less "efficient" and "just in time" economic paradigm, in favor of a more resilient and hardened one. This new paradigm will favor value chain elements that, on one hand, are more directly bounded regionally and, on the other, are more redundant, featuring alternative routes for the sourcing of needed components and contributions to the key processes.

In the transformation, which will have tremendous impacts on pricing, priorities and value, multinational organizations will need to rethink their organizational structures, and brands will need to adapt to play a role.

Focussing on the remote work dimension, for many types of companies — for example, startups and software development firms — widespread lockdown and "shelter-in-place" orders did not constitute a big break in terms of workflow and organizing: a lot was done r**emotely and asynchronously** anyways and already by people only accidentally co-located. For many more traditional players, this new situation radically changes the way work is organised, including human skills, organizational best practices on knowledge management and explicitness and technological requirements. Clear and well-structured communication becomes essential to allow teams to carry out their work efficiently, which may further result in increased autonomy and distributed work. This leads to thinking that as organizations go fully online and remote this may end up re-shaping them beyond simply a matter of on- or offline work, following Conway's law.

Leaders that have already transformed their organizational development practices, like **Amazon** for example, is often depicted as "probably the best-known case of a divisional organization" and ***"one of the clearest case manifestations of Conway's Law"***[13]. Besides its well known divi-

sional model — with divisions looking after specific product offerings such as AWS or Kindle, or macro-parts of the business such as publishing — the main advantage of Amazon resides in its radical policies in new business creation and internal communication structure.

As once depicted by Ben Evans, Amazon has two main platforms: an **e-commerce** one and a **logistic** one, and top of those, a radically decentralized machine: atomized teams sitting on top of a standardized common internal system[14]. This loosely coupled structure comes from a — now-iconic — choice that Jeff Bezos and the company leadership enforced in the early days: according to CTO Wogels they broke down functional hierarchies and restructured organization into small, autonomous teams, small enough that could be fed with only two pizzas giving them extreme autonomy on one hand and the obligation to interoperate and communicate with each other in an **asynchronous API mediated programmable interface**[15].

Also in the words of Ben Evans, this structural decision on organizational architecture produced three main effects: virtually infinite scalability, tendency to produce the lowest common denominator in the product buying experience and — lastly but of utmost importance — the substantial equivalence of internal and external units with regards to the contribution to the business model:

> *"the constraint to the model's growth is how fast you can hire product teams and sign supplier agreements, letting other people do it for you and charging them a margin (and of course the internal teams also have margin targets too) lets you scale faster and with less risk"*[41].

Is outside (aggregation theory) really different from inside (networked organizations)?

Allowing mass collaboration to happen at scale between loosely coupled units emerges then as a pattern in modern competitive organizing, not only in terms of internal communication but also in the massive transition that — in the context of business models — we've seen emerging on markets for almost a decade now. There is a continuity between the adoption of the platform mediated business models that made the success of companies such as Airbnb, or Shopify (and before they drove the explosion of social media) and the reinvention of the organization through **pervasive P&L** and **radical divsionality**.

The deep penetration of unbundling trends is bringing us a new perspective of markets where we are gradually evolving from the **1 firm—1 market relationship** (typical of the industrial age) to the 1 firm—many markets (the promise of the first decade of platform growth with the narrative of a centrally governed firm that could explore many opportunities thanks to platform thinking), to a substantial **many markets—many firms** perspective, where markets fragment and the organization needs to fragment as well to be able to echo such a new structure of opportunities. As explained in Chapter 1, the vertical fragmentation of marketplaces is another driver of a new way of developing an organization through more granular entrepreneurship and distribution of decision making.

As we'll explain in detail below, the Entrepreneurial Ecosystem Enabling Organization (EEEO) offers a new framework of organizing that can produce both the unbundling needed to resonate with complexity and the re-bundling needed to ensure a certain level of coherence to make the case for an overarching organizational strategy.

According to our understanding, in front of more pervasive unbundling, ensuring **coherence** is indeed needed—at both market level, with value propositions and business models, and organizational level—to ensure four essential aspects:

- the generation of **network effects** with value perceived by new participants growing with the growth of the number of participants that share the same context of organizing;
- the emergence of **shared objectives, shared narratives**, and—to some extent—a shared strategy;
- scalable efficiencies (a functioning **transactions engine** in platform design terms) for mass customization;
- scalable learning[16] (a functioning **learning engine**) to ensure continuous improvement and responding to rampant performance pressures due to VUCA.

Coherent re-bundling through marketplace-platforms

To achieve these four essential elements of coherence through re-bundling we believe that the six essential value chain transformations we introduced in Chapter 1[17]- the **Six Platform Plays**—provide a good lens (Table 3.1).

According to our observations, these same six platform plays are indeed playing not only outside the organization—through aggregation theory and marketplaces as an expression of re-bundling value, resources and contributions around a specific problem to be solved, a value proposition—but also inside the organization. Indeed, this dynamic of applying internally the same process of unbundling and re-bundling is an expression of the fractal nature of the phenomenon (i.e. the

need to have a networked organization to be able to interact with a networked world—essentially Conway's law) but also of the increasingly nonsensical idea that we can define altogether a boundary of the organization, therefore an inside and an outside.

Our conviction that substantial overlap exists between how the Six Platform Plays play out on the market and how they play out inside an organization is based on our understanding of leading organizational models such as Haier's Rendanheyi, or Zappos customized and P&L imbued Holacracy variant[18]—as well as seen in the practices that some leading and relatively vertical scale-ups such as Uber have applied to ensure growth (see Chapter 1).

As an example, both Haier and Zappos, but similarly other leading companies such as Morningstar, empower small teams to produce and consume specialized value (PP1, PP2) by unbundling the micro-entrepreneurial unit (a team in Haier, a Circle in Zappos, a single individual in Morningstar) from the more hierarchical structures and enable aggregation of demand and supply (PP6) through internal labor markets. The latter happens in Haier through a bidding process: inside the Chinese giant, indeed all independent Micro-Entrepreneurs can post the types of contributions (jobs to be done) that are looking for in the ecosystem (an "*order*" in Rendanheyi's jargon) and wait for other Micro-Entrepreneurs to "bid" for the order, thus enabling a rather disintermediated labor marketplace structure (see Case Study Box 4 for an overview of Haier's organizational artifacts) vs top down defined roles. Zappos' CFO tool that enables circles to transact financially between each other is another expression of similar patterns[19].

According to the penetration of such a market-based approach to reorganizing the firm's resources, we're seeing powerful identity and reputation systems in play (PP5): a good—albeit very high level—description of how reputation affects Haier's employees' stipend calculation is available on Bram van der Lecq's "No More Ass-Kissing: An Alternative Salary Model"—in a nutshell: "*Entrepreneurs are bidding for potential rewards, not a fixed salary*"[20] and are thus rewarded based on demonstrated performance. Sangeet Choudary also notes the importance of internal reputation systems in an innovative, entrepreneurial organization: "*the more we move towards innovation and micro-enterprises inside an organization, the more we will be relying on internal reputation systems*"[21].

Case Study Box 3.1: Key organizational artifacts in Haier's Rendanheyi model

MICRO-ENTERPRISE	Driven by the need for greater autonomy, since the 2013-2016 period Haier embraced the Micro-enterprise (ME) as the elementary organizational unit based on three essential rights: i.) the right to make decisions; ii.) the right to hire talent; iii.) the right to distribute compensation. The Micro-enterprise is an entrepreneurial, independent unit, that owns its own profit and loss statement and is created by employees. Micro-enterprises are normally conceptually divided into User MEs (customer- facing) and Node MEs (that are providing services to other Micro-enterprises—or enterprises more in general).
SHARED SERVICE PLATFORM	Shared Services Platforms are often former functional departments now compelled to transform into a common platform to provide services to user MEs and node MEs. Shared Services Platforms are also made up of MEs. Its function has changed from management to the provision of services, and its structure has transformed from silo to enabling platform. MEs composing the SSP are normally divided mainly according to functional expertise or geography.

INDUSTRY PLATFORM

The Key Mission of the Industry Platforms (or Sub-field) is to ensure the strategic and harmonized alignment of MEs providing similar products and services. Industry Platforms are coordinated by Platform Owners and normally have very small teams. They should be considered more as "coordination" entities than "production" entities. The industry platforms achieve their role by supporting the different types of MEs with different sets of services and functions. MEs normally get investments from Industry Platforms based on a Valuation Adjustment Mechanism (VAM), aimed at creating above-industry-average performances.

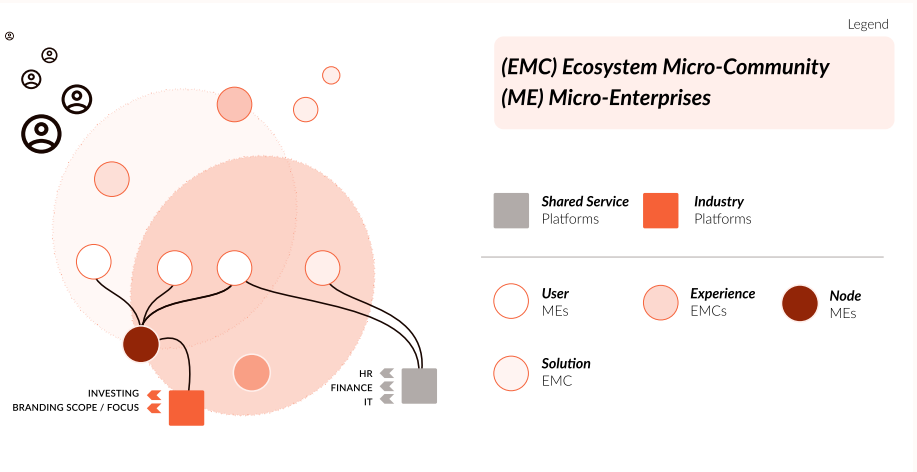
ECOSYSTEM MICRO COMMUNITY CONTRACT

The concept of EMC Contract was born as an open and dynamic structure, to facilitate co-creating value and win-win situations. An EMC is committed to breaking further potential silos between Micro-enterprises in ways that are leaner and faster with respect to what an Industry Platform would do. EMCs create MEs ecosystems that increase harmonized work between otherwise loosely coupled Micro-enterprises, by creating a common goal, around specific user needs. EMCs are created to launch new "user scenarios": they're dynamic contracts led by one ME (or better, by one employee inside and ME, the EMC owner). Normally EMCs are divided into two parts: an "Experience EMC" that is composed of the MEs that are more focused on improving the User Experience, and the "Solution EMC" that is composed of MEs that are providing solutions to the Experience EMC. Once an EMC is started, any ME or external company that feels that it can add value to the EMC, can 'bid' by developing a proposal that shows in detail how they propose to solve the problem, lists the resources needed to achieve the goal and states the share of profits they would require.

VALUE ADJUSTMENT MECHANISM

The VAM-contract-mechanism (common in China[22]) is an investment term sheet that normally defines: (1) the ME's objectives in terms of direct market performance (company value—the value accrued inside the entity); (2) the ME's objectives in terms of addressed ecosystem value, and performance (network value—the value enabled in the ecosystem); and (3) how the ME will receive support for the basic living expenses in the constitution phase, (4) the mechanisms to offer employees access to the option pool to incentivise more "skin in the game", and (5) the mechanism for exit or dissolution.

Figure CB3.1: Visual diagram of Haier's key organizational artifacts



More on this topic:

- Boundaryless. *The EEOO Toolkit v1.0*. "Release note and Brief Guide to v 1.0 Draft (June 2020)". *https://platformdesigntoolkit.com/eeeo-toolkit/#download*

Transaction standardization (PP3) is also playing out big time in mature, networked organizations: if we rely again on Haier—giving its undeniable leading position in this evolution—we can talk about the role that VAMs (Value Adjusting Mechanisms) in standardizing the transactions between the organizational core as an investor and the birthing Micro-Enterprise as an investee, or even more clearly of the role of the EMC (Ecosystem Micro Community) Contracts in standardizing how Micro-Enterprises interact with each other, allocate resources and commit to contractual contributions for success, to bring new user value propositions—or user scenarios as they call it—acknowledging the experience drivenness.

Finally, the pattern of using SaaS (or generally centrally provided services) to substitute complex business processes (PP4) is playing out widely in today's most entrepreneurial and adaptive organizations. Such a pattern is definitely recognizable in Haier's contracting technology platform (such as the EMC, blockchain-based, smart contracts solutions) and ever more profoundly in the idea that parts of the organization are configured as **Shared Services Platforms** providing legal, financial, HR, and other essential services, a pattern that is echoed in Zappos' **Funded Shared Services**[23]. Buurtzorg, another champion of 21st Century organizational adaptability is also famous for its award-winning **Buurtzorg Information System**, recently renamed Burtzoorg Web[24], something that according to the company's website is acknowledged by Nurses as one of "the top 5 reasons for enjoying working at Buurtzorg". The software supports teams in their caregiving, teamwork and communication and connects all the team, providing access to information on performance, interventions and outcomes in a transparent way so that each team can compare their performance with others and grow (resonating with PP2). During the Drucker Forum 2019, Buurtzorg CEO Jos De Blok properly framed this pattern by explaining how the company effectively "transformed bureaucracy into software" and — in this way — succeeded to empower a pervasive network of nurses to facilitate the creation of a holistic healthcare context around the patients, by leveraging on the collaboration with the networks surrounding them. As a further testimony of the failing boundaries between inside and outside of the organization, the solution is now provided as a service to other home care/nursing providers.

Similar patterns are not playing just in complex, ecosystemic organizations (or wannabe so) that have normally relatively open, differentiated ecosystemic value propositions, but also in firms that have a substantial overlap between the organization, the brand and the experiences. In a conversation we already mentioned, Flo Crivello eminently explained how a company like Uber embraced entrepreneurship (through ownerships of the new entities P&L) when in opening new markets, and further provided these leaders with the possibility to use a plethora of support tools, including one giving them the possibility to push new value propositions in the application (**PP4**) for bounded cohorts of users (UberEats was allegedly born this way)[25].

Table 3.1: The six Platform Plays to unbundle the inside of the organization

PLATFORM PLAY 1 (PP1): BRING BACK PERSONALIZATION OF EXPERIENCE FOR USERS.	Empowering small teams to produce specialized value by unbundling the business into a large set of atomic packets of value/services (e.g single individuals in Morning Star, micro-enterprises in Haier, circles in Zappos, etc.)
PLATFORM PLAY 2 (PP2): BRING PRODUCERS ON TOP OF THE VALUE CHAIN	
PLATFORM PLAY 3 (PP3): STANDARDIZATION OF TRANSACTIONS	Requesting and proposing services happen dynamically with high confidence and low overhead through repeatable, multiparty contracting schemes (e.g. VAMs and EMCs in Haier, CLOUs in Morning Star, etc.)
PLATFORM PLAY 4 (PP4): COMPLEX BUSINESS PROCESS EMBEDDED INTO SOFTWARE AS A SERVICE.	Providing access to software platforms, technologies, and functional services to all members of the firm to that teams can focus on what they do best (e.g. SSPs in Haier, Funded Shared Services in Zappos, Buurtzorg Web)
PLATFORM PLAY 5 (PP5): ENABLE LEVERAGING ON IDENTITY, REPUTATION, AND TRUST	Operational reputation achieved by respecting commitments influences teams and individual ability to join collaboration & revenue-generating opportunities
PLATFORM PLAY 6 (PP6): AGGREGATION OF DEMAND (AND SUPPLY)	Enabling internal processes for labor demand and supply through employee markets, bidding (Haier), P2P contracting (Morning Star), open allocation (Valve)

More on this topic:

- Boundaryless. The EEOO Toolkit v1.0. "Release note and Brief Guide to v 1.0 Draft (June 2020)". *https://platformdesigntoolkit.com/eeeo-toolkit/#download*
- Simone Cicero. "Entrepreneurial Ecosystem Enabling Organizations rhyme with 21C Complexity". Medium. Boundaryless, September 15. Stories of Platform Design. *https://stories.platformdesigntoolkit.com/entrepreneurial-ecosystem-enabling-organizations-rhyme-with-21c-complexity-4ed214c0fb0d*

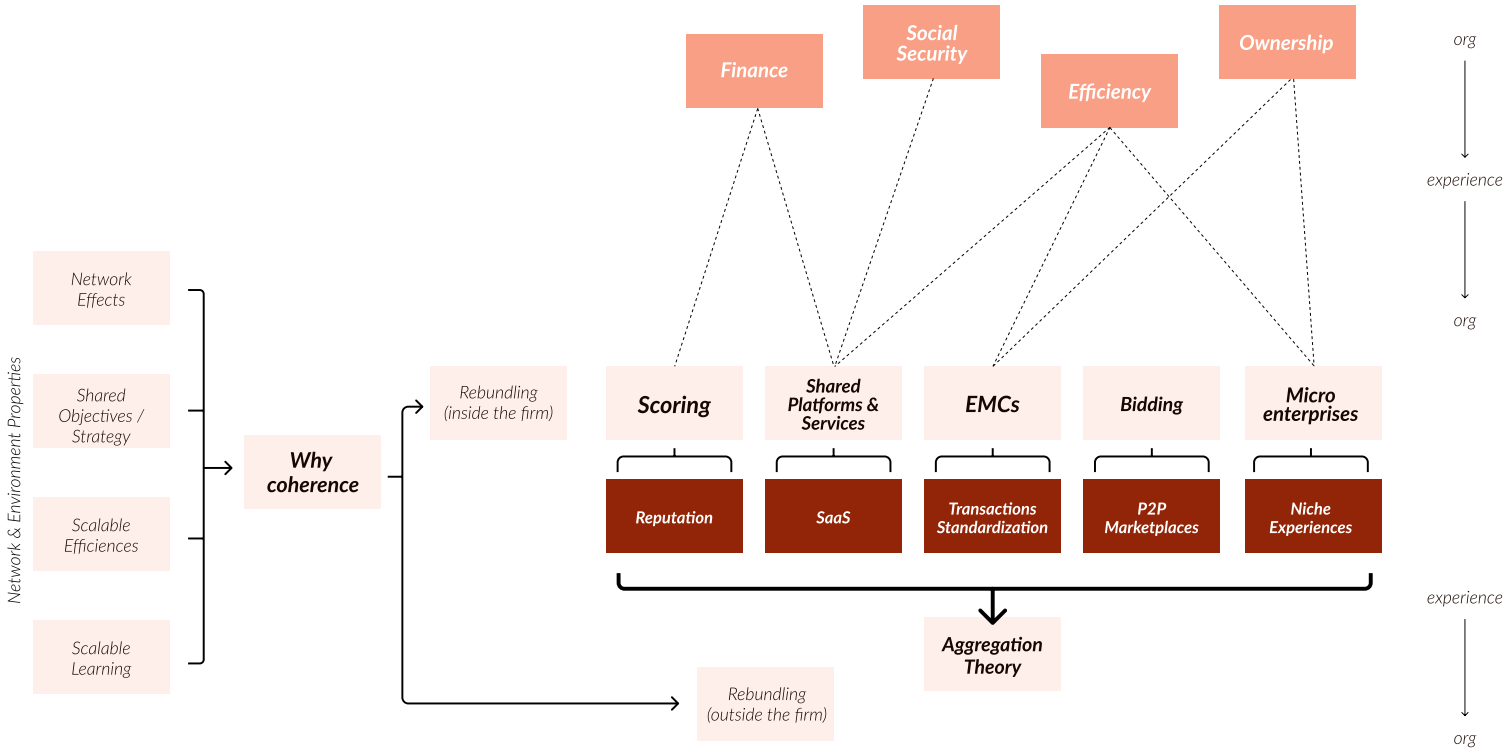


Figure 3.1: Mechanisms of aggregation play
In this diagram we provide a visual explanation of how the mechanisms of aggregation play at both levels, inside and outside the organization

Playing on the full spectrum of functionality and divisionality

Despite fragmenting an organization into small nodes, molding it with its broader ecosystem and facilitating the creation of means of communication through software interfaces — in substitution of a bureaucratic process — is certainly the core part of the role of organizational leaders in an ecosystemic organization, the implementation of such software powered, interface mediated, organizational marketplaces also unveil all sort of data about how the parties in the network interact and the patterns that are affirming.

Ecosystems effectively become "future sensing engines" as in the words of Simon Wardley[26]. As Wardley explains: not only the organization needs to enable coordination between the nodes of the ecosystem but also create tools to allow the players in the ecosystem to innovate with a lower risk of failure. These tools — in the form of enabling blocks and enabling services — will be used to create the new value propositions, sitting on top of the enabling ones in the value chain. As a key and complementary responsibility, eventually, the ecosystem enabling organization must act to standardize the novel value propositions emerging from the periphery, institutionalizing innovations for broader adoption, pushing the ecosystem entities to develop new propositions, on top of the newly standardized ones. The organization's reference ecosystem appears to be the most effective means for an organization to move — as in Lisa Gansky's words — from the No More to the Not Yet[27].

In this other perspective to the **Innovate-Leverage-Componentize** cycle of innovation that will result from this virtuous circle, the organization will transform emerging innovations into either modular elements for the rest of the ecosystem to start again to build upon, or will take over the complexity of vertical integration and create the strictly necessary functional organizational structures for the production of more "industrialized" or "curated" experiences that may need management cultures, processes and infrastructures that don't necessarily overlap with a loosely coupled marketplace-based structure.

This way of looking at the organization provides us with a reinforcement of the perspective that sees continuity between inside and outside: the application of such a mechanism of unbundling and re-bundling is indeed not new and has been thoroughly explained — for example by Ben Thompson in connection with Christensen's so-called "Law of conservation of Attractive Profits". As Thompson explains, the pattern is the following:

> *"breaking up a formerly integrated system — by commoditizing and modularizing it — destroys incumbent value while simultaneously allowing a new entrant to integrate a different part of the value chain and thus capture new value"*[42].

In many examples—Thompson makes the ones of Airbnb modularizing real estate properties and integrating the process of reservations with trust, or Netflix modularizing content and integrating production and subscription management and distribution—organizations first modularize a basic element of the value chain that was previously integrated; then reintegrate an upper layer of the value chain, by controlling it, often favoring aggregation through the attraction of now modularized and externalized parts of the value chain, often in the form of independent ecosystem players (such as property owners in Airbnb or content producers in the case of Netflix), as in Choudary's supply side standardization.

Such ecosystem players will effectively reshape to optimize their interaction within the interface that the organization provides. For example, Rent the Runway and other clothing rental services are now contributing to reshaping the ecosystem around fashion design, as designers become less focused on getting their clothes into department stores than to distribute them through such rental and subscription-based platforms[28]. A similar pattern has been explained widely by Anna Weiner recently, in her New Yorker Op-Ed "Our Ghost-kitchen Future". In a sector—that of food delivery—that is certainly among the most mature, the process of supply componentization has taken the sector by storm. **Ghost kitchens**, now even hosted in dedicated faceless containers, spun out tens of virtual restaurant brands only living online, and speak about an industry that has gone beyond just optimizing the **underutilized fixed assets** (kitchens) of existing restaurants, offering them more demand that they could serve with the sitting area, but it's now completely **reshaping the business operators**[29] (See Deepening Box 3).

Deepening Box 3.1: Leveraging on Underutilized Fixed Assets (UFAs)

According to industry analyst and investor Kevin Kwok "*Underutilized fixed assets (UFAs) are things with fixed costs that are not being used as much as they could be. They are important because they *can* be used more, and from their owner's perspective all additional usage is free*"[30].

UFAs can play an important role in platform-marketplace potential that existing organizations can tap into, such as through the four key highlights below.

1. Unlocking early markets

UFA boost to building the supply side of marketplaces in the early stage: pure potential energy sitting there.

2. Preferred Pricing

Any money these assets make turns into profit (as they are already paid) = much lower cost of acquisition = savings that can be passed along to consumers

3. Latent supply

Once a new underutilized fixed asset is identified, growth can be rapid because there is so much latent supply of the asset initially sitting unused

4. Once tapped, hard to replicate

As they are a finite source of supply, it's hard for new competitors to replicate once they've been discovered and tapped.

More on this topic:

- Kevin Kwok. "Underutilized Fixed Assets". Kwokchain, January 23, 2020. *https://kwokchain.com/2020/01/23/underutilized-fixed-assets/*

In this recurring pattern, organizations first modularize a specific part of the value chain (inventory in the case of direct to customer marketplaces, teams able to produce entrepreneurial ideas for market-facing innovations in the case of Haier's or Amazon's organizational structure) providing clear rules and interfaces for engagement. Later, as new behaviors emerge from independent ecosystem players that create something radically new that attracts customers and needs to be scaled-up, these innovative propositions are integrated vertically into the platform's core set of services and componentized.

As an example, Airbnb captured an emergent behavior of co-hosting among its users (third parties managing properties in the place of busy hosts) and successfully vertically integrated a set of tools for co-hosting in the platform both: providing a more consistent experience, and further modularizing the co-host role for better scalability. Similarly, Haier Micro-Enterprises sometimes scale up so big and quickly that surge to the role of "platforms" taking over the responsibility to functionally integrate parts of the services enabling further their reference ecosystem of third parties, including other micro-enterprises that are still in earlier stages of maturity[31].

It appears, therefore, that a **modern ecosystemic organization needs to be able to play on a full bidimensional spectrum of management and organizational models** from customer focus to ecosystem services, from modularized to integrated products, from radical divisionality (such as with Haier's Micro-Enterprises and Amazon's two-pizza teams) to functional integration in the form of supporting platforms providing basic services such as scalable manufacturing or HR, like in Haier's case.

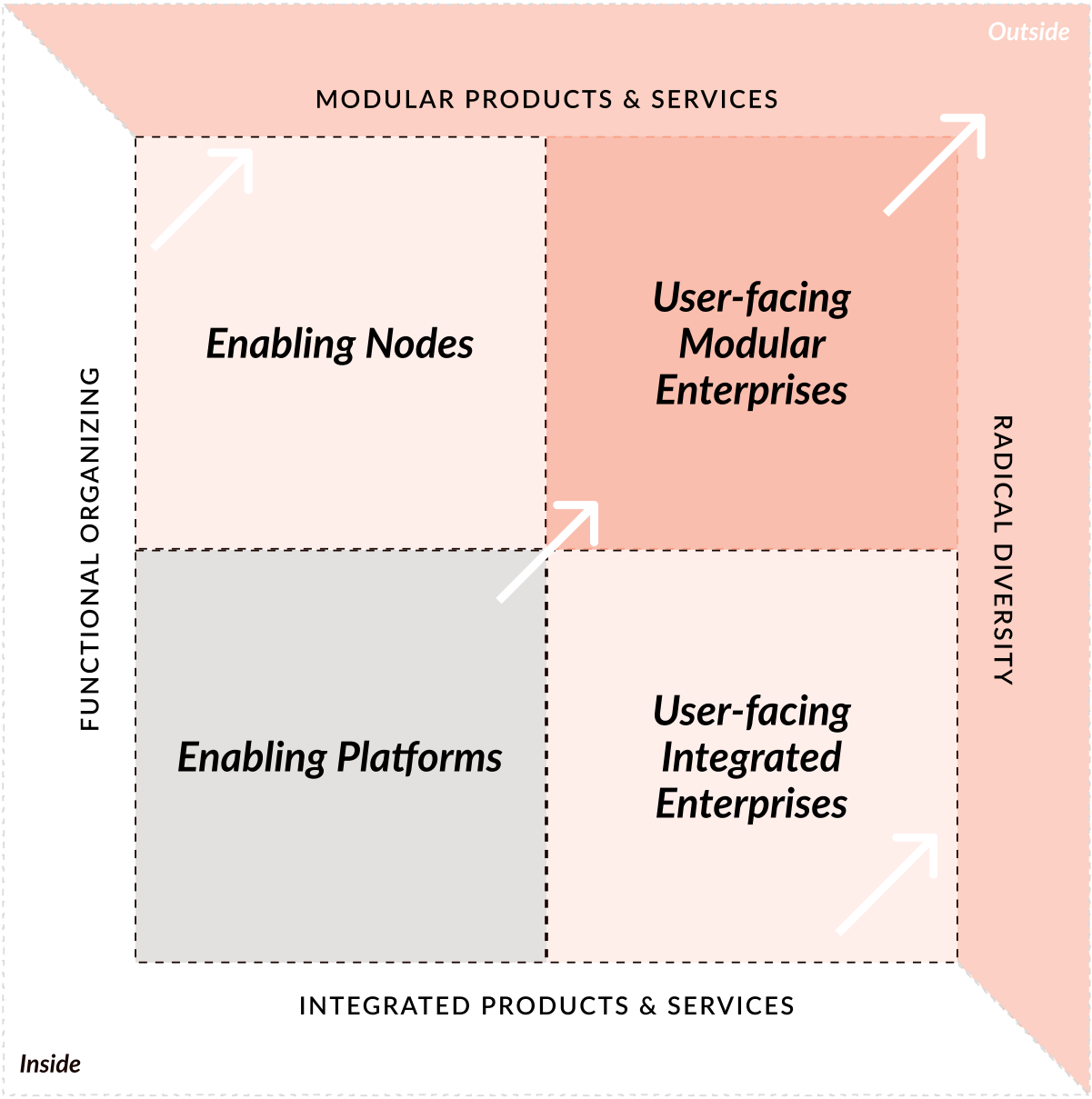


Figure 3.2: Radical Divisionality and Functional Organizing

Modern ecosystemic organizations need to be able to play on a full bidimensional spectrum of management and organizational models from customer focus to ecosystem services, from modularized to integrated products, from radical divisionality to functional integration in the form of supporting platforms providing basic services such as scalable manufacturing or HR.

The impacts of such a transition towards divisional organizations and more modular products (and services) may be far-reaching. The covid19 outbreak seems to have exacerbated the speed of change but needs to be framed as a harbinger of times to come with **unpredictability becoming a structural aspect of our economies**. This growing unpredictability seems increasingly hard to manage by a traditionally functional organization.

Functional organizations (where profit and loss are centralized and units are distributed according to key support functions such as Marketing, HR…) are great at producing "integrated" product experiences: this kind of companies have evolved in the industrial age and can ensure coherence more easily when needed, thanks to vertical chains of command. When product management nails it, functional organizations can bring innovations to the market not only quickly but also with a relevant quality of experience.

On the other side of the coin, their success often protects pockets of inefficiency, technical debt and bureaucratic structures just because the vertical integration of their products and services effectively impedes competition from happening at any of the product layers[32].

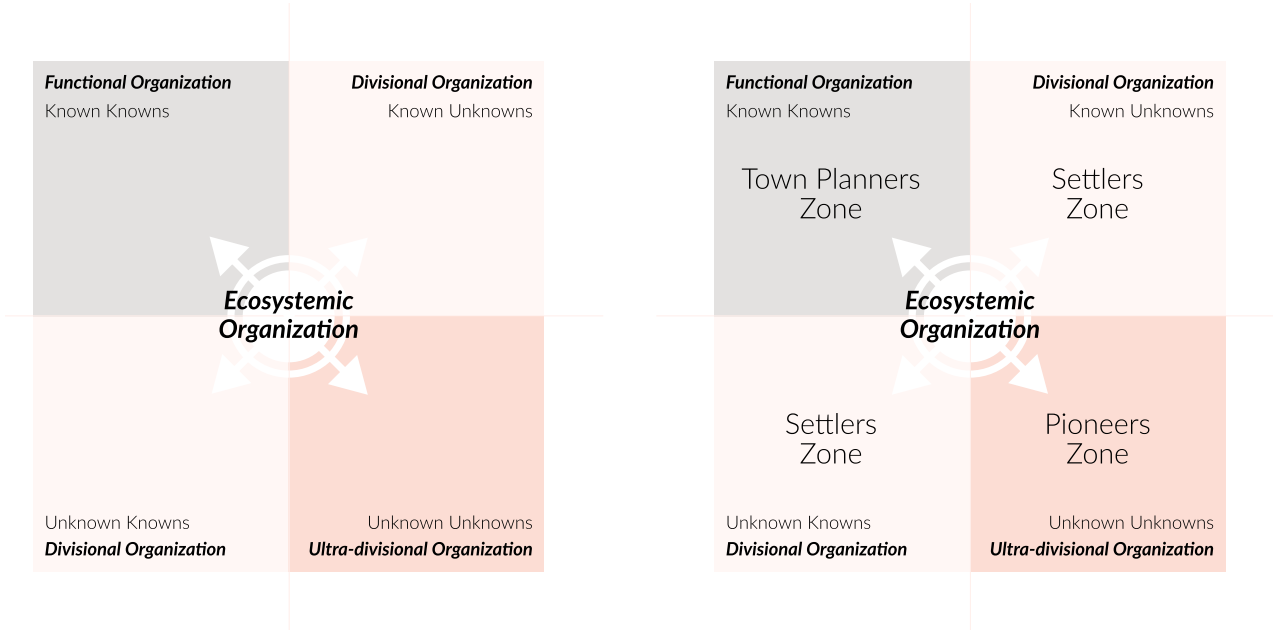


Figure 3.2: Ecosystemic Organizations can play all models

Growing unpredictability seems increasingly hard to manage by a traditionally functional organization. Emerging trends of organising have pushed organizing towards more networked structures with smaller, networked divisions whose interactions are mediated through different types of artifacts, able to play all models to some degree.

Functional organizations and integrated products might be — in light of this — more fragile to rapid and continuous change, due to unpredictable phenomena that may cause supply chain or value chain disruptions or even just deep — sometimes unexpected — behavioral changes. To build more antifragile capabilities in society, the economic paradigms seem to be starting to shift back towards more locally-redundant, and more unbundled business processes where open interfaces abound, pieces and players are more interchangeable and continuity of service can be ensured more easily during disruptions thanks to broader **composability**. Functional organizations, with their need to vertically integrate, protect, and control the whole chain may fail to keep their organizational structure sustainable over the long run in such a context, due to the constraints and rigidities that they accumulate[33].

Despite proving to be more adaptive to local and contextual conditions, more flexible and more organic, even organizations that are divisional but with substantially large and bureaucratic "divisions" may end up suffering the same adaptability issues. Emerging trends of organizing have — as we've seen in this chapter — pushed organizing towards more networked structures with smaller, networked divisions whose interactions are mediated through different types of artifacts, normally providing enabling services (platforms). To some extent, such a direction of evolution for the organization can be seen through the lenses of David Ronfeldt's seminal work on the TIMN (Tribes, Institutions, Markets, Networks) framework[34] as these four stages are mirrored into the theory of the firm. As society transcends markets, and networks take hold as the main creation, production and governance means — a manifestation of the maturation of the information age — human organizing, in interplay with its changing context, is embracing the network structure.

The trend that brought us networked organizational artifacts inside the same firm, is now starting to point out to a new direction that goes beyond the single organization towards a widespread

collaboration **between organizations**, at the societal level. As John Hagel explains[35], the evolutive pressure — also due to increasing rate of change and asymmetric risks that can quickly reshape markets — will push an organization's customer (or more broadly, a user) to look for flows of value creation that go beyond a specific vendor, beyond a specific organization and reach the possibility to create value with anyone, everywhere. This will also, in turn, push the entities connected to the ecosystem on the production side to **shapeshift** to remain able to produce value in exceptional times when markets are re-shaped in an unpredictable way: the just explained case of the dark kitchens emerging to serve customers without a "front-end" publicly open shop in the verge of Covid-19 outbreak seems iconic of the change[36].

EEEOs as tools to respond to the changing (risk) landscape

An outside-in driven — organically entrepreneurial but emergently coherent — organizational design more aptly allows firms to face the exponential societal dynamics and the market disruptions we are currently living in. By way of example, Haier proved to be more resilient while facing the pandemic compared to other industrial age incumbents. Already in February 2020, the Chinese manufacturer returned to fulfill 99.8% of its orders, with some 60% of manufacturing taking place outside of China. In the meanwhile, companies like Toyota, Hyundai, and General Motors shut down production plants due to the lack of irreplaceable parts from China[37].

Part of the explanation for a company like Haier's seemingly "antifragile" qualities is that it is much easier for an organization based on network of loosely coupled units to let pieces of the organization die by creative destruction and — at the same time — to create new ventures that can rapidly organize around emerging opportunities or deal with growth with the required complexity that the new business landscape requires.

As we've seen, most of the growth pockets available today—the 80% of the market that still needs to be reorganized through the internet and digital solutions, circa 8T$ in the US alone, according to Benedict Evans[38]—are related indeed to smaller and smaller (verticalizing) but even more interdependent and valuable niche marketplaces, as outlined in chapter one. Besides the verticalization, it's also clear that further fragmentation comes due to other reasons: some certainly lie in the increasingly different approaches to internet policy-making—witnessed at US, EU and China level—that we have already introduced in Chapter 1. As brilliantly pointed out by Nicolas Colin and Benedict Evans:

"We've lived with an illusion that digital markets will always be global. And now we are realising that those markets are regional or even national. And I think we are witnessing the beginning of companies adapting their strategy to this new understanding of what it's about to compete across several geographies in the digital economy"—Nicolas Colin[43]

"In the past, the internet sort of ran on American rules by default, and now it won't […] now you have different regulators applied rules, and now you have […] to comply with whatever the toughest laws are".—Benedict Evans[44]

On top of the political reasons, market fragmentation will also result from a growing set of unfolding risk factors due to the exponential social interconnectivity we've been living in, through the last 20 years of globalization: a dynamic that is now generating a bounce back to social production systems characterized by lower interconnectivity, as highlighted in the previous chapter. As pointed out by complexity scientist Joe Norman, decentralization of economic structures and social systems (markets, supply chains, civic institutions) is one of the means of winding down the possibly calamitous, cascading risks we are increasingly exposed to, due to the global interconnectedness of the human techno-sphere[39].

The growth pattern needed is therefore a kind-of-fractal and self-organized way to grow, achieved by designing **architectural constraints** more than by directly managing teams and dictating objectives, what Dave Snowden calls an "internal scaffolding" vs an external one[40].

In this sense, it may be particularly useful to frame the potential of ecosystems to thrive in the increasing complexity of modern society through **Ashby's law of requisite variety**. According to British psychiatrist and pioneer in cybernetics W. Ross Ashby, for a system to be stable, the number of states that its control mechanism is capable of attaining (its variety) must be greater than or equal to the number of states in the system being controlled. That explains why industrial models aiming to reduce complexity—being much more apt to deal with the "complicated" than the complex—struggle to cope in the current landscape.

Deepening Box 3.2. The Entrepreneurial Ecosystem Enabling Organization in three key dimensions

As of late 2020, while we are still at a very early stage of development of the Entrepreneurial Ecosystem Enabling Organization (EEEO) abstraction, we can already outline what seem to be three key dimensions of an EEEO by putting those features in contrast with more traditional models or organizing.

Basic organizational structure

FROM	TO
monolithic, functional organizations	**micro-enterprises interconnected by contracts and supported by enabling structures**

An EEEO is generally made of small, entrepreneurial independent units, most often characterized by their own profit & loss statement. To ensure coordination among otherwise competing units, the EEEO adopts two main strategies:

- **Common service platforms**, provide a shared set of enabling foundational services (most often and at least Finance, HR, Legal, and IT)
- **Dynamic contracting processes** provide the capability to create many-to-many win-win collaborations among the parties involved in enabling new user-driven scenarios.
- Budgets are distributed by a **dynamic labor marketplace**, as each micro-entrepreneurial team can fill a specific request from other units

Examples:

Shared Platforms: At Zappos, the so-called "founded shared services" function by superimposing an extra % cost on the circles that need human resources support.

Dynamic Contracting: Haier's Ecosystem Micro-Community Contracts allow many micro-enterprises to commit to the realization of new user scenarios and to define how profits will be distributed across the value contributors programmatically.

Salary and Incentives

FROM	TO
top-down defined missions and salaries	**user-driven pay**

In EEEOs workers running the micro-enterprises only have partially centrally-set salaries and see part of their pay linked to customer-facing and outcome-driven value creation objectives: this dynamic creates self-set, market performance-dependent salaries and variable pays. To do this EEEO largely abandons command-and-control and manager-led schemes to allow for self-organized, self-employed, micro-entrepreneurial teams to:

- **create their own strategy**;
- **manage their hiring policies** and set their own value distribution agreements;
- **allow for ample autonomy for what concerns leadership** roles inside micro-enterprises.

In the most advanced contexts, employees are encouraged — sometimes obliged — to co-invest in organizational ventures and become self-motivated owners.

Examples:

A compounding salary formula: In Haier (in China), the basic salary is only set to cover the legal minimum salary, thus prompting the employee to continuously "bid" for new opportunities on shared internal platforms, where items of contribution (called "orders" in the case of Haier) are created and shared.

Profit sharing: In contexts like Zappos, every employee has her own centrally, HR-defined pay, although she can contribute to (or create) many entrepreneurial circles (derived from the Holacracy heritage) to produce additional profits that will be redistributed to circle members according to a 50/50 rule (50% goes to group shareholders, 50% stays within the team).

Gamification: At Whole Foods Market – Each store has full autonomy regarding product selection, pricing, hiring, marketing. Salaries, operating and financial data are provided transparently in the intranet and used as a gamification dynamics and learning engine across teams and stores. Stores are profit & loss centers measured on productivity. With freedom comes accountability, as, every four weeks teams that exceed a performance threshold are assigned a bonus in the next paycheck.

Investments and Strategy

FROM	TO
management defined arbitrarian value propositions	**prioritized investments areas and user-driven scenarios**

EEEOs remove rigid boundaries between the inside and the outside of the organization:
by adopting radical open innovation strategies such as user-led idea crowdsourcing, innovation crowdfunding, validation through pre-sales, and more: **micro-enterprises based on such user-insights are heavily praised**;
by making it easy for outside to cooperate with internal actors: contracting aimed at creating new user scenarios is normally **open for external actors**, and external entrepreneurs can pitch to create new micro-enterprises;
investments in an EEEO are aimed at supporting entrepreneurial efforts to create new micro-enterprises or coalitions of micro-enterprises missionized at addressing new, market-validated user scenarios: **organizational development and growth is mainly user scenario-driven** and investment-based (investing in new entrepreneurs and ventures) instead of management-driven and based on the creation of new, often bureaucratic, structures that vaguely seem to fit for new market explorations.

Examples:

VAM Contracts: in Haier, investments are made by field owners through a system of "investment platforms" that cater to different industries and areas, where the organization is actively looking for opportunities to expand organically. Contracts state the incubated venture expected outcomes, rules for options plan access, and more.

Organic choice – Valve famously has no management or reporting structure. New employees aren't told what to do: every new hire is instead expected to decide which projects to join or create and which teams to collaborate with. With no bosses, performance is evaluated by the colleagues and the initiatives individuals choose to bet on. There may be no management, but surely there is leadership.

Not leadership based on control and long-term forecasting but on the belief that leaders should be servants, helping teams to overcome obstacles and maximize their contribution. In this environment, strategy emerges as the fluid combination of multiple collaborative experiments whose value is determined by the market. In a sense, every employee picks the future of Valve with its feet.

More on this topic:

- Boundaryless. The EEOO Toolkit v1.0. "Release note and Brief Guide to v 1.0 Draft (June 2020)". *https://platformdesigntoolkit.com/eeeo-toolkit/#download*
- Simone Cicero. "Entrepreneurial Ecosystem Enabling Organizations rhyme with 21C Complexity". Medium. Boundaryless, September 15 2020. *Stories of Platform Design*. *https://stories.platformdesigntoolkit.com/entrepreneurial-ecosystem-enabling-organizations-rhyme-with-21c-complexity-4ed214c0fb0d*

What you need to know: the *No More* and *Not Yet*.

No More

The very existence of the bureaucratic, functional, organization is called into question due to plummeting transaction costs, unbundling of education, and unbundling of benefits (among others). **#PrivateOrgs #PublicOrgs**

In arenas with capital intensive infrastructure, evolution is pushing infrastructural layers towards broader consolidation and componentization, moving away from integrated value chains. **#PrivateOrgs #PublicOrgs**

While many younger companies (for example software development companies or other tech companies) are used to having people work remotely and asynchronously, for many more traditional players, the new situation created by the pandemic radically changes the way work is organized. This is likely to have impacts on the very shape of organizations, beyond remote work, towards more distributed work. **#PrivateOrgs #PublicOrgs**

The 1 firm—1 market relationship (typical of the industrial age) and most of all the idea that one industrial firm can explore many markets (the promise of the first decade of platform thinking with the narrative of a centrally governed firm that could explore many opportunities thanks to platform thinking) is starting to fade. **#PrivateOrgs #PublicOrgs**

Not Yet

Individuals and small teams (micro-entrepreneurial units) have broader and broader capabilities thanks to technological developments; knowledge and learning have been (or are on the verge of being) almost completely unbundled from the traditional paths to education. **#PrivateOrgs #PublicOrgs**

Many traditional infrastructures (e.g. telecommunications, financial services, trade and logistics) are becoming more easily accessible to small micro-entrepreneurial teams and the industrial Internet of Things further enables componentization of physical assets, combining online and offline worlds in networked value chains. **#PrivateOrgs #PublicOrgs**

To be able to thrive in a truly post-industrial, networked ecosystems' world, the organization itself needs to transform in an ecosystemic way. Such a structural decision to break down the organization into small, autonomous teams (e.g. like Amazon or Haier did)—can bring about the substantial equivalence of internal and external units with regards to the contribution to the business model, wiping out organizational debt. **#PrivateOrgs #PublicOrgs**

Where markets fragment and the organization needs to fragment to be able to echo such a new structure of opportunities, we're seeing "Many markets-many firms" relationships. **#PrivateOrgs #PublicOrgs**

Companies composed of networks of loosely coupled entrepreneurial teams empower micro-units (or individuals) to evolve, gain reputation and trust, and often organize through intelligent use of SaaS to replace cumbersome bureaucratic processes. #PrivateOrgs #PublicOrgs
A truly ecosystemic organization also needs to be able to play on a full bidimensional spectrum of radical divisionality and functional organizing: from customer focus to ecosystem services, from modularized to integrated products, to functional integration in the form of supporting platforms providing basic services such as scalable manufacturing or HR. **#PrivateOrgs #PublicOrgs**

Links to relevant tools to apply the concepts in this chapter

- **The EEEO toolkit.** The innovation methodology to transform organizations into entrepreneurial ecosystems. Created by Boundaryless – in strict collaboration with Haier Model Research Institute. *https://platformdesigntoolkit.com/eeeo-toolkit/*
- **Platform Opportunity Exploration Guide—An extension to the Platform Design Toolkit** (Interim Update October 2020). released in Creative Commons. This guide will give you understanding on how to use Wardley Maps and to map the ecosystem to which you would like to explore the marketplace opportunities. *https://platformdesigntoolkit.com/opportunity-exploration/*

Further readings and resources to explore based on this chapter

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- Simone Cicero. "Ecosystemic Evolutions". Chapter adapted from Ecosystem Inc. Medium. Boundaryless. 21 May 2020. *Stories of Platform Design*. Freely available at: *https://stories.platformdesigntoolkit.com/ecosystemic-evolutions-22c4a95205fd*
- **EEEO conversations.** In these interviews, we learn directly from the experience of remarkable companies and thought leaders that are bravely walking the path towards self-management. *https://platformdesigntoolkit.com/eeeo-conversations/*

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Chapter 5

"Although responsible use may be defined, advocated, and to some extent required by organizations, it cannot be implemented or enacted by them. It cannot be effectively enforced by them. The use of the world is finally a personal matter, and the world can be preserved in health only by the forbearance and care of a multitude of persons."

- Wendell Berry

Strategy for the 21st Century: (Re) Starting from the Human

How do you draw conclusions after years of action research, months full of conversations, a hundred whitepaper pages, two pandemic waves, and the whole system restructuring we're living through as a consequence? That's the question we are trying to answer in this chapter about a credible approach to strategy in the XXI century.

In the long conversation we held in May 2020 with Martin Reeves, Head of BCG's Henderson Institute worldwide (BCG's think tank on new approaches to strategy and management), we convened that as we use the "s-word" we do it now in lack of a better term that can be used to describe what strategy in the 21st century is really going to be. Certainly, the disorientation we live in must be related to the unquestionable "inflection" point we found ourselves in, acknowledged also in the word of Rita McGrath reported in Chapter 2, or the "nexus" that Dave Snowden pointed out.

We find indeed ourselves, and our organizations, dealing with **success as a "moving target"** as Lisa Gansky called it in the preface to this work. As we acknowledge the state of things, and our living within a new earth system characterized by rapidly deteriorating ecological conditions and radical unpredictability, within a fractured socio-political system that is re-regionalizing - when most of our management thinking has been formed in the full throttle, stable and globalizing world that picked up steam in the nineties - we found ourselves living in paradox, in the "surprise" of revealing the "terrestrial" nature of our industrial societies: as Bruno Latour puts it, we understand that "*another word is necessary to target the goal of landing somewhere after a few centuries of emancipation away from the Earth, toward the infinity of progress* [...] *'Terrestrial' is the name of their surprise and anxiety*"[i].

In this final chapter of the book, we describe five essential ideas for a strategy that measure up with the 21st century: five provocations for organizations and teams that are looking to sustain the profound forces of transformations we are currently encountering and that - with much certainty - ever faster accelerate in the coming decade.

Chapter cover source:
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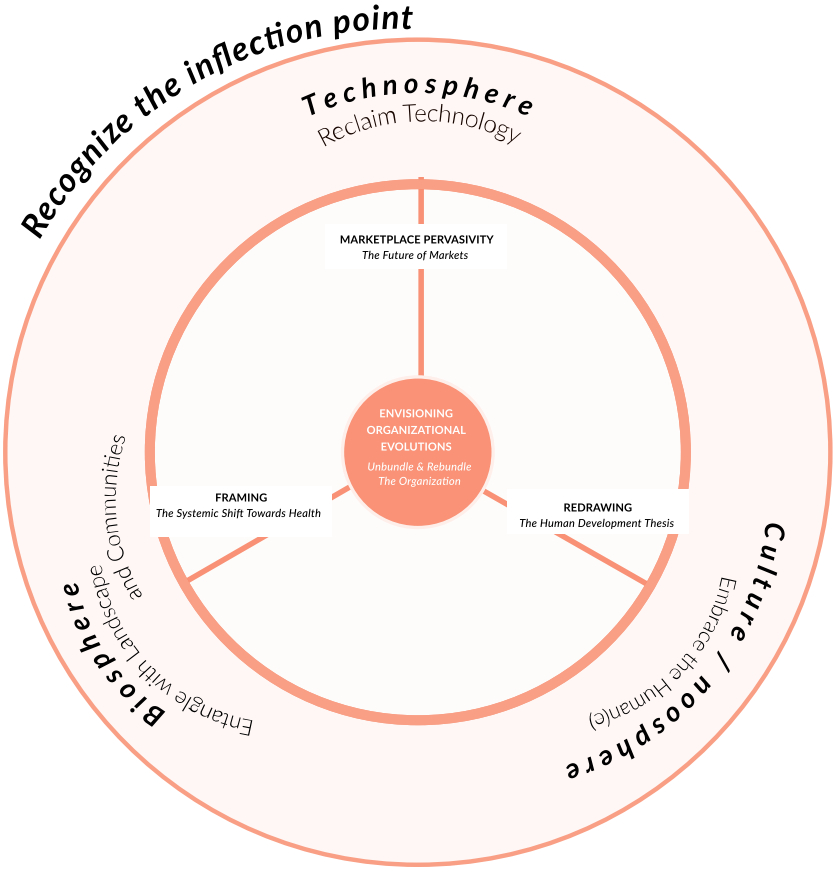

Figure 5.1: Five ideas for strategy for the 21st Century

Recognize the inflection point

As a start, we need to honestly acknowledge as leaders, employees, founders, designers, professionals, citizens, the fact that we're **living through an inflection point:** at this point in time, a change of focus for our organizations is due, and a new posture to strategy is, therefore, **to be discovered.** In a rather provocative article on the HBR earlier on in June[1], Associate Professor of Organizational Behavior at INSEAD Gianpiero Petriglieri touts that, if we acknowledge that - as Salesforce's Benioff said recently - "*Capitalism as we know it is dead*"[2], we must start redrawing a new model from inside our organizations, including our management practices of which strategy is paramount.

But if we're puzzled on the surface, beneath it, clarity emerges from the analysis of the new risk factors we've explored in plenty in Chapter 2: indeed the shift we're talking about appears clearer than one might expect. New key aspects need to gain a central position: first of all **resilience** and **long termism**, accompanied by a turn of focus towards **reinventing most of the essential processes that power our societies.** Health - indeed the seemingly and finally new priority emerging - is an expression of the **nested nature of the systems we live embedded in:** welfare, food, and energy production, the manufacturing of goods and services, all these key processes **cannot be considered as something abstract**, that we can simplify, compartmentalize, and subject to a rational, analytical, categorizing mindset.

As Donna Haraway once wrote: "*Gaia is not about a list of questions waiting for rational policies; Gaia is an intrusive event that undoes thinking as usual*"[3] hinting towards the idea that as we live in an age of **unraveling biosphere** (and of the socio-political systems it contains) we need to recognize that **a whole new kind of thinking** is needed, and slightly adjusting our post-modern, western, rational and pragmatic thinking may just not be up for the challenge.

Indeed, recognizing all the interplays, and the double binds, force us towards profound changes not only in **epistemic frames** with regards to our approaches to knowing, discovery, and trusting information (as primitives of organizing) but also in our **ontological frames**: reflecting on what's the nature of what we're trying to understand in the first place.

This is why we believe that **the future of strategy has a deep sensemaking side:** tools such as Snowden's **Cynefin**[4] - with its inherent way to pushing us to classify the domains of our sensemaking challenges (from the obvious to the complicated, to the complex, and chaotic) and providing us hints on how to behave in front of them; or inter-relational approaches to make sense of inherently t**rans-contextual issues** such as Nora Bateson's **Warm Data**[5] are essential to the 21st century worker (human) and make the equation of 21st century strategy tilt strongly towards developing the right individual capabilities and posture. To some extent, the work of American poet, farmer, and essayist Wendell Berry hinted us in this direction already more than forty years ago when he hinted that the deep processes of societal transformation we've depicted as essential in this paper, as any other social change, can't be fully delegated and enacted by a particularly new organizational design, or structure, or approach to business modeling, but need to spur from the individual capacity to **care in different ways and for different things**, like this chapter's opening quote from his book *Unsettling of America* clearly explains.

Unbundle and rebundle the Organization

But what's an organizational key to the problem, if we agree that we're entering an age of unprecedented unpredictability, messiness, and even…paradox? What are the pillars of a viable organizational strategy that can be enacted in such a context? As we've seen widely in the previous chapters an **unbundling of the organization** is now needed and can't be procrastinated. If **unbundling is taken up strategically and not lived as a passive threat**, in line with what we suggest with the EEEO framework in Chapter 3 (based on the lessons learned by many adaptable and resilient organizations), **re-bundling around emerging challenges** and opportunities becomes much easier. To do this you need what Snowden defined as an organization based on "**internal scaffolding**" a sort of *endoskeleton* that empowers the organization to grow and adapt more easily versus an "external scaffolding" or exoskeleton that may have a hard time growing and optimizing with the continuous changes[6]. In this new emerging organizational context, strategy surely has a deeply different dimension: as GE Appliances' CEO Kevin Nolan noted in a recent webinar we held, you may well end up **not having a (centralized) strategy** and mostly letting the micro-enterprises, the unbundled nodes, figure out their own directly[7].

In a reality of full throttle rediscovery and reinvention, building **Entrepreneurial Ecosystem Enabling Organizations** can be of help as they tend to develop exploratory structures that can probe the environment and get fit with it **at the right scale**[8]. We thus believe that the EEEOs framing offers an interesting testbed for incorporating both enough adaptability, and holding enough complexity to cope with interconnected global risks by adopting an "*outside-driven, organically entrepreneurial but emergently coherent organization design*"[9] that allows the organization to be driven, in its development, by the environment it is embedded within — its own ecosystem. As an example of the paradigm's efficacy in dealing with uncertainty, Haier's organizational structure, upon which the EEEO's initial abstractions build, proved to cope with the pandemic wave of disruption much better than other organizational structures and outcompeted manufacturers whose onus is on industrial age efficiency: as highlighted by Howard Yu and Mark J. Greeven, pointing to the fact that already in February 2020, Haier fulfilled 99.8% of its orders, while others had to stop production for extended periods[10].

While the actual practices chosen by each firm may differ, the dynamics described in the EEEO

collectively represent a quantum leap towards a **new unified theory of the firm-market relationship**, one that is better attuned to the current political, social, and business climate. The practice of developing truly entrepreneurial, ecosystem-centric, empowering organizations is a promising step towards an approach to organizing that is small-scale, outside-in, and it doesn't aim at simplifying complexity but, instead, can "rhyme" with it: in a world where the playing field is in constant flux, following Ashby's law of requisite variety, organizations that can hold complexity at par with their surrounding environment will always thrive better than industrial monoliths.

Creating organizations from the outside-in means letting the nature of the ecosystem dictate the nature of the organization that serves the purpose of developing it. We thus firmly believe that the emergence of new frameworks of organizational design and development — such as the EEEO — together with new enabling composable technologies like those proposed by Commons Stack or Aragon and described earlier in the paper, will support the coalescing of multiple parties around organizing in radically new ways.

If, on one hand, we frame this conversation around the best nature of an organization that can cope with uncertainty, there are other aspects we need to factor in. As pointed out in Chapter 4, a lot of the economic landscape that emerges depicts **new dynamics of collaboration** between and across layers: platforms interoperating through **shared layers**, industrial models that leverage more on **decentralization and shared processes**, and generally a bubbling innovative space *between* organizations, a picture that resembles an overall transition between an age of independent organizations towards an age of inter-dependent and inter-mingling organizing across nodes and layers.

In this context, when dealing with entrepreneurial, and unbundled organizations, drawing the line between what's **in and out** may turn out complex and we're referring not only to the interplay between the organization and the players on the market it is trying to empower, but also the line between different organizations, being them **private** or **public** ones. In reality, these disappearing borders point in the direction of a "multiplicity of publics", where the boundaries between what's private, what's public, and what's open, communitarian, participatory, and self-organized blur almost completely. This evolution will be - as we've seen - bolstered by a transaction cost that continues to dwindle and by an emergent capability to design contracting on **a large, many to many scale** - thanks to further technological improvements such as **DLTs** (Distributed Ledger Technologies).

These new enablers push us further in the direction of what Indy Johar calls the civic economy where old institutional categories might dissolve leading us eventually in what is the age of Networks - as an overcoming and integration of Tribes, Institutions, and Markets (in Ronfeldt's terms), bringing forth a real relational theory of organizing.

Reclaim technology

Indeed, technology-wise, the strategy for the 21st century certainly can't do without finally acknowledging the role that information technology plays in overcoming bureaucracy as the way of organizing the industrial age. As David Ronfeldt and John Arquilla wrote already in the nineties, the Internet was supposed to disrupt and erode "*the hierarchies around which institutions are normally designed*" by diffusing and redistributing power - towards the smaller actors, expanding "*the spatial and temporal horizons that actors should take into account*" compelling "*closed systems to open up*"[11]. Certainly, technology and organizing are now increasingly overlapping ideas, and certain types of organizational designs cannot materially be enacted without materially leveraging on emerging technologies such as the already mentioned DLTs. Haier's EMCs (Ecosystem Micro

Community) contracts - as an example - fundamental to build ecosystem-wide, multiparty contractual agreements would be too bureaucratic if not powered on a smart contracting solution. Similarly, DAOs (Decentralized Autonomous Organizations) built on composable modules for governance, fundraising, investing, and powered by mechanisms to disburse financial incentives to those that run the actual transparent information infrastructure, are seemingly essential for the democratization of complex organizing around networks and commons. The role of technology is - therefore - not just to be framed as a *tool-to-be-used* but, most importantly, it needs to be seen also according to its capability to produce a certain "affordance". Technology lends itself to help us adopt certain kinds of organizational models that may be impossible otherwise. Exactly this capability to, not only, be shaped by us but also shape us in turn, makes the need to develop a more intentional and grounded relationship with technology a pressing issue, especially acknowledging its universalizing potential. Projects such as Holochain - with its aim of creating an agent-centric framework for distributed apps - naturally resonate with this need to imagine technology as **optimized around new constituents**, and enable them to master technology as **embedded in its ultimate context**, and not as a way to mindlessly perpetuate that it must either be optimized for the industrial bureaucracies of the 20th century of for their Silicon Valley's platform counterparts. This would mean - as philosopher of technology Yuk Hui puts it - a way to "reappropriate technology by first of all affirming the irreducible multiplicity of technicity", starting from developing an indigenous relationship with it[12].

Deepening Box 5.1: Holochain

Holochain is an open source framework for building fully distributed, peer-to-peer applications (dApps). Its purpose is to "*enable humans to interact with each other by mutual consent to a shared set of rules, without relying on any authority to dictate or unilaterally change those rules*"[13]. Holochain hence allows transforming web apps controlled by a central corporation (e.g. Wikipedia, Facebook, AirBnB, etc.) to a form that people can host themselves, allowing data ownership to stay with users: it's agent-centric. As such, it *"transforms Web 2.0 sites (such as a social network, chat, wiki, collaboration tool or marketplace) into Web 3.0 systems: cryptographically secured and peer-hosted"*[14]. Unlike for example Blockchain technologies, Holochain does not require global consensus, but functions more like an "organism" of networked cells, where changes are stored locally (and shared through a distributed hash table database), and where validation functions more like mutually enforced "DNA" rules.

According to Holochain's chief architect Arthur Brock, Holochain — through its advocacy for local state (vs. global consensus) and agent-centric models (vs. data-centric) — provides somewhat a counterbalance to the universalising nature of technology. If Blockchain could be seen as a monoculture, Holochian might be seen as the ecology of technology-enabled, decentralized organising and, seen through the metaphor of carriers, Holochain entails "unenclosable carriers"[15]: communication that cannot be captured by third parties. Coordination through **"unenclosable carriers"** enable decentralized organizing at scale, however, the question of coherence in such systems is a still largely unresolved one - and a sweet spot in the *Not Yet*.

More on this topic:

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- "Rewiring the technology to rewire the way we organise — with Arthur Brock". Medium. Boundaryless, April 6, 2020. *Stories of Platform Design - Boundaryless Conversations Podcast*. *https://stories.platformdesigntoolkit.com/rewiring-the-technology-to-rewire-the-way-we-organise-c7bcd42c6d85*
- Arthur Brock, "Unenclosable Carriers and the Future of Communication". Medium. December 19, 2020. *Holochain*. *https://medium.com/holochain/unenclosable-carriers-and-the-future-of-communication-4ac6045ac894*

With their inherent technologically aware and outside-in nature, platform strategies and ecosystemic and entrepreneurial organizations seem to be then the best candidates to fit in this picture of **a technologically powered economy of overlaps**: such organizational artifacts can embrace the ecosystem's perspectives in defining their priorities, have a deliberately post-competitive mindset, aim at whole system actualization, and, define clear interfaces for participation overcoming the very idea of having in-groups and out-groups to an initiative. Everybody can join within the constraints that identify the organization.

Entangle with Landscapes and Communities

But besides its ecosystemic nature, the new context of organizing points towards **entrepreneurship** as another pillar: entrepreneurs are needed to explore new niches, to leverage ever-growing technological capabilities, to reinvent the existing brittle economic configurations that are subject to profound reorganization. For organizations, leveraging on the entrepreneurial mindset of their employees becomes crucial. When Nicolas Colin talks about the Entrepreneurial Age, he quotes Roy Bahat (managing partner at Bloomberg Beta), pointing out two essential things that companies need to provide to attract entrepreneurial talent: **stability** and **dignity**[16]. Oftentimes, failure to provide either one will lead to loss of employee engagement, or people leaving to try their luck elsewhere. This also rhymes with the stark questioning of bureaucracy that EEEO proponents have long argued, like Gary Hamel and Michele Zanini suggesting that "*turning dead-end jobs into get-ahead jobs — doesn't require new legislation or billions of dollars in public spending. It just takes commitment to building organizations that kindle the spark of everyday genius in each human being*"[17]. Trusting the organization's distributed creativity is certainly one of Haier's CEO Zhang Ruimin's key cultural rules: to move away from what he calls heroic leaderships towards cultivating trust in distributed power and responsibility, to make everyone become their own CEO, to think about humans as ends in themselves and not necessarily as means of an organizational strategy that, indeed, is left to **grow from the edges**, through truly entrepreneurial spirit.

In this context, attracting entrepreneurs to create ventures and create value from inside your organization emerges as the most pressing challenge of organizing at this start of the 21st century. If we come back to the compass we used at the beginning to introduce the three key themes revolving around the rethinking of an organization for the 21st century we can try to articulate the key pillars emerging.

From the perspective of rethinking the relationship between the organization and the **biosphere**, we are left with the need to rethink our organizations as entangled with their environment effectively reintroducing the concept of organizing within its social, and natural contextual constraints. As anticipated in Chapter 2 there's a mounting awareness that - if we act from within a complexity aware stance - our focus as organizational developers, designers, entrepreneurs, and communities needs to switch from hoping for and waiting for coherent, top-down global policies, into regenerating the small wholes that make up our terrestrial society. In terms of organizational priorities and designs, this means we must re-entangles our organizational artifacts with the wholes they are part of, starting from the landscape. The organizations of the 21st century need to be able to function as **regenerative actors** that not only reach steady-state, circular equilibrium but are actively involved in reconstructing environments.

But the key consideration here is: without a deep change in culture, and expectations towards the idea of progress, is there a real change in sight either on a small scale or systemic? Apparently no, but if our current cultural dominating approaches seem to fall short of meeting the real challenges facing humanity in the 21st century, the question is "what new organizational ethics exist that are more recognizant of the "embeddedness" of our human system"?

In the process of writing this whitepaper we met with Associate Professor of Business Ethics Alicia Hennig, we've been able to explore the differences in mindsets that Chinese philosophical tradition brings to organizations versus that of the western one, mainly based on the Christian protestant ethic. Daoism, one of the two main religious and philosophical Chinese traditions with Confucianism, seems to offer a set of very significant frames of reference: first of all its **three-way system** that aims at achieving harmony not just between the **human** being and the **cosmos** (or "god") but also with **nature** as it encompasses and embeds the human. Furthermore, also the three so-called Daoist treasures of frugality, humility, and compassion resonate with the emerging discourse around complexity aware approaches to systemic challenges: first of all that **adopting epistemic humility** (acknowledgment of the limits of cartesian thinking in facing complexity and of the importance of the **precautionary principle**), and secondly the idea of strategic disconnection as a way to deflate otherwise cascading systemic risks due to the interconnectivity of our networks.

We find fascinating how this idea of social systems thriving on embeddedness, limitations, and equilibrium (versus the dominant idea of endless growth and self-sustained and unquestioned technological development) rhymes with the concept of **holobionts** as explained by Italian scientist and renowned collapsologist[18] Ugo Bardi. As Bardi reconnects this idea with the work of legendary American biologist Lynn Margulis, he explains essentially how a new social development project for the 21st Century needs to be one that starts from acknowledging the need to co-exist with our Gaian "holobiont": "*while organisms search for perfection, holobionts strive for the good enough*", Bardi explains[19].

An eminent image of this idea of frugal, "good enough" approach to co-existence is also well evoked in, and resonant with Chapter 80 of the seminal book of Daoism, the Tao Te Ching[20]:

"Reduce the size of the population and the state.
Ensure that even though the people have tools of war for a troop or a battalion they will not use them;
And also that they will be reluctant to move to distant places because they look on death as no light matter.

Even when they have ships and carts, they will have no use for them;
And even when they have armor and weapons, they will have no occasion to make a show of them.

Bring it about that the people will return to the use of the knotted rope,
Will find relish in their food
And beauty in their clothes,
Will be content in their abode
And happy in the way they live.

Though adjoining states are within sight of one another,
And the sound of dogs barking and cocks crowing in one state can be heard in another,
yet the people of one state will grow old and die without having had any dealings with those of another.

And beauty in their clothes,
Will be content in their abode
And happy in the way they live.

Though adjoining states are within sight of one another,
And the sound of dogs barking and cocks crowing in one state can be heard in another,
yet the people of one state will grow old and die without having had any dealings with those of another."

Chapter 80 of the Tao Te Ching
- as translated by D.C. Lau -

This sense of simplicity, or "going back to the basics" that we explain, resonates across Eastern cosmology and the science of complex-aware biology, pushes us to decouple our organizations from mainstream notions of **success, competition, convenience**: this point us in the direction of an economy of essentials, or that of what Tessy Britton, Chief Executive of Participatory City (introduced in Chapter 4), calls "Universal Basic Everything", the idea that "there are systems, tangible and intangible, that we need to survive and thrive" and that "*these relationships and friendships, products and services need to be co-created, accessible to everyone, open source, simple in their design, circular in their production*"[21].

Embrace the Human(e)

A new human development thesis needs to depart from the failures we've seen in the past decade while, in the words of Indy Johar, "*the machine development thesis has escalated while human development one stalled*"[22]. We have witnessed numerous bureaucratic failures in the last decades and, possibly, we're now living through the most important one. The Covid-19 pandemic (which was a perfectly expectable event too often depicted as a *black swan* by incompetent and bureaucratic institutions) is having a tremendous impact due to the lack of capability of such institutions to deal with the exponential risks, amplified by a techno-sphere with ever-lower transaction costs that interconnects the world at large, and all of us.

By achieving near-zero transaction costs, autonomous technological development took over human-led managerial processes leaving existing governance models with no capacity to "govern complexity": we can spot such a pattern in the autonomous fractional trading algorithms that have substantially prevented shareholders from expressing their thoughtful control on investment choices, or also on the impact that algorithms powered platforms had on our cities, or information systems, now rigged with dramatic polarization.

Existing institutions, both public and private, can create the conditions that allow them to become "*antifragile*" by promoting holistic capabilities to deal with risk. Such a renewed human development thesis means that humans need to stop being "managers of process" and instead be equipped with the right psychological capabilities to make sense of the (post-industrial) world: creativity, empathy, listening, epistemic humility, collaborativeness. These will make the organization ready to continuously learn and adapt to the regularly unexpected that will characterize the upcoming decades.

If we will succeed to design these - as Reeves puts it - "hybrid organizations, which combine the ingenuity of human beings with the very rapid correlative learning capabilities of machine learning"[23], these organizations will need to feature deliberately reflective spaces to allow humans to ponder, and to make sense, expressing control over an otherwise potentially destructive rush towards the next technological advancement.

At the end of the day, a strategy for the 21st century can only start by acknowledging that "every human is a phenomenally, powerfully intelligence machine, yet we all treat them as bad robots who won't get it"[24]: only by embracing the idea that interdependent multitudes can run our future organizing, we can really start writing a new chapter.

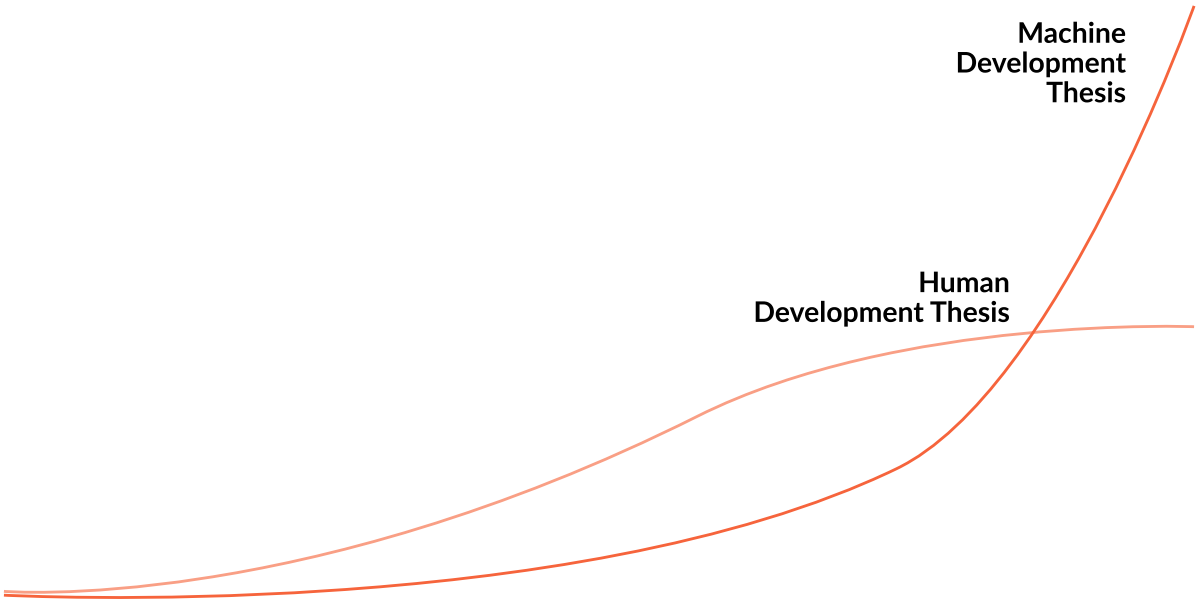

Figure 5.2: Human vs. Machine Development

Closing words

The directions provided here in this final chapter and in this long paper are meant to be provocations: nudges to break through the frames that brought us all here. Frames that - too often - have been design's, management's and leadership's comfort zone: the place where we turned away from conundrums, and problems in the hope of someone serving us the right solution, ready to be implemented, not just in products or services, but also in organizing, and ultimately in thinking.

In the coming months, we'll be prototyping new design and strategy tools, some already in the making, to help practitioners to restructure the meaning they seek in organizing and the priorities of their organizations. This new "salience landscape" will eventually help practitioners enact new behaviors, grounded in a stronger situational awareness and being more grounded in what this age of turning points is asking of us: to go beyond the frames of the industrial age, towards a new and regenerative platform-ecosystem age.

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Glossary

Aggregation: a strategic technique used to control a market by aggregating the demand side and by controlling essential elements of the value chain (e.g. the marketplace interface, the reputation…) and to generate network effects.

Aggregators: players that connect producers and consumers - becoming "trusted advisors" and "talent agents" and thrive by generating network effects.

Composability: a system design principle that deals with the inter-relationships of components. A highly composable system provides components that can be selected and assembled in various combinations to satisfy specific user requirements (source: https://en.wikipedia.org/wiki/Composability). This term is normally used to describe the capability of the components of one or more services to "combine" to create new recombinations.

Data portability: the capability to save and transfer - or just use common sources of - data from one platform to another.

Data-poiesis: the use of data and Artificial Intelligence to create objects and experiences that help human beings and their societies to perceive and comprehend the complex phenomena of our globalized world, and to use these understandings to promote positive change (source: *https://datapoiesis.com/home/*).

Decentralized Autonomous Organization (DAO): an internet-native entity with no central management which is regulated by a set of automatically enforceable rules on a public blockchain, and whose goal is to take on a life of its own and incentivize people to achieve a shared common mission (source: *https://aragon.org/dao*)

Distributed ledger technology (DLT): A distributed ledger (also called a shared ledger or distributed ledger technology or **DLT**) is a consensus of replicated, shared, and synchronized digital data geographically spread across multiple sites, countries, or institutions. Unlike with a distributed database, there is no central administrator (source: *https://en.wikipedia.org/wiki/Distributed_ledger*).

Fordist bundle: the bundling of major benefits (such as healthcare, work education, welfare…) and the industrial organization.

Fractal: self similar, happening at different scales in similar ways.

Ghost kitchens: restaurant kitchens that only exist to provide food on food delivery platforms, often adopting "fake" customer facing brands that remind the idea of an actual restaurant.

Holobionts: A holobiont is an assemblage of a host and the many other species living in or around it, which together form a discrete ecological unit. The components of a holobiont are individual species or bionts, while the combined genome of all bionts is the hologenome. (source: *https://en.wikipedia.org/wiki/Holobiont*).

Horizontal marketplaces: marketplaces that target wide industries (in comparison with vertical marketplaces that target more niche markets).

Infrastructures: players that allow the creation of more and more aggregation strategies, by making essential components and resources (such as computing, logistics, …) cheap and ubiquitous.

Innovate — Leverage — Componentize: the innovation cycle that is normally used by ecosystem players to generate innovations. It consists in a first phase where third party players from the ecosystem create new value propositions by using the features that the platform makes available, then the platform letting them grow widely and monetize these behaviors until it makes sense to provide such propositions directly, shortcutting the ecosystem parties and providing them, at the same time the new components needed to restart the process.

Learning Engine: the set of acupunctural services that the platform owner provides to support the continuous evolution of participants, to help them evolve and thrive in an always changing landscape.

Long tails: In statistics and business, a long tail of some distributions of numbers is the portion of the distribution having many occurrences far from the "head" or central part of the distribution. In markets the idea of long tailed markets explains how - largely thanks to the dematerialization of distribution - it's now possible to have a market of comparable size by featuring many niche choices versus just a bunch of "big hits".

Managed marketplace: a marketplace that attempts to oversee and improve its customer experience by being more involved in the execution of transactions, selection of providers, and more generally most of the steps building up the customer experience.

Marketplace-platforms: a marketplace that also builds ancillary aspects of the platform value proposition such as learning services, enabling SaaS, etc...

Matthew effect: is sometimes summarized by the adage "the rich get richer and the poor get poorer". The concept is applicable to matters of fame or status, but may also be applied literally to cumulative advantage of economic capital.

Multihoming: as a producer, providing your services on diverse marketplaces.

Multi-scale variety: a defining feature of complex systems, that they exhibit nontrivial behavior on multiple scales.

Network effects: the mechanisms by which value perceived by a user joining a certain network grows (in different ways depending on the network type) with the number of users active on that network, normally until a certain "asymptotic" value is reached.

Noopolitik: Noopolitik is an informational strategy of manipulating international processes through the forming in the general public, by means of mass media, of positive or negative attitudes to the external or internal policies of a state or block of states, to create a positive or negative image of ideas and promulgated moral values.

Noosphere: a postulated sphere or stage of evolutionary development dominated by consciousness, the mind, and interpersonal relationships. Used in the paper to signify a collective intelligence largely produced by the inter-relationships that are facilitated by the internet.

Platform shaper: the entity that designs, runs and enacts the platform strategy.

Precautionary principle: a broad epistemological, philosophical and legal approach to actions with potential for causing harm when extensive scientific knowledge on the matter is lacking or is weak. The precautionary principle thus advocates for adopting a cautious approach in situations with high levels of uncertainty and where there is potential for causing harm (source: https://en.wikipedia.org/wiki/Precautionary_principle).

Prescriptive analysis: the capability of providing - through use of machine learning - suggestions on a course of action based on a machine's prediction. Prescriptive analysis capabilities entail suggesting certain decision options to take advantage of the results of the forms of analysis.

Single player value proposition: when a marketplace provides value to each of the users that join, irrespectively of the size of the current user base. A single player value proposition would be appealing also to user #1. As an example, OpenTable provided software tools to manage restaurant bookings by phone, much before that the actual booking marketplace was open to customers.

Transactions engine: a set of well designed contexts-channels where scalable transactions can happen so that the ecosystem can thrive — and value units can be exchanged in frictionless ways.

Unenclosable carriers: refers to communication that cannot get "grabbed" or stopped - or "enclosed" - by someone else other than the original "carrier" of the information. The carrier is unenclosable and thus escapes the ability of someone else to control the carrier (and hence the message) (source: Arthur Brock, "Unenclosable Carriers and the Future of Communication". Medium. *https://bit.ly/32xer5F*).

Vertical marketplaces: marketplaces that target niche markets (in comparison with horizontal marketplaces that target wide industries).

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