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SUPER-FLUIDITY: CREATING AN ORGANISATION THAT FLEXES WITH THE MARKET

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Centre for
**Chinese
Management**

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Super-fluidity: Creating an Organization that Flexes with the Market

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Internal organizations are not keeping up with the pace of changing customer needs, advances in technology and the growing threat from disruptive business models. Periodic restructuring is no longer enough. Organizations need to be radically redesigned.

The Leading Question

How can organizations be designed to flex to keep pace with today's fast-changing markets?

Findings

- More and more organizations, including manufacturers, need to be re-built around evolving and ever-changing customer needs
- Functional departments must be downsized and replaced with flexible service platforms
- Senior management should be regularly rotated through new roles
- Organizations should promote a culture that continually questions whether it is changing fast enough.

Imagine trying to drive an ordinary automobile across a swamp. Chances are you would soon find yourself stuck in the mud. The same thing happens when your organization, streamlined to succeed in one set of market conditions, encounters unfamiliar territory and doesn't adapt itself fast enough. Faced with new customer demands that your organization isn't equipped with the structures and processes to satisfy, it will surely disappoint. When the customer asks, "Why can't I have it that way?", the reply comes, "We aren't set up to offer that". The problem is aptly summed up by the frustrated, 21st century service agent's lament: "The computer says no".

When new, disruptive competitors appear, you need to change your business model. But if your organization doesn't quickly alter everything from individual roles through to performance targets, it will be trying to make money in a new way using the old tools. Organizational stress, burnout and underperformance will inevitably follow.

Faced with the rapid advance of new technologies and the need for new products if the organization can't reallocate resources and innovate fast enough to keep pace, your business risks being stuck in the slow lane. So, ask yourself a simple question: Is your internal organization flexing and reconfiguring itself at the same speed as your market? If the answer is "no," then your company is likely to be suffering the negative effects of a serious mismatch between today's incredible fluidity of markets and technologies versus the rigidity of your internal organization.

One of the remarkable features of competitive markets is their extreme flexibility in response to changing stimuli. Prices, quantities supplied, product specifications, technologies deployed, marketing channels, and even business models all adjust with amazing speed. Witness the fact that, just five years ago, the global recorded music industry still made more than \$10 billion in revenues from sales of physical disks. By 2016 that figure had fallen by 60%, overtaken by digital consumption. Streaming, until recently a niche segment, is now growing at 60% per annum and has passed \$4.5 billion in revenues.² One could also look at the \$500 billion global advertising market, where digital media spending grew by over 17% in 2016, capturing nearly one third of total spending. Traditional broadcast TV, which dominated the market just a few years ago, has slumped to a 38% share of the market. By the end of 2017, digital is expected to overtake

² <http://www.digitalmusicnews.com/2016/04/12/ifpi-digital-revenue-overtakes-physical-for-the-first-time-ever/> Accessed 10 December 2016; <http://www.ifpi.org/facts-and-stats.php> Accessed 20 December 2017.

broadcast TV as the biggest advertising medium.³ But it is not only in the fields of communications and entertainment that markets are transforming at record speed. Innovations in genetic testing are revolutionizing the pharmaceuticals industry. 3D printing is transforming every type of manufacturing from prosthetics to aircraft parts. Generative design using artificial intelligence (AI) is radically changing how new products are created. The sharing economy is disrupting markets from accommodation through to transport. Financial services have begun to be upended by a range of new business models, from peer-to-peer lending to 'robo-advisors', where client portfolios are managed via computer algorithms.

Contrast this with internal organizations, which tend to change at the proverbial snail's pace. How often does your company fundamentally change its structure, processes and job specifications? How often do the people in those roles change, especially among the management ranks? In most companies, these things stay the same for years, even decades. When change comes, it is usually episodic, often in response to the appointment of a new CEO. Is this cycle really sufficient to keep pace with the speed at which customer demands, technology, business imperatives and competitive threats are shifting today?

The answer to this question in most organizations is "no." Yet in recent years, consultants and scholars have paid little attention to structures and reporting relationships as critical enablers (or obstacles) in achieving corporate agility. The focus has been on motivating individuals and improving access to knowledge.⁴ But we believe rigid organizational structures where resources are captive to particular units, hoarding is rife, and knowledge is used as a bargaining chip in corporate power-plays, explain why many once dominant global leaders are either floundering or have disappeared when faced with market disruption. Witness Kodak, Nokia and Blackberry, to name just a few examples. As the rate of change in business environments accelerates, flexing the organization is becoming a matter of survival.⁵ Maintaining alignment between internal structures, processes and key dimensions of the external environment is critical,⁶ in particular, the 'fit' between customer needs and the value proposition that the organization can deliver.

In the past, when customer needs and competitor moves changed only slowly, fit could be maintained through incremental changes in the value proposition, and hence the organizational capabilities, structures and processes that delivered it. Today, many companies face fast-paced change in market demands and a rapid-fire stream of potentially disruptive innovations in technologies, products and business models. As a result, maintaining fit with the external environment requires an organization to have the dynamic capabilities necessary to rapidly sense shifts in customer needs and market imperatives, and to seize the opportunities that arise by continually transforming itself.⁷ This means that the organizational structure, and where and how resources are deployed, must be highly flexible and fluid.

Ten years ago, companies such as Cisco and Microsoft recognized this imperative and started to implement organizational changes to improve their flexibility. Cisco abandoned its linear business structure and replaced it with a system of councils, boards and working groups, made up of managers from different functions. The cross-functional councils and boards were each focused on the potential of different market segments, rather than being organized by product,

³ http://www.nytimes.com/2015/12/07/business/media/digital-ad-spending-expected-to-soon-surpass-tv.html?_r=0
Accessed 10 December 2016.

⁴ See, for example, Knudsen, T & Srikanth, K. 2014. "Coordinated exploration organizing joint search by multiple specialists to overcome mutual confusion and joint myopia." *Administrative Science Quarterly*, 59(3): 409-441.

⁵ Schreyogg, G & Sydow, J. 2010. "Organizing for fluidity? Dilemmas of new organizational forms." *Organization Science*, 21(6): 1251-1262.

⁶ Powell, TC. 1992. "Organizational alignment as competitive advantage." *Strategic Management Journal*, 13: 119-134.

⁷ Teece, D.J., Pisano, G & Shuen, A. 1997. "Dynamic capabilities and strategic management." *Strategic Management Journal*, 18(7): 509-533.

and supported by fluid working groups which were created and dissolved as required.⁸ Microsoft, meanwhile, collapsed its eight business units into just four sector groups to achieve, in its former CEO Steven Ballmer's words, "a far-reaching realignment of the company that will enable us to innovate with greater speed, efficiency and capability in a fast-changing world."⁹ While their sentiments were spot on, however, these changes proved difficult to implement and only partially effective. As a result, their performance lagged behind disruptors such as VMware, Apple and Salesforce.com. We have found one company, however, that has made significant strides toward closing the gap between internal flexibility and the rate of external market change: the Chinese telecommunications equipment maker Huawei. It has become a super-fluid organization, a living organism that constantly reconfigures itself. This, despite being a \$60 billion behemoth with over 170,000 employees that needs to remain highly efficient and cost competitive. By this transformation, Huawei is pointing the way to the kind of organizations that more and more companies will need to become to thrive in a today's increasingly turbulent and fast-paced business environment.

Huawei finds itself daily faced with dramatic and fast-paced shifts in its markets. Its core telecommunications equipment business is being transformed by the massive increase in the demand for mobile data services, with further waves of change with 5G wireless and the emergence of ubiquitous sensing and machine-to-machine connections through the "Internet of Things". Rapid, disruptive change is also the norm in other parts of its business. When Huawei started selling mobile handsets in 2010, smartphones accounted for just a quarter of the market, dominated by Apple and Samsung.¹⁰ Today, seven out of ten handsets sold in the world is a smartphone, the product release cycle is measured in months or weeks, and the top two competitors in terms of smartphone sales in China during Q3, 2016 were Vivo and Oppo – brands that did not even exist when Huawei entered the market.^{11 12}

Huawei needs flexibility to thrive in this turbulent environment – which in turn requires constant innovation and extreme responsiveness to fast-changing customer needs – while at the same time maintaining the high efficiency that underpins its cost competitiveness, against both Chinese rivals such as ZTE, Xiaomi, and Oppo, and global competitors in telecoms equipment such as Ericsson and a resurgent Nokia Networks. Its success in pulling off this feat has enabled it to become the world's largest supplier of telecoms equipment overall, and global number three in smartphones.

So how does Huawei achieve super-fluidity? Four key ingredients go into the mix. First, Huawei is structured primarily around customer needs to ensure the customer is at the centre of everything it does. Second, its support functions are built around flexible platforms. Third, its management-level employees are continually rotated between different jobs. Fourth, its culture is obsessed with maintaining the pace of change. None of these elements alone would be sufficient, but it is the way they continuously interact that results in Huawei's super-fluid organization.

An organization designed around customer needs

⁸ "The world according to Chambers," *The Economist*, August, 27th, 2009

⁹ Hanft, A. 2013. "Microsoft's massive reorganization – all structure, no culture." Huffington Post blog, 07-18-2013.

¹⁰ <http://www.zdnet.com/article/nokias-continued-feature-phone-focus-may-be-one-of-their-smartest-moves/>
¹¹ http://www.phonearena.com/news/Vivo-and-Oppo-both-surpass-Huawei-and-Xiaomi-to-lead-Chinas-smartphone-market-in-Q3-2016_id86998 Accessed 10 December 2016.

¹² <http://www.intelligentcio.com/africa/2016/04/30/oppo-vivo-smartphone-vendors-enter-global-marketplace-idx/> Accessed 10 December 2016.

Since Henry Ford, manufacturers have typically organized themselves around product lines. The argument was straightforward: manufacturing mostly required dedicated production facilities for each line of products, backed up by a permanent staff with the knowledge, skills and experience necessary to produce that line of products reliably and efficiently. Over time, vertically integrated factories evolved into closely coordinated global supply chains that delivered each type of product. The strategic business units (SBUs) that came to oversee them were also focused on a particular set of products. The benefits were focus, scale economies, and accumulated learning, but these benefits came at the cost of flexibility. Customers who wanted changes in the product design, specifications or functionalities caused headaches, for the simple reason that what they wanted seldom fitted the dedicated machinery, skills, systems and experience that these product-centred organizations had honed to perfection. Consequently, when customer needs change significantly, these organizations are often too rigid to be able to respond swiftly and effectively.

Despite being a huge manufacturer of telecoms equipment, routers, switches and smartphones, Huawei has achieved a level of flexibility that is an order of magnitude higher than that of these product-centred companies. It started to build this capability as early as 1998, when it introduced a new integrated product development process based on cross-functional teams, with the help of IBM. Through this initiative, Huawei learned the value of flexibility, bringing together diverse teams with different capabilities and skills to create something new to better satisfy its customers' needs within a short space of time. Building on this early insight, Huawei came to realize that the best way to satisfy the ever-changing demands of the market is to design and redesign the organization around the evolving needs of its customers. To create and maintain fit between what the company offers and what the market demands, Huawei developed a management practice that sets it apart: to reconfigure its organization regularly whenever required by changing customer needs. The outcome of this practice is a highly flexible and fluid customer need-driven organizational structure.

This began when Huawei hired one of the leading global consultancies to come up with an organizational design in early 2000. The consultants recommended organizing the company into a set of SBUs, each focused on a different product. Huawei rejected this advice. It believed that an SBU structure would hinder its ability to satisfy customer needs holistically. In telecoms markets, customers often demand total solutions, which usually encompass a company's entire product portfolio and service offerings. An SBU structure, however efficient from the corporate perspective in terms of cost saving and management control, ends up presenting the customer with a fragmented offering. Instead, Huawei adopted a hybrid structure, dubbed the 'twisted pretzel', which combines some of the characteristics of an SBU-based organization with functional platforms and regional sales support. Rather than organizing around specific products, Huawei created three broad business groups, each of which were directed at winning in a market against a particular group of competitors. The Telecoms Service Carrier business group focused on the market for telecoms equipment, in competition with Ericsson and Nokia. The Enterprise group was focused on routers and switches, in competition with Cisco. Finally, the Consumer group, focused on smartphones and other devices, competed with Apple, Samsung and others. These broad market groups are supported by three services groups, whose role is to underpin organizational speed, agility and flexibility. The first services group comprises a set of shared functional platforms including finance, HR, procurement, logistics and quality control, providing all the support services the three business groups need to respond to changing customer needs. The second services group is a shared geographic sales organization that helps all three business groups connect with clients across the world. The third services group, 'Products and Customer Solutions', brings together Huawei's R&D activities to provide products and integrated information and communication technology (ICT) solutions for customers of each of the three

business groups. The three business groups – Telecoms Service Carrier, Enterprise, and Consumer – therefore form the ‘sandwich filling’ between the upstream R&D and product development and functional platform groups, and downstream regional sales groups, which support all three business groups. Unlike a traditional SBU, the business groups cover a broad range of products and ‘outsource’ many of the key functions to Huawei-wide, shared platforms. This enables the business groups to focus solely on the most crucial activities, including obtaining consumer insights, marketing, brand building, channel management, customer service and customer relationship management (CRM).

By pooling all key R&D, product development, functional support, and geographic sales resources across the company, Huawei avoids the common problem of resources becoming imprisoned within a particular SBU. Instead, these resources can be deployed rapidly and fluidly to wherever they are needed to serve customers, and the capacity devoted to a particular market segment can also be flexed as demand in different parts of the market expands or contracts over the cycle. At the same time, unnecessary duplication among SBUs is avoided. Rather than a rigid matrix designed to resolve competing demands of SBUs and country subsidiaries, Huawei’s pretzel structure is designed to promote resource fluidity and maximize flexibility.

The project that allowed Huawei to win its break-through order with Vodafone Spain in 2006 is a good example of this super-fluidity at work. Spain’s newly completed high-speed rail network prided itself on state-of-the-art technology and service. But Vodafone was having difficulty in delivering a reliable mobile phone signal as the train zipped along. This was a particular problem for the business-heavy route from Madrid to Seville. Huawei committed to delivering a solution, despite the technical challenges. To do so, it assembled a team drawing know-how and resources from across the Huawei organization. The team quickly developed a potential solution. Within two months they had tested it in practice on the 30-km Magnetic Levitation (Maglev) train that runs between Shanghai’s Pudong Airport and central Shanghai at over 400 km per hour. In just three months they had proven the bespoke system for Vodafone on the Madrid to Seville train. Huawei’s rivals, including Ericsson and Nokia Networks, were still preparing their initial proposals for the problem. Vodafone Spain was so impressed at Huawei’s speed and flexibility that they awarded the contract, supplanting their existing supplier, Nortel. Today, Vodafone has become one of Huawei’s largest global customers.

This organizational structure also continues to evolve. Over the years, Huawei has dramatically altered its organizational structure several times, as the needs of its customers have changed. The logic is simple: whenever customer needs change, product offerings, and hence the organization that delivers them, have to change accordingly. Different product offers require different capabilities, resources, decision-making processes, and hence different organizational infrastructure. Prior to 2002, Huawei had a centrally-controlled, function-driven, product line-based, and rather hierarchical corporate structure. In 2003, Huawei realized that such a structure was too slow to respond to rapid changes in consumer needs around the world as it expanded operations into an increasing number of countries. To remedy this, it has transformed itself into a more country-based structure. Under this structure, the headquarters (HQ) manages what Huawei calls ‘representative offices’ (country-level branches) in various countries, which in turn control the sales offices. Four years later, Huawei sensed that the emerging customer need was for customized network solutions, but in order to seize this opportunity, Huawei would need to consolidate resources and capabilities across different product lines, functional units and even geographic areas. It did not hesitate to dismantle the existing organizational structure and make the required changes once again. It first organized itself by customer solutions instead of product lines. It added a regional office between the HQ and representative offices to help marshal, from within the region, the necessary resources for the fast creation and fulfilment of customized solutions to local customers’ needs. The regional offices began as virtual structures in order to

begin operating before a physical presence was established. Huawei set up seven regional offices to cover the entire global market. It later realized that such a broad market scope hampered the responsiveness of the offices. The regional offices were quickly replaced with a more agile group of sixteen district offices.

To support regular restructuring of its organization, Huawei has often created novel kinds of sub-units whenever it realizes these are needed to better serve its customers. In 2013, for example, Huawei established its global finance centre in London, which reports to directly to its CFO. The primary purpose of this new unit is to better manage the financial risks faced by Huawei's global clients when they buy large projects. Many multinationals have such units to manage their own risks, but to establish a unit whose main task is to extend this service to customers is relatively rare. Similarly, Huawei has created a unique 'Market Finance Division', whose role is to manage the project-related cash flow and other financial aspects for clients to ensure that financial transactions and fulfilment of their projects run smoothly. More recently, Huawei identified the need to become even faster in solving customers' problems, regardless of where in the world they arise. To achieve this goal, it took inspiration from the US military establishment. Huawei set up a decision-making unit, dubbed 'The Joint Chiefs of Staff', to ensure the rapid deployment of its teams to problem areas.

To move beyond customer responsiveness and continually align itself with customers' changing needs, Huawei realized that it would need to create an organization that could maintain ongoing engagement with its key customers day-to-day. Only then would it be able to gain an intimate understanding of their existing, latent, and likely future needs. To achieve this, in October 2006 Huawei set up its first joint innovation centre near Madrid with Vodafone Spain, building on its successful project to deliver reliable communications for the high-speed rail network. This was a radical step in an industry where supplier relationships had been dominated by tendering for equipment based on tight specifications already developed by the customer. By 2017, Huawei had established 36 joint innovation centres with major customers spanning China, Europe, North America, Latin America, Southeast Asia and the Middle East. This has transformed Huawei from a supplier into a strategic partner for customers, enabling them to work together continuously to co-develop the future.

Flexing the organization as customer needs change, however, is only one aspect of Huawei's super-fluidity. Another important pillar that underpins Huawei's customer-driven organizational innovation and design is the creation of the so-called 'resource pool'. This has involved Huawei putting all of its top talent into a single, virtual human resource pool. This detaches top talent from functional units and allows them to be deployed and redeployed globally at any time. By breaking the formal ties between top talent and specific units or functions, Huawei has enabled a completely free flow of its most experienced human capital, a key prerequisite for building a super-fluid organization. Again, the commitment to serving ever-changing customer needs is the driving force behind this innovation. Without a creating super-fluid human resource pool that allows talent to be assigned to any task, freely and swiftly, Huawei would be unable to maintain the dynamic fit between its internal resources and customer needs that change at frightening speed.

Another important element of Huawei's customer needs-centred organization is the 'iron triangle', a unique team structure working at the core of Huawei's representative offices around the globe, which take the lead in actively identifying, acquiring and fulfilling projects. The idea for the iron triangle was born in 2004, when Huawei's Sudan operation realized that the most effective way to serve customer needs was to bring together a team of experts in the most essential areas – such as client management, product solution and project fulfilment – that could engage with clients from the outset to develop new projects. Prior to this, the only interface between Huawei

and its clients had been sales personnel. Huawei realized that with such a narrow channel to the client, it was impossible to fully understand a customer's needs or develop a comprehensive solution, rather than simply pushing products.

Today, each new project begins when a project manager brings together an 'iron triangle' consisting of a product or solution specialist, an account manager and an individual with experience in project delivery. This small team scouts the market, in China and abroad, for a new market opportunity. Once an unmet market need is identified, the team engages with its first customer. The project manager is empowered to draw on people with necessary specialist capabilities from anywhere across Huawei's vast talent pool to get a new project off the ground. Although often relatively junior, the project team leader has enormous decision-making authority and power to commandeer resources, well beyond their formal rank in the organization. Team leaders evolve the detailed design of the project, plan its implementation, and determine what resources are needed. They have the power to request specific, specialist individuals and resources from the resource pool within Huawei. The founder, Ren Zhengfei, calls this "the war of the sergeant," referring to the project manager, reflecting lessons he drew from observing the behaviour of the US Army. It pushes decision-making down to the frontline fighting unit, where the team leaders can immediately make critical decisions that respond to changing market conditions and call on headquarters for the full firepower of the organization when they believe it is necessary to secure the successful acquisition and delivery of a contract. In Ren's words, "Let the people who can hear the sound of gunfire (such as the project manager) direct where the supporting artillery shells should go." Even though Huawei has further improved the triangle model by learning from Ericsson, which follows a similar approach, it has pushed this practice towards true customer centricity well beyond what Ericsson ever intended. For example, Huawei's triangle is not a rigid structure and can evolve into a pentagon if necessary, by drawing in additional functional expertise such as in procurement or finance. At the same time, the roles and responsibilities of Huawei's triangle members are also not fixed. Instead, they evolve as the project progresses. In short, the formation and responsibilities of the triangle are fluid so that they can respond to changing customer needs.

By adopting these innovations – continual flexing of its organizational structure in line with changing customer needs; joint chiefs of staff overseeing a fluid, global human resource pool; the flexible, multi-disciplinary iron triangle to launch and guide each customer project – Huawei has literally placed the customer at the centre of its organization. Turning customer centricity from a slogan into reality has led Huawei to become an organization almost completely built around customer projects. There are over 5,000 projects in operation at any given year. Its network of project teams is focused on just one aim: meeting the needs of specific customers by flexing to meet diverse and ever-changing demands in ways that even the best product offering simply cannot. Ren sums it up rather colourfully in this way: "Customers are your parents that feed you, so turn your face to your customers and your bottom to your boss."

To ensure customer centricity, each individual's performance is evaluated on their contribution to their team's success in delivering for the customer. It is the performance of the team that counts for compensation and promotion. Bonuses are only awarded to winning teams. 'Lone stars' receive neither recognition nor reward if their project team fails to perform, no matter how exceptional their individual achievements. Team leaders are promoted (or demoted) based on the results their team delivers. Huawei sums this up with the following adage: "If a member of a team achieves, everybody else celebrates with great joy; if a member sinks, everybody else jumps in for the rescue at all cost."

If a team performs poorly, resulting in the team leader being removed, the deputy will never be promoted to take over. He or she must share responsibility for failure and so a new team leader

will be brought in from elsewhere in the company. Sometimes this involves parachuting a senior executive into the team leader role, what Huawei dubs 'Major-General as Captain'. These major-generals have both the confidence to take the critical decisions and the clout to commandeer the people and resources from anywhere with Huawei needed to get the project back on track. Such stints on the front-line also ensure that senior management keeps connected to the realities of what is going on in the market.

Once a project is successfully completed, the team is disbanded. Historically, individuals went back to their specialist, functional departments, before being reassigned to a new project. Today, however, Huawei plans to go even further and abolish these functional attachments. All employees, with the exception of dedicated administrative and production staff, will become part of a common resource or talent pool. Individuals will be distinguished solely by their expertise and capabilities, be they R&D, design, engineering, marketing, sales and so on, ready to move into a project team that requires their skills. Huawei will reduce the functional departments found in most traditional organizations to a small staff of researchers pursuing basic science, leading-edge experts in particular technologies, or those developing support tools and platforms (through which Huawei provides support services to its project teams, as we will describe below). Even these functional teams will be available to support project teams where necessary, but their primary role is to nourish specialist capabilities both for particular technologies and support functions. By maintaining these small groups of specialists as distinct teams, Huawei seeks to stay on the cutting-edge of technological and functional expertise while enabling most of its staff to become part of the company-wide talent pool that can be flexibly deployed on an ever-changing set of projects. As a result, Huawei's overall organizational design and structure, along with its project-based operational model, constantly evolve with ever-changing customer needs. Customer needs therefore dictate everything Huawei does. Many companies pay little more than lip service to customer centricity. What the Huawei example shows is that to be really about putting the customer at the centre requires a root and branch redesign of the organizational structure and processes. To achieve the kind of flexible and fluid organizational structure that makes customer-centricity a reality means going far beyond revolutionizing the way customer-facing and project staff operate. It also requires the functional support services and senior management back at headquarters to be transformed, to render their capabilities fluid as well.

Support services delivered via flexible functional platforms

Despite the considerable autonomy of Huawei's project teams to assemble the necessary people and resources, and flexibly develop solutions to meet the needs of an individual customer, it would obviously be inefficient for each team, or even each business group, to duplicate its own support services such as finance, HR, procurement, production, logistics and supply-chain management. In most companies, these support services are provided by functional departments embedded within each SBU. In theory, these functional departments should have the advantage of concentrating expertise to become 'centres of excellence', but all too often they become silos that present barriers to rapid and flexible response to customer needs, especially when cross-SBU collaboration is required. Securing support from the functional organization can involve a tortuous series of approvals before standardized, often ill-suited, services are eventually dispensed.

In an attempt to overcome this problem while preserving functional excellence, Huawei has sought to embed functional expertise in a series of support platforms that project teams from all three business groups can adapt and use to help deliver their customer solutions. Huawei has invested heavily over the years to develop 10 major supporting functional platforms. Each 'resource platform', as Huawei calls them, is built around a different capability: R&D and

technology, test and trial, manufacturing, global procurement, marketing and sales, HR, finance and capital, administrative services, knowledge management, and data sharing. These powerful platforms enable the frontline project teams to efficiently access all the capabilities and resources they require, and make Huawei's fast, flexible, fluid practices possible. Project managers from all over the world can tap into the resources and capabilities offered by these platforms at any time to serve customer needs.

Take, for example, the task of preparing a customer contract for each project. Huawei has a standardized process for assembling a contract, backed by a series of templates and modules. Rather than sending the project details to a central commercial department, who would prepare a draft to be subsequently assessed by the legal department, Huawei has embedded the process and templates in an on-line platform. The project team uses this platform to prepare a draft contract customized to its particular needs. Large infrastructure projects for major telecoms carriers, for example, require complex contracts designed to manage the substantial risks, while a project to install a simple router network can make do with a much simpler agreement. With most of the knowledge embedded in the platform, projects teams only need to involve functional departments to deal with exceptions where additional, specialist expertise is required. In this way, the task can be achieved faster and the result tailored more flexibly by those who are closest to the customer.

Similarly, rather than the manufacturing plants producing products for general sale, the project team uses the supply-chain platform to request the particular combination of equipment it needs to satisfy the customer from different sources. If a component or sub-module needs to be adapted, designers working within the project team can develop the relevant specifications and interface with their colleagues in manufacturing to come up with an efficient design and get it made. Whenever a customer's needs changes, the product also changes.

The use of platforms at the disposal of customer-focused project teams to provide support services, rather than siloed functional departments, has served Huawei well in moving towards a super-fluid organization. It should be acknowledged, however, that as the company has expanded across new customer segments and geographies, the number of processes in these platforms has exploded, with a consequent development of over-complexity. At its peak, the support platforms were weighed down by seventeen core processes and over 10,000 sub-routines. Huawei has now embarked on a massive simplification process, designed to cull unnecessary routines and streamline its support processes, which it estimates will take sustained effort over the coming years.

Continuous rotation of middle and senior management

Many companies have a practice of rotating their new graduate recruits through different jobs and departments, with the aim of providing them with broad-based experience as a platform to progress up the ranks. Managers become more specialized as they are promoted to senior positions. At Huawei, by contrast, the incumbents of middle and senior management positions rotate between different jobs; including the CEO.

Middle and senior managers rotate between jobs in different specialties (between R&D and HR, for example) at least every three years. Sometimes, rotation is more frequent: one senior manager we interviewed has worked in seventeen different jobs during his twenty-four years with the company. Rotation also involves working in different locations, and substantial experience working abroad is a prerequisite to senior advancement. As Huawei has increasingly become a project-based organization, managers have to show deep involvement in every step of a project, from opportunity identification to the final fulfilment, before promotion to the senior ranks is even

considered. Not only is rotation mandatory, individuals do not choose their next post. Instead, they are assigned to a sequence of new roles. As we have seen when 'major-generals' are posted to head up a project team as a 'captain', Huawei's rotation system may require even very senior managers to move vertically (downwards) through the organization as well as horizontally.

Even the CEO rotates. In 2004, Huawei began by identifying a group of seven members of the senior management who would each take a six-month stint in the role of COO. They found it so successful in promoting change and flexibility that in 2012 the system was extended to the CEO. Three of the seven-member top team would take turns in acting as CEO for half a year. The rationale was to prevent a single viewpoint from becoming set in stone, avoid a cult of personality from taking root, and establish a self-correcting mechanism which would ensure the strategies and direction set by the CEO would be continually challenged and re-evaluated.

To senior managers in most organizations, this multi-level rotation system probably sounds at best disruptive, if not outright destructive. Surely, it is impossible for a senior manager to have the time in any particular role to gain full command of his or her brief, to gain the trust and build the capabilities of the team, and to implement long-term strategies. Certainly, there are downsides and trade-offs associated with the rotation of senior managers, but Huawei believes the gains in terms of promoting super-fluidity in the organization more than outweigh these disadvantages.

The first advantage is that rotation of middle and senior managers removes the plague of corporate empire-building that has resulted in the organizational rigidity so many companies suffer. Although often viewed by outsiders as a radical step, it is a necessary precondition to underpin the flexibility and fluidity of the organizational structure. Rotation greatly discourages senior managers from defending their own turf within the organization and helps break down silos. There is little incentive for a senior manager to attempt to accumulate resources and power in a particular department or subsidiary if he or she knows that it will be soon bequeathed to someone else and, worse still, that they may need to negotiate with their successor as a user of the former position's services in their next job. The fact that all of Huawei's senior managers have experienced a wide range of different specialisms and roles also means that they are likely to have already 'stood in the shoes' of other parts of the organization which they now rely upon. This means there is a greater awareness of the potential value different parts of the organization can add, and the pressures and trade-offs they face, which makes for better teamwork across the business.

The second advantage of rotating senior staff is particularly important in an environment such as China, where Confucian philosophy creates a bias toward deference to age and seniority, and a tendency to want to please your superiors, even if this is not necessarily best for the customer or the company. In fact, this behaviour is not confined to China; it is endemic to a greater or lesser extent in many national and corporate cultures. For a project leader in Huawei, there is little point in pandering to the whims of your boss, because in a year or two you know they will be gone: rotated on to their next job. Your compensation and prospects for promotion do not depend on whether your boss likes you, but almost solely on whether your project delivers profitably for the customer. In this way, the rotation of senior management makes an important contribution both to resource fluidity, and the promotion of customer centricity and successful project delivery.

A third advantage of rotation is that it helps develop managers that can comfortably wear the 'multiple hats' that executives at the very top echelons of a business need to juggle in order to properly contribute to its success. By the time they have reached the very senior ranks, Huawei's executives are no longer lifelong R&D, finance or marketing specialists, inclined to push their own perspective. They have a broad overview of the business, which helps them take strategy decisions that will benefit the whole company. Such a multiple-hat mindset helps Huawei

further tear down barriers and silos between different activities, resulting in increased levels of organizational flexibility and fluidity both in decision-making and execution.

The fourth advantage of the rotation system is that it helps foster innovation. The rotation of middle and senior managers continually brings new pairs of eyes to each job. The incoming managers have nothing invested in past ways of doing things, and so are more open to change and more willing to experiment with something new. This acts as another key driver for Huawei's organizational flexibility and fluidity. Moreover, as rotating managers carry what they have learnt from one role to the next, they also create new interactions between previously isolated pockets of knowledge. It has long been recognized by researchers that it is new combinations of knowledge that are most likely to spark innovation. Innovation in turn facilitates further change, which underpins the organizational flexibility that Huawei enjoys.

Finally, knowing they will be rotated on after no more than three years encourages managers to accelerate the pace at which they implement new ideas. If they are going to 'leave their mark' in any role, they need to act quickly. Of course, this could discourage long-term thinking and investment in strategies and capabilities that take many years to build, but in Huawei's fast-changing business environment, speed is likely to be a key advantage. In terms of sustainability, the incentive to move fast will encourage incomers to build innovatively on the strengths and capabilities put in place by their predecessors, rather than discarding everything from the past and starting again. After all, like everyone at Huawei, they are judged on customer results. This strongly motivates senior executives to act quickly, countering the widespread human desire to achieve a seniority, rewarded by an 'easy life', which might otherwise creep into Huawei's corporate DNA. As a result, Huawei's fluidity can be preserved.

The culture of super-fluidity

The key elements of Huawei's organization – frontline empowerment, project teams as the core organizing principle, a fluid global human resource pool, support services provided through flexible functional platforms, and the continuous rotation of middle and senior management – are orchestrated to create super-fluidity by a culture obsessed by change. The roots of this culture go back to 1996, just four years after Huawei was established. In that year, the entire marketing and sales group, the most powerful and influential unit within Huawei at that time, were asked to resign so they could be re-hired based on evaluation of their actual qualifications and performance. Over 1,000 employees were involved. This decisively broke the politics and power plays that had taken root and begun to paralyze the organization. It provided a powerful message that both personal and corporate success would come from the continual realignment of resources and individual capabilities with the changing needs of the market, and heralded the start of Huawei's management rotation system.

But such a culture was hard to sustain. Every staff member had an employee number, allocated in the order that they joined. The seniority of every individual was therefore clearly evident to all. Combined with Confucian respect for age and experience this led to the emergence of powerful 'barons' within the organization, who prioritized the building of their local empires and social capital (guanxi) over flexibility and customer satisfaction. In response, Ren initiated a second mass resignation. This time, 7,000 employees were forced to reapply for their jobs, based on their qualifications and performance, rather than seniority. In addition, the old employee numbers were scrapped.

To reinforce the message, Ren Zhengfei called on staff to forget the company's history and focus entirely on the future, allowing them to move forward, even if it meant cannibalizing existing profit streams. He introduced two corporate magazines distributed to the entire workforce. One,

Huawei People, focuses on innovation, management priorities and new management thinking at Huawei. The second, Management Optimization, documents Huawei's mistakes, problems and limitations, often in the form of case studies of where Huawei has stumbled. The purpose is to identify problems, stimulate change and encourage continuous innovation and improvement. This is reinforced by an internal, online forum called 'Community of Inner Voice', which is open to all of Huawei's employees. It is a safe place, where Huawei's employees can anonymously, hence openly and freely, criticize Huawei's policies, management and even individual senior executives. Mr. Ren regularly reads posts on this forum and is provided with daily briefs summarizing the key concerns raised by Huawei's employees on various important issues. It has been a hit: Huawei's employee online forum is probably the most transparent, free-spirited, open-minded and self-critical platform in the corporate world. Huawei's people do not worry that change will undermine their security, but that they are not changing fast enough to keep pace with the demands of the market. The result is that, rather than being an extrapolation of the past, every new strategic plan is dominated by initiatives for change and improvement that combine vision and imagination with hard-nosed actions and pragmatic improvements. Huawei has undertaken major changes every 3 to 5 years. The company has established a strong, change-oriented culture. Change has become a corporate routine. Obviously, such a strong appetite for change at Huawei provides a solid foundation for its flexibility and super-fluidity.

To maintain its culture, Huawei has also put in place systems to ensure a continual flow of new blood through the organization. Senior managers are encouraged to retire at the age of 45, often moving to jobs with Huawei's suppliers or its outsourced training providers, so that their experience can be passed on. This provides space for young, energetic, more open-minded team leaders and managers to be promoted based on success, and to challenge the status quo as they take on greater responsibility. It helps to prevent organizational rigidities from forming and becoming cemented within the company.

A radical blueprint for the 21st century organization

Huawei's recipe for creating a superfluid organization is radical. It overturns the conventional wisdom that manufacturing companies need to be structured as a matrix of product-based business units, functions and geographic subsidiaries, in favour of the kind of project-based organization used by construction companies, consultants and investment banks. It dramatically scales back the size of support functions, replacing them with flexible service platforms developed and augmented by small, specialist teams of experts that the project teams can draw upon when they need them. Rather than rotating new recruits through a series of different jobs, it rotates the middle and senior management through new roles in different specialties at least every three years, right up to the CEO. It has engendered a culture that, rather than celebrating the past, focuses almost entirely on the need for change and improvement in the face of ever-more demanding customers and markets. By combining these initiatives into a self-reinforcing system, Huawei has become a huge, yet rapidly evolving, highly flexible, living organism. It has developed a robust appetite and the capability to regularly dismantle and reassemble itself, to better serve evolving customer needs. After each round of self-destruction and renewal, it emerges even stronger. In this sense, Huawei epitomizes the notion of 'creative destruction'. By continually reinventing itself to enable its people, knowledge and resources to become super-fluid, Huawei's model goes far beyond popular ideas such as the 'learning organization' or the 'ambidextrous company'.¹³

¹³ The "learning organization" was popularized by authors such as Simonin, BL. 1997. "The importance of collaborative know-how: An empirical test of the learning organization." *Academy of Management*

However, Huawei's pursuit for super-fluidity is not without potential problems. It inevitably downplays the importance of boundaries that can help different units develop a shared identity and build local loyalty. Super-fluidity risks arresting the development of corporate memory and preventing the emergence of routines that capture accumulated learning and provide decision makers with a frame of reference for their individual actions. Without these basic ingredients, the organization may become ineffective, especially in the chaotic and hyper-competitive environment that many companies face today. In fact, faced with increased uncertainty, these organizational guideposts may be more important than ever to enable individuals to cope.

So far, Huawei has achieved unparalleled super-fluidity without completely dissolving its organizational identity, boundaries and routines. It has recognized that these are key to the functioning of an efficient and effective modern enterprise. At the same time, it fears that they may hinder its ability to achieve the level of internal flexibility necessary to keep up the rate of change in its external environment. It is perhaps not surprising, given its culture and history, that Huawei's proposed solution to this dilemma is to embark on another round of organizational reform. Rather than abandoning boundaries and routines completely, its aim is to simplify its management processes. The goal is to develop the organizational ambidexterity necessary for fluidity and stability to coexist.

Another potential problem with this super-fluid organization is its ability to continue to attract top talent from around the world. By definition, a super-fluid organization moves fast and changes frequently. Such pace and volatility demands a young and energetic workforce. To date, Huawei has been able to rely on China's large and young talent pool to largely side step the issue. On current projections, however, this demographic dividend will progressively disappear, as the population rapidly ages in coming decades. Moreover, as Huawei expands rapidly around the world, it must increasingly rely on overseas employees to fuel its future growth. Already among its 170,000 employees, over 40,000 are non-Chinese. Many, especially those from more mature economies, have a rather different value system, work ethic and aspirations in life from young Chinese. The relatively high attrition rate within its foreign workforce suggests that Huawei has yet to fully work out how to match the aspirations of recruits from more settled societies with its super-fluid organization. The high-pressure, high-stress working culture is an often-cited reason for the departure of these employees. How a super-fluid organization can attract and retain top talent from around the world remains an important yet unresolved strategic issue.

These issues suggest that other companies need to take care before they attempt to adopt the principles of Huawei's super-fluid organization wholesale. At the same time, we believe that the capability for super-fluidity is becoming increasingly essential, as the proliferation of information, automation and digitalization makes it ever-more difficult for a company's internal organization to keep up with the pace at which its external environment and the demands of its customers are changing. Classic organizational structures and processes, where change is measured in years or decades, no longer seem up to the challenge.

Huawei's unorthodox approach will no doubt fill many traditionally schooled managers with fear. Huawei operates in a particularly fast-changing and unforgiving market, so not every company

Journal, 40(5): 1150-1174 or Tsang, EWK. 1997. "Organizational learning and the learning organization: A dichotomy between descriptive and prescriptive research", *Human Relations* 50: 73-89. More recently, scholars have suggested that executive should strive to make their organizations 'ambidextrous': Raisch, S. and Birkinshaw, J. 2008. "Organizational ambidexterity: Antecedents, outcomes, and moderators." *Journal of Management*, 34: 375-409; Raisch, S., Birkinshaw, J., Probst, G. and Tushman, ML. 2009. "Organizational ambidexterity: Balancing exploitation and exploration for sustained performance." *Organization Science*, 20: 685-695.

will need to transform itself in such a radical way. Return to the fundamental question, however: Is your internal organization flexing and reconfiguring itself at the same speed as your market? In today's volatile environment, periodic re-organizations are unlikely to be enough. Fortunately, new information and communications technologies promise to provide new tools to enable organizations to become super-fluid. Maybe the time is ripe to seriously question whether your existing programmes for organizational change, even if they deliver, are radical enough? A bolder step toward a super-fluid organization may be required to win in the 21st century.

About the Research

The research that underpins this article began four years ago, when Huawei was on the path to becoming the market leader in the global telecom equipment industry. We were struck by the speed of Huawei's rise to become global number one in such a competitive, volatile and technologically advanced industry, from a tiny, four-employee start-up established in Shenzhen some 28 years before. Intrigued, we embarked on a journey to understand how Huawei, a firm from a developing country, managed to surpass established multinationals from advanced economies, such as Nokia, Alcatel, Lucent and Ericsson. We began by studying the huge volume of publications on Huawei, both in English and in Chinese that have emerged in recent years. Different commentators advanced many explanations for Huawei's success, but one of the themes that constantly emerged was the company's unique capability to change fast, frequently, and efficiently in response to ever-changing customer needs and a volatile market environment. We decided to embark on a detailed investigation, to understand how Huawei developed such a rare yet powerful organizational capability, even as it grew to become a massive enterprise with several hundred thousand employees all over the world.

To understand this phenomenon, we needed to go far beyond published materials. We planned and carried out a programme of face-to-face interviews, conducted in Shenzhen over a period of five weeks, beginning in September 2015, with fifteen former senior executives of Huawei, including seven vice presidents, two senior vice presidents and one executive vice president. Each interview lasted for one and a half to two hours, and centred around the issues related to Huawei's ability to be fast, flexible and agile. In particular, we focused on how Huawei is able to reconfigure itself constantly to maintain a match between its internal structure, resources and the external environment. During the field trip, with the support of Huawei, we also obtained access to some very important corporate documents that are not available publicly. Through these in-depth interviews and confidential corporate documents, we identified the key building blocks for Huawei's super-fluidity, including its project-based organization, platforms for support service, rotation of management teams, and change-obsessed organizational culture. Delving further into each of these, as the interview programme progressed, allowed us to gain a detailed insight into why and how Huawei has developed this organizational super-fluidity to continually flex with the changing market.