

# **Influential Article Review - Examining Uber's Challenges in Operating in a Digital Environment**

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*This paper examines technology and management. We present insights from a highly influential paper. Here are the highlights from this paper: Mobile computing, the so-called Internet of Things, and the rapid expansion of Internet connectivity all over the world are combining to challenge long-standing assumptions about the mission, function, and reach of traditional organizational forms. Uber is a fast-growing company with several unique attributes: its drivers are not employees, the company does not own the majority of its productive infrastructure, and the management is often at odds with local law and custom. Uber's rapid rise to unprecedented scale serves to illustrate the gaps between traditional organizational assumptions and the reach of current technological capability. To address these gaps, we conclude by suggesting four principles for designing large-scale digital organizations. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.*

*Keywords: Uber, Coordination costs, Algorithmic decision-making, Designing digital organizations, Organizations as culture processors*

## **SUMMARY**

- How will organizations of the future look different? As the loci of work, the customer, and the asset base migrate, and digital organizations operate at unprecedented scales, organizational design will encounter new possibilities and challenges.
- The good news is that entrepreneurs, managers, and other designers of these new organizations have at their disposal a rich toolkit of technologies, skills, attitudes, and examples to build with. Four broad responses have shown to be effective, and many would appear to apply to Uber's current state of corporate limbo .
- First, the trend toward «flatter» organizations appears to be proving effective as technologies of coordination reduce the need for managerial layers. Uber drivers have considerable autonomy, despite their contractor status. Tight scripts for customer contact have given way toward broader leeway for customer-facing service providers to empathize, problem solve, and own both problem and remediation. Smartphones, social networks, and other tools give the person on the street access to information that is often better than that in enterprise systems. United Airlines recently nodded

in this direction by giving gate agents authority to offer up to \$10,000 for passengers to give up their seat on an oversold flight—a 10 jump from previous practice.

- Proposal 1: Increase agency at the edge of the network. Second, many companies are localizing operations, such as building shorter supply chains, to reduce the scope of operations. Rather than integrating the acquisitions into corporate «best practices,» AB InBev, the world's largest brewer, has organized a group of microbreweries it has acquired in a separate high-end portfolio that appears to be maintaining considerable local autonomy within the giant parent corporation. Many sourcing operations of multinationals have devolved to the regional or local level rather than being consolidated at global headquarters. And despite an overall increase in US manufacturing activity over the past decade, exports comprise a small percentage of overall activity: when Kubota or Honda or Siemens opens a US factory, it is to serve the US market better. For Uber, localization should help reinforce particular cultural norms.
- Proposal 2: Limit scope of operations to particularize context. Third, retrofitting big data and algorithmic decision-making onto old organizational forms can be problematic. In automated trading on financial exchanges, and even at Amazon, algorithms can get locked into loops with each other and produce illogical and sometimes harmful outcomes, as with the «flash crash» on the New York Stock Exchange in May 2010. Humans can write code that does things nobody desires or understands, especially in conjunction with other organizations' code.

## HIGHLY INFLUENTIAL ARTICLE

We used the following article as a basis of our evaluation:

Jordan, J. M. (2017). Challenges to large-scale digital organization: the case of Uber. *Journal of Organization Design*, 6(1), 1–12.

This is the link to the publisher's website:

<https://jorgdesign.springeropen.com/articles/10.1186/s41469-017-0021-2>

## INTRODUCTION

Technology innovation has a long history of reshaping the organizational possibilities of a given era. Ink, paper, and movable type challenged the authority of the Roman church in the West and eventually provided the underpinnings of the nation state (Eisenstein 1980). Telegraph lines running alongside railroads helped create the managerial (rather than entrepreneurial) corporation in the late nineteenth century (Chandler 1990b). Interstate highways built both predictable supply chains and consumer demand for US fast food restaurant chains such as Howard Johnson's and McDonald's after World War II (Schlosser 2000). Such common managerial artifacts as line and staff organization, complex reporting relationships (and the organization charts that encode them), and titles to reflect one's status and stature emerged from the twentieth century military and industrial organizations that were built to harness new technological capabilities.

At the same time, that technology creates possibilities for organizations; organizational evolution almost always lags the structural capabilities of its technological underpinnings. When textile mills were powered by waterwheels and later steam power, spinning and weaving machines were driven by leather belts connected to a metal drive shaft in the ceiling of the factory. According to Paul David (David 1990), after decentralized electric motors replaced overhead drive shafts, it took 30 years for mill owners to place machines relative to workflows rather than power supply.

I contend we are in a similar period of lag between the uptake of tools that improve coordination and the birth of organizational forms capable of utilizing the benefits. Both the decrease in coordination costs and the vast increases in scale characteristic of digital enterprises signal a shift in the benefits of traditional organizational models. To test this idea, I will examine several managerial conventions that, while durable

in describing twentieth-century industrial organization, have proven to be problematic when applied to the Uber experience. The company's rapid expansion, extraordinary market valuation, and turbulent relationships (inside and outside the organization) might be a product of the founders' aggressiveness, but I contend that they also are canaries in the coal mine, indicators of future possibilities, and tensions resulting from the new dynamics of large-scale digital organizations.

### **Key principles underlying traditional organizations**

The Internet, mobile computing, and applications that ride on these foundations have combined to alter the need for, shapes of, and side effects from formal organizations of many types. Linux and Wikipedia have been well studied as harbingers of organizational alternatives to conventional co-located hierarchical firms (Benkler 2006). Neither of these exemplars, however, predicted the rise of Uber, Airbnb, or TaskRabbit: the networked desktop personal computer that facilitated distributed work on Linux and Wikipedia is far less capable or flexible than the smartphone ecosystem. Thus, the technologies of the 2000s add to the tools that Wikipedia and Linux mobilized over the past 15 and 25 years, respectively, creating new organizational possibilities that fast-moving young companies have exploited. In contrast, here are three working assumptions that apply to most industrial age organizations:

Working assumption 1: Industrial organizations often create competitive advantage through capital intensiveness, including the administrative and other support structures necessary to keep those assets utilized (Chandler 1990a). Such familiar behaviors as vertical integration, mergers and acquisitions to gain market share and pricing power, and global expansion all increase economies of scale on the supply side: factories, retail outlets, distribution networks, and other assets all can increase the capital base of an enterprise.

Working assumption 2: Organizations serve (among other things) as information processing structures (Galbraith 1974); examples include the Roman Catholic church, an army, or a fast food franchiser such as McDonald's. Moving market signals inward toward core decision-makers, and official doctrine (and, ideally, behavior) toward the edge, comprises a large percentage of the organization's existence.

Working assumption 3: An employee's span of decision-making authority reflects some combination of natural aptitude, business acumen (Luthans 1988), experience, and social capital (Burt 1997). Managers are promoted into positions of increasing responsibility, in some measure based on successful behavior at lower ranks. To some extent, decision-making is the core of a manager's work.

## **CONCLUSION**

Uber illustrates many possibilities for future organizations: global reach without organizational mass, new market niches for value-adding digital matchmakers/middlemen, and business model evolution to autonomous vehicles, package or meal delivery, or trucking. The way Uber has organized resources en route to a formidable market valuation does not resemble any existing public companies' structures, so the startup has served as a crash test dummy for new notions of worker autonomy, app-driven channels to market, and management of both public perception and existing law and custom. If the company is to survive a public offering, it will need to balance its innovativeness with the kinds of predictability and trustworthiness securities law and market sentiment demand. Uber also needs to create a corporate culture to bind together—or at least relate to—its disconnected, far-flung network of contractor drivers. Other more conventional companies can learn from Uber's successes and missteps alike as more organizations will become more digital and share attributes with the ride-sharing firm in the years ahead.

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## **VERSION TRADUCIDA: ESPAÑOL**

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## INTRODUCCIÓN

La innovación tecnológica tiene una larga historia de remodelación de las posibilidades organizativas de una época determinada. La tinta, el papel y el tipo móvil desafiaron la autoridad de la iglesia romana en Occidente y finalmente proporcionaron los fundamentos del estado nación (Eisenstein 1980). Las líneas de telégrafos que corren junto a los ferrocarriles ayudaron a crear la corporación gerencial (en lugar de emprendedora) a finales del siglo XIX (Chandler 1990b). Las autopistas interestatales construyeron cadenas de suministro predecibles y la demanda de los consumidores para cadenas de restaurantes de comida rápida estadounidenses como Howard Johnson's y mcdonald's después de la Segunda Guerra Mundial (Schlosser 2000). De las organizaciones militares e industriales del siglo XX surgieron artefactos comunes como la organización de líneas y personal, las complejas relaciones de informes (y los organigramas que los codifican) y los títulos para reflejar su estado y estatura surgieron de las organizaciones militares e industriales del siglo XX que se construyeron para aprovechar las nuevas capacidades tecnológicas.

Al mismo tiempo, esa tecnología crea posibilidades para las organizaciones; la evolución organizacional casi siempre retrasa las capacidades estructurales de sus fundamentos tecnológicos. Cuando las fábricas textiles eran alimentadas por ruedas de agua y más tarde energía de vapor, las máquinas de hilado y tejido eran impulsadas por correas de cuero conectadas a un eje de transmisión de metal en el techo de la fábrica. Según Paul David (David 1990), después de que los motores eléctricos descentralizados reemplazaran los ejes de transmisión superior, los propietarios de molinos tardaron 30 años en colocar máquinas en relación con los flujos de trabajo en lugar de la fuente de alimentación.

Sostenlo que estamos en un período de retraso similar entre la adopción de herramientas que mejoran la coordinación y el nacimiento de formas organizativas capaces de utilizar los beneficios. Tanto la disminución de los costos de coordinación como los grandes aumentos de escala característicos de las empresas digitales indican un cambio en los beneficios de los modelos organizativos tradicionales. Para probar esta idea, examinaré varias convenciones gerenciales que, si bien son duraderas al describir la organización industrial del siglo XX, han demostrado ser problemáticas cuando se aplican a la experiencia de Uber. La rápida expansión de la compañía, la extraordinaria valoración del mercado y las relaciones turbulentas (dentro y fuera de la organización) podrían ser un producto de la agresividad de los fundadores, pero sostengo que también son canarios en la mina de carbón, indicadores de posibilidades futuras y tensiones resultantes de la nueva dinámica de las organizaciones digitales a gran escala.

### **Principios clave subyacentes a las organizaciones tradicionales**

Internet, la informática móvil y las aplicaciones que se montan sobre estos cimientos se han combinado para alterar la necesidad, las formas y los efectos secundarios de organizaciones formales de muchos tipos. Linux y Wikipedia han sido bien estudiados como precursores de alternativas organizativas a las firmas jerárquicas convencionales ubicadas conjuntamente (Benkler 2006). Sin embargo, ninguno de estos ejemplos predijo el auge de Uber, Airbnb o taskrabbit: el ordenador personal de escritorio en red que facilitó el trabajo distribuido en Linux y Wikipedia es mucho menos capaz o flexible que el ecosistema de teléfonos inteligentes. Así, las tecnologías de la década de 2000 se suman a las herramientas que Wikipedia y Linux movilizaron en los últimos 15 y 25 años, respectivamente, creando nuevas posibilidades organizativas que las empresas jóvenes que se mueven rápidamente han explotado. Por el contrario, aquí hay tres supuestos de trabajo que se aplican a la mayoría de las organizaciones de la era industrial:

Suposición de trabajo 1: Las organizaciones industriales a menudo crean una ventaja competitiva a través de la intensidad del capital, incluidas las estructuras administrativas y de apoyo necesarias para mantener los activos utilizados (Chandler 1990a). Comportamientos tan familiares como la integración vertical, las fusiones y adquisiciones para ganar cuota de mercado y poder de fijación de precios, y la expansión global aumentan las economías de escala en el lado de la oferta: las fábricas, los puntos de venta, las redes de distribución y otros activos pueden aumentar la base de capital de una empresa.

Suposición de trabajo 2: Las organizaciones sirven (entre otras cosas) como estructuras de procesamiento de información (Galbraith 1974); ejemplos incluyen la iglesia católica romana, un ejército o un franquiciador de comida rápida como mcdonald's. Mover las señales del mercado hacia los responsables principales de la toma de decisiones, y la doctrina oficial (y, idealmente, el comportamiento) hacia el borde, comprende un gran porcentaje de la existencia de la organización.

Suposición de trabajo 3: El período de autoridad de toma de decisiones de un empleado refleja alguna combinación de aptitud natural, perspicacia empresarial (Luthans 1988), experiencia y capital social (Burt 1997). Los gerentes son promovidos a posiciones de responsabilidad creciente, en cierta medida basada en el comportamiento exitoso en rangos más bajos. Hasta cierto punto, la toma de decisiones es el núcleo del trabajo de un gerente.

## **CONCLUSIÓN**

Uber ilustra muchas posibilidades para las organizaciones futuras: alcance global sin masa organizativa, nuevos nichos de mercado para los emparejadores/intermediarios digitales de valor agregado, y evolución del modelo de negocio a los vehículos autónomos, la entrega de paquetes o comidas, o el transporte de camiones. La forma en que Uber ha organizado los recursos en el camino hacia una formidable valoración de mercado no se parece a las estructuras de las empresas públicas existentes, por lo que la startup ha servido como un maniquí de prueba de choque para nuevas nociones de autonomía de los trabajadores, canales impulsados por aplicaciones al mercado y gestión tanto de la percepción pública como de la legislación y costumbres existentes. Para que la empresa sobreviva a una oferta pública, tendrá que equilibrar su innovación con los tipos de previsibilidad y confiabilidad de la ley de valores y la demanda de sentimiento del mercado. Uber también necesita crear una cultura corporativa para unir, o al menos relacionarse con, su red desconectada y lejana de conductores de contratistas. Otras empresas más convencionales pueden aprender de los éxitos y errores de Uber por igual, ya que más organizaciones se volverán más digitales y compartirán atributos con la firma de viajes compartidos en los próximos años.

## **TRANSLATED VERSION: FRENCH**

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## **INTRODUCTION**

L'innovation technologique a une longue histoire de remodeler les possibilités organisationnelles d'une époque donnée. L'encre, le papier et le type mobile ont contesté l'autorité de l'Église romaine en Occident et ont finalement fourni les fondements de l'État-nation (Eisenstein, 1980). À la fin du XIXe siècle (Chandler, 1990b), les lignes télégraphiques qui longent les chemins de fer ont contribué à créer la société de gestion (plutôt que entrepreneuriale). Les autoroutes interétatiques ont construit à la fois des chaînes d'approvisionnement prévisibles et la demande des consommateurs pour les chaînes de restauration rapide américaines telles que Howard Johnson's et mcdonald's après la Seconde Guerre mondiale (Schlosser, 2000). Des artefacts de gestion communs tels que l'organisation de la ligne et du personnel, les relations complexes de rapports (et les organigrammes qui les encodent) et les titres qui reflètent son statut et sa

stature ont émergé des organisations militaires et industrielles du xx<sup>e</sup> siècle qui ont été construites pour exploiter les nouvelles capacités technologiques.

En même temps, cette technologie crée des possibilités pour les organisations; l'évolution organisationnelle est presque toujours à la traîne des capacités structurelles de ses fondements technologiques. Lorsque les usines textiles étaient alimentées par des roues hydrauliques et plus tard par la vapeur, les machines de filature et de tissage étaient entraînées par des ceintures en cuir reliées à un arbre d'entraînement en métal dans le plafond de l'usine. Selon Paul David (David 1990), après que les moteurs électriques décentralisés ont remplacé les arbres d'entraînement aériens, il a fallu 30 ans aux propriétaires d'usines pour placer des machines par rapport aux flux de travail plutôt qu'à l'alimentation électrique.

Je soutiens que nous sommes dans une période de décalage similaire entre l'adoption d'outils qui améliorent la coordination et la naissance de formes organisationnelles capables d'utiliser les avantages. La diminution des coûts de coordination et l'augmentation considérable de l'échelle des entreprises numériques signalent un changement dans les avantages des modèles organisationnels traditionnels. Pour tester cette idée, j'examinerai plusieurs conventions managériales qui, bien que durables dans la description de l'organisation industrielle du xx<sup>e</sup> siècle, se sont révélées problématiques lorsqu'elles sont appliquées à l'expérience Uber. L'expansion rapide de l'entreprise, l'évaluation extraordinaire du marché et les relations turbulentes (à l'intérieur et à l'extérieur de l'organisation) pourraient être le produit de l'agressivité des fondateurs, mais je soutiens qu'ils sont aussi des canaris dans la mine de charbon, des indicateurs des possibilités futures, et des tensions résultant de la nouvelle dynamique des organisations numériques à grande échelle.

### **Principes clés qui sous-tendent les organisations traditionnelles**

L'Internet, l'informatique mobile et les applications qui roulent sur ces fondations se sont combinés pour modifier le besoin, les formes et les effets secondaires des organisations formelles de nombreux types. Linux et Wikipedia ont été bien étudiés comme signes avant-coureurs d'alternatives organisationnelles aux entreprises hiérarchiques co-localisées conventionnelles (Benkler 2006). Ni l'un ni l'autre de ces exemples, cependant, prédit la montée d'Uber, Airbnb, ou taskrabbit: l'ordinateur personnel de bureau en réseau qui a facilité le travail distribué sur Linux et Wikipedia est beaucoup moins capable ou flexible que l'écosystème de smartphone. Ainsi, les technologies des années 2000 s'ajoutent aux outils que Wikipedia et Linux ont mobilisés au cours des 15 et 25 dernières années, respectivement, créant de nouvelles possibilités organisationnelles que les jeunes entreprises en mouvement rapide ont exploitées. En revanche, voici trois hypothèses de travail qui s'appliquent à la plupart des organisations d'âge industriel :

Hypothèse de travail 1 : Les organisations industrielles créent souvent un avantage concurrentiel grâce à l'intensité des capitaux, y compris les structures administratives et autres structures de soutien nécessaires pour conserver ces actifs utilisés (Chandler, 1990a). Des comportements familiers tels que l'intégration verticale, les fusions et acquisitions pour gagner des parts de marché et le pouvoir de fixation des prix, et l'expansion mondiale augmentent tous les économies d'échelle du côté de l'offre : les usines, les points de vente au détail, les réseaux de distribution et d'autres actifs peuvent tous augmenter la base de capital d'une entreprise.

Hypothèse de travail 2 : Les organisations servent (entre autres) de structures de traitement de l'information (Galbraith, 1974); par exemple, l'église catholique romaine, une armée ou un franchiseur de restauration rapide comme mcdonald's. Le déplacement des signaux du marché vers les décideurs de base, et la doctrine officielle (et, idéalement, le comportement) vers le bord, comprend un grand pourcentage de l'existence de l'organisation.

Hypothèse de travail 3 : l'étendue de l'autorité décisionnelle d'un employé reflète une combinaison d'aptitude naturelle, de sens des affaires (Luthans, 1988), d'expérience et de capital social (Burt, 1997). Les gestionnaires sont promus dans des postes de responsabilité croissante, dans une certaine mesure basée sur le comportement réussi dans les rangs inférieurs. Dans une certaine mesure, la prise de décisions est au cœur du travail d'un gestionnaire.

## **CONCLUSION**



Uber illustre de nombreuses possibilités pour les futures organisations : portée mondiale sans masse organisationnelle, nouveaux créneaux de marché pour les intermédiaires/intermédiaires numériques à valeur ajoutée, et évolution du modèle d'affaires vers les véhicules autonomes, la livraison de colis ou de repas, ou le camionnage. La façon dont Uber a organisé les ressources en route vers une formidable évaluation du marché ne ressemble pas aux structures des sociétés ouvertes existantes, de sorte que la start-up a servi de mannequin crash test pour de nouvelles notions d'autonomie des travailleurs, les canaux d'application sur le marché, et la gestion de la perception du public et la loi existante et la coutume. Si l'entreprise veut survivre à un appel public à l'épargne, elle devra trouver un équilibre entre son innovation et les types de prévisibilité et de fiabilité du droit des valeurs mobilières et de la demande de sentiment du marché. Uber doit également créer une culture d'entreprise pour lier son réseau déconnecté et lointain de chauffeurs-entrepreneurs, ou du moins se rapporter à lui. D'autres entreprises plus conventionnelles peuvent tirer les leçons des succès et des faux pas d'Uber, car de plus en plus d'organisations deviendront numériques et partageront leurs attributs avec l'entreprise de covoiturage dans les années à venir.

### **TRANSLATED VERSION: GERMAN**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

### **ÜBERSETZTE VERSION: DEUTSCH**

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

### **EINLEITUNG**

Technologieinnovation hat eine lange Geschichte der Umgestaltung der organisatorischen Möglichkeiten einer bestimmten Ära. Tinte, Papier und beweglicher Typ stellten die Autorität der römischen Kirche im Westen in Frage und lieferten schließlich die Grundlagen des Nationalstaates (Eisenstein 1980). Telegrafienlinien, die entlang der Eisenbahnen verlaufen, halfen, im späten 19. Jahrhundert (Chandler 1990b) die geschäftsführende (anstatt unternehmerische) Gesellschaft zu gründen. Interstate Highways bauten sowohl berechenbare Lieferketten als auch die Nachfrage der Verbraucher nach US-Fast-Food-Restaurantketten wie Howard Johnson es und mcdonald es nach dem Zweiten Weltkrieg (Schlosser 2000). Solche gängigen Management-Artefakte wie Linien- und Personalorganisation, komplexe Berichtsbeziehungen (und die Organigramme, die sie kodieren) und Titel, die den eigenen Status und seine Statur widerspiegeln, entstanden aus den militärischen und industriellen Organisationen des 20. Jahrhunderts, die gebaut wurden, um neue technologische Fähigkeiten zu nutzen.

Gleichzeitig schafft diese Technologie Möglichkeiten für Organisationen; Die organisatorische Entwicklung hinkt fast immer den strukturellen Fähigkeiten ihrer technologischen Grundlagen hinterher. Wenn Textilfabriken mit Wasserrädern und später Dampftrieb angetrieben wurden, wurden Spinn- und Webmaschinen mit Lederriemen angetrieben, die mit einer Metallantriebswelle in der Decke des Werks verbunden waren. Laut Paul David (David 1990) dauerte es 30 Jahre, bis die Mühlenbesitzer Maschinen relativ zu Arbeitsabläufen statt energieversorgender Energieversorgte platzierten.

Ich behaupte, dass wir uns in einer ähnlichen Zeit der Verzögerung zwischen der Einführung von Instrumenten befinden, die die Koordinierung verbessern, und der Entstehung von Organisationsformen, die in der Lage sind, die Vorteile zu nutzen. Sowohl die Senkung der Koordinierungskosten als auch die enormen Größensteigerungen, die für digitale Unternehmen charakteristisch sind, signalisieren eine Verschiebung der Vorteile traditioneller Organisationsmodelle. Um diese Idee zu testen, werde ich mehrere

Management-Konventionen untersuchen, die sich zwar dauerhaft bei der Beschreibung der industriellen Organisation des 20. Jahrhunderts erwiesen haben, sich aber als problematisch erwiesen haben, wenn sie auf die Uber-Erfahrung angewendet werden. Die rasante Expansion, die außergewöhnliche Marktbewertung und die turbulenten Beziehungen (innerhalb und außerhalb der Organisation) könnten ein Produkt der Aggressivität der Gründer sein, aber ich behaupte, dass sie auch Kanarienvögel im Kohlebergwerk sind, Indikatoren für zukünftige Möglichkeiten und Spannungen, die sich aus der neuen Dynamik digitaler Großorganisationen ergeben.

### **Die wichtigsten Prinzipien, die traditionellen Organisationen zugrunde liegen**

Das Internet, mobiles Computing und Anwendungen, die auf diesen Grundlagen fahren, haben sich zusammengetan, um die Notwendigkeit, Formen und Nebenwirkungen von formalen Organisationen vieler Art zu verändern. Linux und Wikipedia wurden als Vorboten organisatorischer Alternativen zu konventionellen, hierarchischen Unternehmen mitlokalisiert (Benkler 2006) gut untersucht. Keines dieser Beispiele hat jedoch den Aufstieg von Uber, Airbnb oder taskrabbit vorhergesagt: Der vernetzte Desktop-PC, der die verteilte Arbeit auf Linux und Wikipedia erleichterte, ist weit weniger fähig oder flexibel als das Smartphone-Ökosystem. So ergänzen die Technologien der 2000er Jahre die Tools, die Wikipedia und Linux in den letzten 15 bzw. 25 Jahren mobilisiert haben, und schaffen neue organisatorische Möglichkeiten, die schnelllebige junge Unternehmen genutzt haben. Im Gegensatz dazu sind hier drei Arbeitsannahmen, die für die meisten Organisationen im industriellen Alter gelten:

Betriebsannahme 1: Industrieorganisationen schaffen oft Wettbewerbsvorteile durch Kapitalintensität, einschließlich der administrativen und anderen Unterstützungsstrukturen, die erforderlich sind, um diese Vermögenswerte zu nutzen (Chandler 1990a). Solche bekannten Verhaltensweisen wie vertikale Integration, Fusionen und Übernahmen, um Marktanteile und Preismacht zu gewinnen, und globale Expansion erhöhen Skaleneffekte auf der Angebotsseite: Fabriken, Einzelhandelsgeschäfte, Vertriebsnetze und andere Vermögenswerte können alle die Kapitalbasis eines Unternehmens erhöhen.

Arbeitsannahme 2: Organisationen dienen (unter anderem) als Informationsverarbeitungsstrukturen (Galbraith 1974); Beispiele sind die römisch-katholische Kirche, eine Armee oder ein Fast-Food-Franchiser wie mcdonald's. Die Verschiebung von Marktsignalen nach innen in Richtung der wichtigsten Entscheidungsträger, und die offizielle Doktrin (und im Idealfall das Verhalten) in Richtung randaliert, umfasst einen großen Prozentsatz der Existenz der Organisation.

Arbeitsannahme 3: Die Entscheidungsbefugnis eines Arbeitnehmers spiegelt eine Kombination aus natürlicher Eignung, Geschäftssinn (Luthans 1988), Erfahrung und Sozialkapital wider (Burt 1997). Manager werden in Positionen mit zunehmender Verantwortung befördert, in gewissem Maße basierend auf erfolgreichem Verhalten in unteren Rängen. Bis zu einem gewissen Grad ist die Entscheidungsfindung der Kern der Arbeit eines Managers.

## **SCHLUSSFOLGERUNG**

Uber zeigt viele Möglichkeiten für zukünftige Organisationen auf: globale Reichweite ohne Organisationsmasse, neue Marktnischen für wertschöpfende digitale Matchmaker/Mittelsmänner und Geschäftsmodellentwicklung für autonome Fahrzeuge, Paket- oder Essenszustellung oder Trucking. Die Art und Weise, wie Uber Ressourcen auf dem Weg zu einer gewaltigen Marktbewertung organisiert hat, ähnelt nicht den Strukturen bestehender öffentlicher Unternehmen, daher hat das Startup als Crashtest-Attrappe für neue Vorstellungen von Arbeiterautonomie, App-gesteuerten Marktkanälen und der Verwaltung sowohl der öffentlichen Wahrnehmung als auch der bestehenden Gesetze und Gewohnheiten gedient. Wenn das Unternehmen einen Börsengang überstehen will, muss es seine Innovationskraft mit den Arten von Vorhersehbarkeit und Vertrauenswürdigkeit, dem Wertpapierrecht und der Nachfrage nach Marktstimmung abwägen. Uber muss auch eine Unternehmenskultur schaffen, um sein abgekoppeltes, weit entferntes Netzwerk von Auftragnehmerfahrern zu verbinden – oder zumindest mit diesem in Beziehung zu treten. Andere konventionellere Unternehmen können von den Erfolgen und Fehlritten von Uber gleichermaßen lernen, da mehr Unternehmen in den kommenden Jahren digitaler werden und Attribute mit dem Ride-Sharing-Unternehmen teilen werden.

## **TRANSLATED VERSION: PORTUGUESE**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## **VERSÃO TRADUZIDA: PORTUGUÊS**

Aqui está uma tradução aproximada das ideias acima apresentadas. Isto foi feito para dar uma compreensão geral das ideias apresentadas no documento. Por favor, desculpe todos os erros gramaticais e não responsabilize os autores originais responsáveis por estes erros.

## **INTRODUÇÃO**

A inovação tecnológica tem uma longa história de remodelação das possibilidades organizacionais de uma dada era. A tinta, o papel e o tipo móvel desafiaram a autoridade da igreja romana no Ocidente e acabaram por fornecer os fundamentos do Estado-nação (Eisenstein 1980). Linhas de telégrafo que correm ao lado dos caminhos de ferro ajudaram a criar a corporação de gestão (em vez de empreendedor) no final do século XIX (Chandler 1990b). As autoestradas interestaduais construíram cadeias de abastecimento previsíveis e a procura de consumidores por cadeias de restaurantes de fast food dos EUA, como a Howard Johnson's e a mcdonald's após a Segunda Guerra Mundial (Schlosser 2000). Artefactos de gestão comuns como a organização de linhas e funcionários, relações complexas de reporte (e os gráficos de organização que os codificam), e títulos para refletir o seu estatuto e estatura emergiram das organizações militares e industriais do século XX que foram construídas para aproveitar novas capacidades tecnológicas.

Ao mesmo tempo, essa tecnologia cria possibilidades para as organizações; a evolução organizacional quase sempre atrasa as capacidades estruturais dos seus fundamentos tecnológicos. Quando as fábricas têxteis eram alimentadas por rodas de água e, mais tarde, por potência de vapor, as máquinas de fição e tecelagem eram conduzidas por cintos de couro ligados a um eixo de acionamento metálico no teto da fábrica. De acordo com Paul David (David 1990), depois de motores elétricos descentralizados terem substituído eixos de acionamento, os proprietários de moinhos demoraram 30 anos a colocar máquinas relativamente aos fluxos de trabalho em vez de fornecerem energia.

Adumo que estamos num período de desfazamento semelhante entre a absorção de ferramentas que melhoram a coordenação e o nascimento de formas organizacionais capazes de utilizar os benefícios. Tanto a diminuição dos custos de coordenação como os grandes aumentos de escala característicos das empresas digitais assinalam uma mudança nos benefícios dos modelos organizacionais tradicionais. Para testar esta ideia, examinarei várias convenções de gestão que, embora duráveis na descrição da organização industrial do século XX, se revelaram problemáticas quando aplicadas à experiência uber. A rápida expansão da empresa, a extraordinária valorização do mercado e as relações turbulentas (dentro e fora da organização) podem ser um produto da agressividade dos fundadores, mas defendo que também são canários na mina de carvão, indicadores de possibilidades futuras e tensões resultantes das novas dinâmicas das organizações digitais em larga escala.

### **Princípios-chave subjacentes às organizações tradicionais**

A Internet, a computação móvel e as aplicações que cavalgam nestas fundações combinaram-se para alterar a necessidade, formas e efeitos colaterais de organizações formais de muitos tipos. Linux e Wikipédia têm sido bem estudados como prenúncios de alternativas organizacionais às empresas hierárquicas convencionais co-localizadas (Benkler 2006). Nenhum destes exemplares, no entanto, previu a ascensão da Uber, Airbnb ou taskrabbit: o computador pessoal em rede que facilitou o trabalho distribuído no Linux e na Wikipédia é muito menos capaz ou flexível do que o ecossistema dos smartphones. Assim, as tecnologias dos anos 2000 adicionam-se às ferramentas que a Wikipédia e o Linux mobilizaram ao longo

dos últimos 15 e 25 anos, respectivamente, criando novas possibilidades organizacionais que as jovens empresas em rápida mudança têm explorado. Em contraste, eis três pressupostos de trabalho que se aplicam à maioria das organizações da idade industrial:

Pressuposto de trabalho 1: As organizações industriais criam frequentemente vantagens competitivas através da intensidade do capital, incluindo as estruturas administrativas e outras de apoio necessárias para manter esses ativos utilizados (Chandler 1990a). Comportamentos familiares como a integração vertical, fusões e aquisições para ganhar quota de mercado e poder de preços, e a expansão global todas as economias de escala do lado da oferta: fábricas, pontos de venda a retalho, redes de distribuição e outros ativos, todos podem aumentar a base de capital de uma empresa.

Pressuposto de trabalho 2: As organizações servem (entre outras coisas) como estruturas de processamento de informação (Galbraith 1974); exemplos incluem a igreja católica romana, um exército, ou um franchiser de fast food como o mcdonald's. A movimentação de sinais de mercado para dentro em direção aos decisores fundamentais, e a doutrina oficial (e, idealmente, o comportamento) para a borda, compreende uma grande percentagem da existência da organização.

Pressuposto de trabalho 3: O período de autoridade de tomada de decisão de um trabalhador reflete alguma combinação de aptidão natural, perspicácia empresarial (Luthans 1988), experiência e capital social (Burt 1997). Os gestores são promovidos a posições de crescente responsabilidade, em alguma medida baseadas em comportamentos bem sucedidos em escalões inferiores. Até certo ponto, a tomada de decisão é o cerne do trabalho de um gestor.

## **CONCLUSÃO**

A Uber ilustra muitas possibilidades para futuras organizações: alcance global sem massa organizacional, novos nichos de mercado para combinadores/intermediários digitais de valor acrescentado, e evolução de modelos de negócio para veículos autónomos, entrega de pacotes ou refeições, ou camiões. A forma como a Uber organizou recursos a caminho de uma formidável valorização do mercado não se assemelha a estruturas de empresas públicas existentes, pelo que a startup tem servido de boneco de teste para novas noções de autonomia dos trabalhadores, canais orientados para aplicações para o mercado, e gestão da perceção pública e da lei e costume existentes. Para que a empresa sobreviva a uma oferta pública, terá de equilibrar a sua inovação com os tipos de previsibilidade e fiabilidade da lei dos valores mobiliários e da procura de sentimento de mercado. A Uber também precisa de criar uma cultura corporativa para se ligar em conjunto — ou pelo menos relacionar-se com a sua rede de motoristas empreiteiros desligados e distantes. Outras empresas mais convencionais podem aprender com os sucessos e erros da Uber, à medida que mais organizações se tornarão mais digitais e partilharão atributos com a empresa de partilha de boleias nos próximos anos.