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van den Dam, Rob

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Navigating the everyone-to-everyone economy

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Navigating the everyone-to-everyone economy

Rob van den Dam
IBM Institute for Business Value
Rob_vandendam@nl.ibm.com

Abstract
The newest digital technologies – among them social media, mobility, analytics and cloud – keep changing how people, businesses and governments interact. These digital forces enable unprecedented levels of connectedness and so the world is already investing in consumer-centricity. However, these new technologies are truly still in their infancies. The transformation that is already underway will soon intensify, resulting in a paradigm shift from customer-centricity toward an everyone-to-everyone (E2E) economy. The implication for value creation and allocation will be profound. IBM research shows that many organizations are still not ready to navigate the E2E environment. To prepare for the radical disruption ahead, companies need to act now to create experiences and business models that are orchestrated, symbiotic, contextual and cognitive.

Keywords: Smarter societies, Digital, Social disruption, Big data, Transformation

1. Introduction

Today's uber-connected, empowered individuals seek 24/7 access and organizational transparency. They want to exert greater personal influence over organizations and participate in more digital activities as they conduct their daily lives. The culmination of accelerating digital and other technological forces is spawning disruption on an unprecedented scale. And yet, most organizations have not fathomed the full implications of a radically different, digitally-charged future.

Digital technologies will ultimately drive drastic changes in the economy: value chains will fragment, industries will converge and new ecosystems will emerge. As a result, the mechanics of value creation and value allocation will also change. So, what will this future of continual digital disruption entail? How will new convergent technologies impact organizations and industries? What can organizations start doing today to begin preparing for a vastly different business environment? In particular, which investments, priorities and

actions can set the stage for success during turbulent and ongoing change?

The IBM Digital Reinvention Study considers the answers to such questions. To better understand the deepening impact of digital technologies on today's society, the IBM Institute for Business Value surveyed approximately 1,100 business and government executives and 22,000 consumers across 35 countries. IBM also conducted in-depth interviews with 30 leading futurists.

2. Now at warp speed: Digitization

In the early part of the 20th century, the economy was *organization-centered* and dominated by producer-driven consumption. Ford and its Model T are an example of this model. Channels were governed by different incentives and each channel provided a different customer experience. Industries were characterized by high barriers to entry and capital-intense production, with larger enterprises controlling production.

Later, as technological capabilities changed consumer expectations, the organization-centered economy evolved into today's *individual-centered economy* (see Figure 1). Competition is coming from new and different areas, opening up opportunities for previously unforeseen entrants – and simultaneously creating new threats. Organizations are adapting innovative business models and using newly found digital capabilities to enable original consumer experiences. The individual-centered economy is characterized by product differentiation and individualized market segmentation targeted at deriving value for the consumer. There is a strong emphasis on design and marketing, and organizations listen to create relevant, customized experiences that realize value for the consumer.

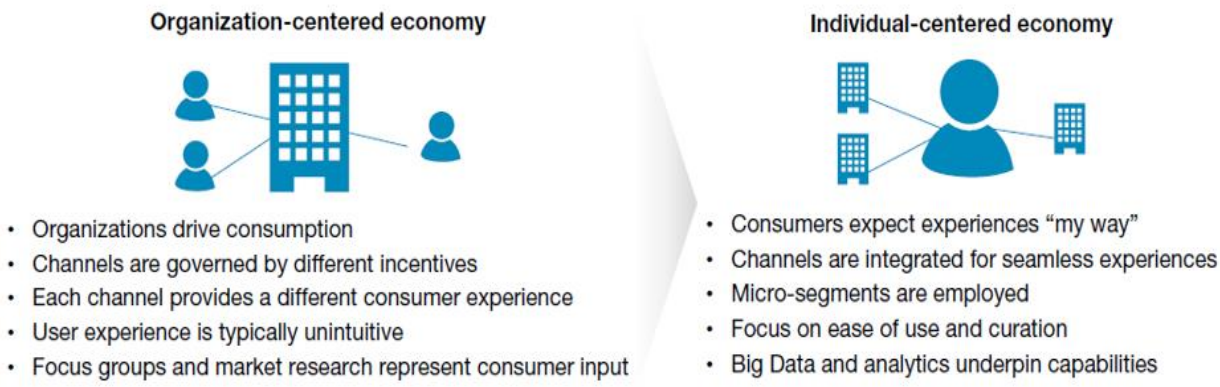

Fig. 1. The attributes of an individual-centered economy: keeping the focus on creating customer experiences that are rewarding

Today, we are at the beginning of another shift, as newer technologies develop and mature – but much faster and even more profoundly. Technology changes in social media, mobility, analytics and cloud are happening in a timeframe that is highly compressed compared to what has come before. And just as the organization-centered economy gave way to the individual-centered economy, a new sea change is brewing. The maturation of social media, mobility, analytics and cloud are motivating a transition from an individual-centered to an *everyone-to-everyone (E2E) economy.*

Social media explosion. Even as they heighten control and privacy issues, collaboration and information sharing are spurring new models of value creation. "Social" has become revenue-generating, evolving from a dot-com trend to a sharing platform and business model. Groupon (a crowd-based deals company) and peer-to-peer lending (lending to individuals without a financial intermediary) are examples of collaborative buying and revenue sharing models that are driving the sharing economy movement.

Mobile revolution. Mobility and miniaturization are transforming consumer experiences via new capabilities, such as the increased use of location-based services to enable both global positioning systems (GPS) and targeted retail promotions. New payment ecosystems using the mobile wallet turn dollars digital. And the miniaturization of mobile devices moves from palm-sized to wearable devices, including fitbit (enabling wireless fitness tracking) and Samsung Galaxy Gear (enabling receipt of texts and emails).

Analytics. Advanced analytics enable deeper business intelligence and consumer insight to be drawn from big data, producing information that ranges from descriptive to predictive. Internal and external data sources can now be integrated and services can be highly personalized based on consumer data.

Cloud enablement. Cloud enablement allows for new models of interaction between individuals and organizations, and will help facilitate cross-platform data analytics. Examples of these new ways to interact include subscription access to enterprise applications such as Adobe Cloud, cross-platform on-demand content such as Netflix and computing without boundaries such as virtual collaboration spaces.

3. A view of the vastly different future

The promise of compelling customer experiences can now be realized because of these technological and social changes. As industries converge, new ecosystems that cut across

multiple organizations, functions and industries will emerge to enable new and compelling experiences.

3.1 Value chains will fragment

New technologies will make value chains more transparent and easier to decompose (see Figure 2). In the past, value chain disruptions often involved replacing whole value chains or big chunks of value chains, such as replacing traditional banking processes with Internet-based, virtual banking. Next generation value chain disruption will involve contesting more specific elements or functions within value chains.

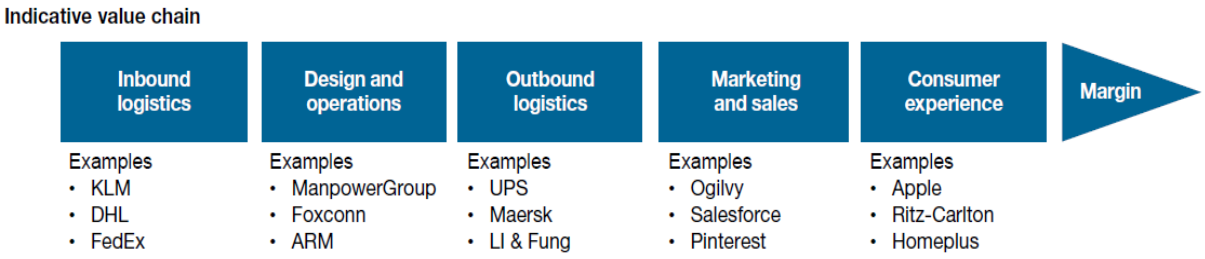

Fig. 2. How the fragmentation of a value chain may look as specialists enter to provide key capabilities

Organizations will increasingly recognize their own unique competitive strengths related to specific functions and expand capability in these areas. These new specialists will begin to contest their chosen functions more aggressively in their own and other markets, for example, outbound logistics providers such as Maersk and Li & Fung. Specialization will generate ever greater pressures to improve. Faced with new functional offerings comprising better capability at lower cost, organizations will as a consequence begin to cede more and more non-core functions to specialists.

3.2 Industries will converge

As specific functions in value chains are contested, new competitors will emerge. Functional specialists from one industry will begin competing in specific value chain functions of other industries. This cannibalization across industries will begin to drive industry convergence.

Organizations will begin pursuing dual strategies: to continue the focus on core business in their primary industries; and to seek growth opportunities in their chosen specialized functions across other industries. Specialization will drive industry convergence as

competition expands around specific, common value chain functions.

A projected future example is advanced telemedicine, which allows delivery of quality healthcare, regardless of physical location. Access to medical expertise without regard to geographic boundaries can be possible via haptic (tactile) sensor technology from the electronics industry and infrastructure for real-time communications from the telecommunications industry. Related innovations from other industries may also emerge as the telemedicine market evolves.

3.3 New ecosystems will emerge

Functional specialization, value chain fragmentation and industry convergence will begin to support formation of ecosystems or value nets (see Figure 3). Ecosystems will typically cut across multiple organizations, functions and industries, providing a foundation for new, seamless consumer experiences and camouflaging functional complexity.

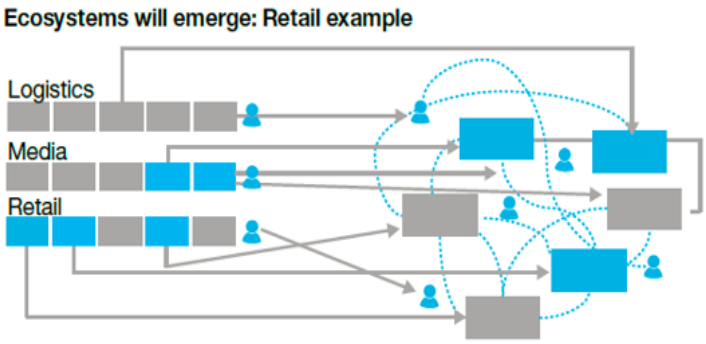

Fig. 3. Illustrative retail industry example of forming new ecosystems

Looking to the future, the projected future of retail is an example of emerging ecosystems. An omni-channel retail experience adapts real-time to a particular consumer's context. A combination of elements creates this experience: a concierge service acts as a single contact point for all needs; in-store assistance is augmented with intelligent, mobile self-help options; inventory and product delivery are fully integrated; and mobile payment is available and seamless across physical and virtual channels.

Ecosystems will be very dynamic and able to deliver more complex experiences or activities than single – or even convergent – value chains. The manner in which value is created and allocated changes as organizations evolve from participating in traditional value chains to participating in ecosystems.

In traditional value chains, organizations optimize value with a "cost plus return" model, where organizations at each stage in the chain optimize value creation. Total value reflects the

aggregation of value created at each step in the chain. Organizations typically interact with the prior function and the next function in the chain, but have little sense of the overall market context.

But in ecosystems, organizations realize value through the engagement with the system as a whole, where "value" is defined by participants' willingness to pay for access to the ecosystem. Once access occurs, specific transactions may occur within the ecosystem. Total value created reflects the value of access to and engagement within the system as a whole.

This creates a substantial opportunity for organizations to insert themselves within emerging ecosystems. Mechanisms are required and can be established to share the value created for access among ecosystem members, whether through central allocation, looser orchestration or some other arrangement.

4. Key dimensions of an E2E economy

E2E is characterized by hyper-connectedness and collaboration of consumers and organizations across the gamut of value chain activities: co-design, co-creation, co-production, co-marketing, co-distribution and co-funding. In this integrated system, consumers and organizations work together to create value, with transparency driving trust and effectiveness. The differences among the three types of economic models can be illustrated by considering four key dimensions: connectivity, interactivity, awareness and intelligence (see Figure 4).

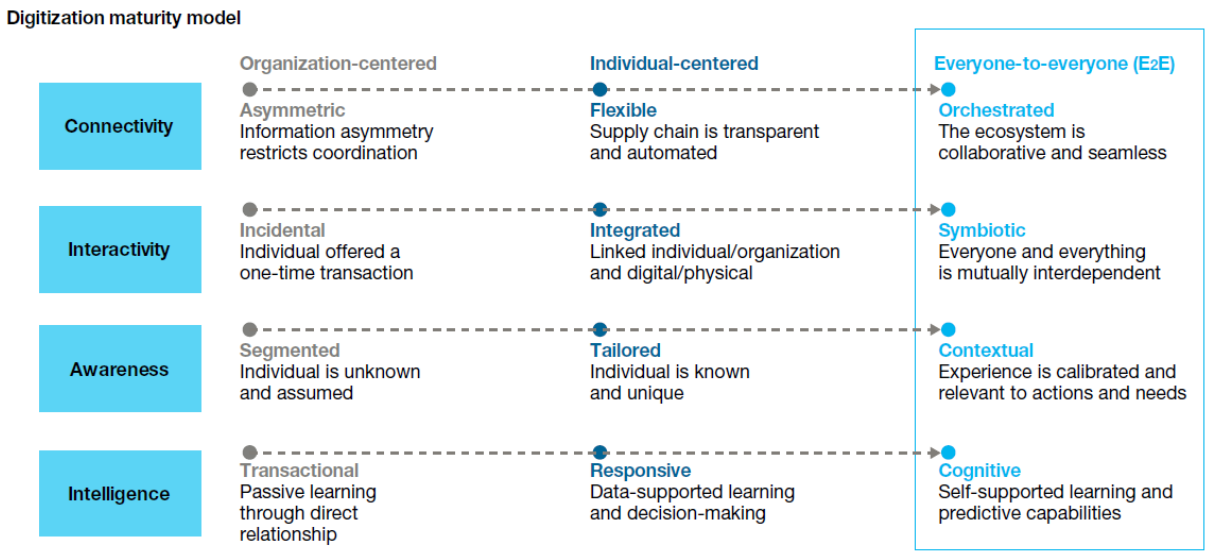

Fig. 4. A comparison of 'digitization maturity' for three economic models: organization-centered, individual-centered and E2E. An E2E environment is orchestrated, symbiotic, contextual and cognitive.

4.1 Connectivity: How is the ecosystem coordinated and what are the driving forces?

In an organization-driven economy, connectivity is best described as *asymmetric*. Information flows in one direction – from the organization to the consumer. Traditional insurance is one example, both because insurance costs are driven up by unknown risks that drive complexity and because there is limited visibility into operations of insurance providers such as how premiums are determined and approval/claims processing.

In the individual-centered economy, *flexible* connectivity prevails, thanks to a supply chain that is transparent and automated. Traffic management systems are an example of connectivity that is more digitally mature than in an organization-driven setting. For example, real-time traffic management information systems such as Bitcarrier get data from wireless network activity and the information enables active traffic management and identifies pedestrian movements (IBV, 2013). Knot Standard, a clothing retailer, allows individuals to order custom-fitted suits, shirts and other men's clothing by transmitting their measurements digitally via webcam or other methods, including use of a local tailor or an old suit (2013). The company guarantees a "100% perfect" product to be shipped in 20 days.

In the future, connectivity will become orchestrated, within an ecosystem that is collaborative and integrated. An example of this is Kiva.org, a microfinance non-profit provides small, interest-free loans around the world. Through its online community of over 600,000 lenders, Kiva has issued over US$250 million in loans to hundreds of thousands of people in 60 countries since 2005. With U.S. loans comprising less than 1 percent of borrowers, it partnered in 2010 with Visa on a program to help small Gulf Coast businesses get microloans. Expanding further, Kiva formed Kiva City with the Clinton Global Initiative to serve small businesses in American cities by collaborating with civic leaders, community organizations, financial institutions and lenders. Within three hours of launching in Detroit, Kiva raised over US$25,000 to help fund five local start-ups and 14 loans totaling more than US$125,000 were fully funded within 24 hours of launching in New Orleans (Schwartz, 2011).

4.2 Interactivity: What is the depth of relationship between the individual and the society?

In an organization-centered economy, interactivity is best described as *incidental*, where an individual is offered a one-time transaction. Interaction between organization and consumer only occurs because it is necessary for a transaction to be executed. Product-focused retailers

are one example, operating with high turnover, low margin and low-value transactions. Here, the goal is to maximize volume as a priority over developing long-term, personal consumer relationships (Hurlburt, 2013).

By comparison, the interactivity in an individual-centered economy is *integrated*, linking individuals with the organization, as well as linking the digital with the physical. Digitized eyewear purchasing is an example of integrated activity that is more digitally mature than in an organization-driven setting. Retailers such as Warby Parker offer online, direct-toconsumer sales for eyewear bypass physical outlets. Online retailers focus on low prices and convenience as they digitize physical products: consumers can receive glasses to try on at home or try on glasses virtually (O'Toole, 2013).

The future of interactivity will be *symbiotic*, in which virtually everyone and everything are mutually interdependent. An epidermal electronic system is such an example. Electronic circuits that are like a "second skin" and are aware of a user's cognitive state can stimulate tissues for rehabilitation. Future applications are expected to blur the physical and digital further and extend to include external limb control, sub-vocal communication and military uses (National Science Foundation, 2013).

4.3 Awareness: What is the depth of market insight and how is it reflected in the customer experience?

In an organization-driven economy, awareness is *segmented*, with individuals being both unknown and assumed. Traditional beverage marketing illustrates this approach. Beverages maintain classic flavors with some regional diversity. Manufacturers use traditional demographic and psychographic consumer segmentation to promote products Wind et al, 2007).

But in an individual-centered economy, awareness is *tailored* and each individual is known and unique. Mass customization in retail is an example of awareness that is more digitally mature than in an organization-driven setting. For example, Jockey, a clothing manufacturer, developed a new volumetric bra featuring a new sizing system offering 55 size combinations based on surveys of women. These size combinations create a mass-customized alternative to existing bras, which are often described as ill-fitting (Clifford, 2013).

The future of awareness will be *contextual*, with an experience that is calibrated and relevant to each individual consumer's preferences, location and moment in time. An example of this is a projected future retail experience: retailers integrate data across multiple sources, combining location, behavior, servicing, social, virtualization, fulfillment and access to create

a “for-me-only” experience. The provider of the retail experience may, in fact, know the consumer better than the consumer knows his- or herself. The future contextual experience may even be capable of turning on when needed and off when not wanted (IBM, 2013).

4.4 Intelligence: How is decision-making informed?

In an organization-driven economy, intelligence is primarily *transactional*, which results in passive learning through direct relationship. Traditional telephony illustrates transactional intelligence since providers offer combinations of subscriptions and service packages that can be flexibly combined, but do not vary based on usage history or length of consumer relationship (The Economist, 2013)

By comparison, an individual-centered economy has *responsive* intelligence, featuring data-supported learning and decision making. Energy optimization systems are an example of intelligence that is more digitally mature than in an organization-driven setting. Optimization systems like the Nest learn user preferences and behavior for smart energy management. These systems leverage data to support convenient product usability and future development of energy efficiency services (Henry, 2013).

In the future, intelligence will become *cognitive*, using probabilistic techniques that enable computer-based decision making. One example of this is applying the artificial intelligence of IBM Watson in the field of medicine. Watson will soon help diagnose medical conditions by leveraging its cognitive ability and ingested medical documentation, and continuously learning from mistakes. In a recent test, Watson successfully diagnosed lung cancer 90 percent of the time compared to 50 percent for human doctors Steadman, 2013).

5. The new digital reinvention framework

A new innovation layer – beyond the traditional definition of digital transformation – is emerging. Organizations should continue to invest in individual-centricity while recognizing it is just the first step toward the radical digital reinvention in the future.

The E2E economy requires reinvention of markets, strategy and value from the ground up. And with the shift to E2E, the historical Digital Transformation Framework (Berman, 2013) is being replaced by a new Digital Reinvention Framework (see Figure 5) which features ***orchestrated*** *connectivity*, ***symbiotic*** *interactivity*, ***contextual*** *awareness* and ***cognitive*** *intelligence*.

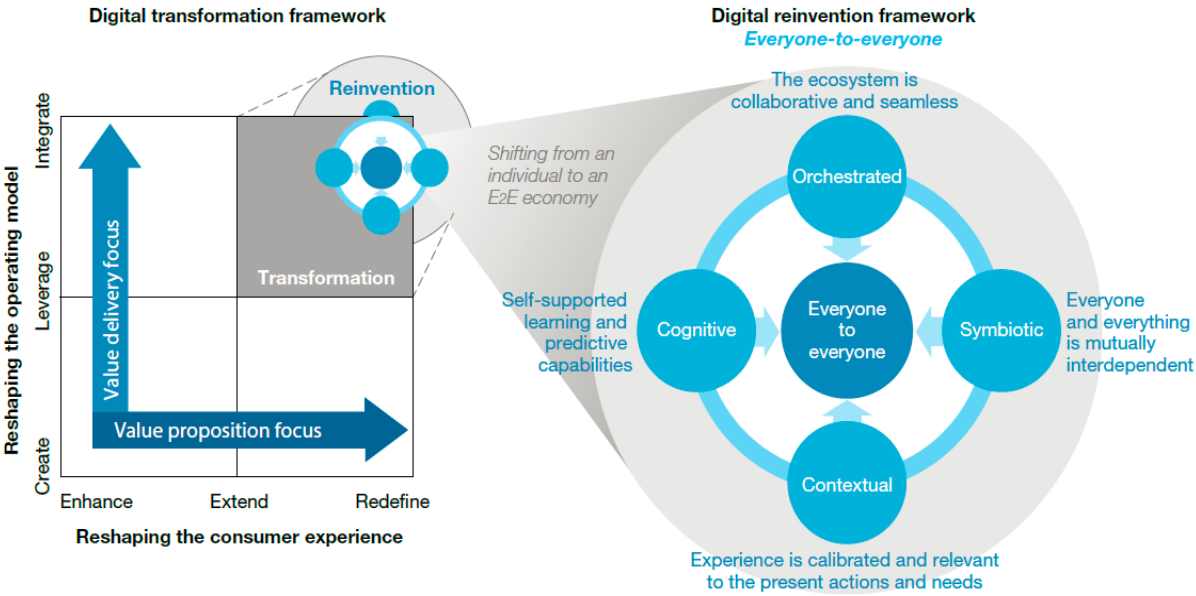

Fig. 5. The new Digital Reinvention Framework supports the E2E economy

Successful organizations will be open to the challenges ahead and rethink all aspects of their business. Above all, they must decide *where to focus*. The future will be very different from the present. Rethink how your organization interacts with consumers and markets. Do not allow what is possible today (given existing IT or other capabilities) to limit you. After defining compelling experiences, identify monetization opportunities and technical/ organizational requirements. Develop the business case and make investment decisions accordingly.

Next is the decision about *how to focus*. In the future, organizations will become even more specialized than they are today. Understanding what you are good at will become essential. Take a highly critical, impartial look at what you do well, and what others do better. Agree to focus your efforts on those activities that truly differentiate you from your competition. Make investments there, to build and maintain a position of excellence. Source most or all of the other functions in your business to top providers. Focus on those activities that differentiate you.

The other facet of determining where to go is *building and integrating new capabilities*. Skills and capabilities required for business change through time – those required for success in the future will not necessarily be those that have contributed to success in the past. Take an objective look at what skills and capabilities you have today, what will be required in the

future and move aggressively to retrain or recruit. Think through new models of investment, metrics and incentives, and begin building an organization designed for the future.

5.1 Step one: Open up to external influences

Turbocharge insight. Insight will play an ever-more important role in understanding not only changes in consumer attitudes and behavior, but also looking across industries to scope business model possibilities and implications of new technologies. Upgrade insight to encapsulate capabilities such as social analytics and scenario envisioning.

Embrace digital natives. Markets are unlikely to incrementally evolve as they once did. Organizations will be much more susceptible to disruption coming from both inside and outside their industry parameters. Millennials and other digital natives are much more likely to anticipate the power of new technologies and experiences. Build processes that channel insights directly from Millennials to permeate the C-suite and others.

Internalize consumer influence. Invite consumers to participate in ideation, project evaluation and development processes, as well as in fundamental business strategy development. Establish processes for consumers to have a real say in key business decisions. Increase decision making permeability, and rethink key initiatives as consumer collaborations.

5.2 Step two: Connect to new ecosystems and partners

Conceptualize ecosystem parameters. In the future, organizations will operate in ecosystems of converging products, services and industries. Become proficient in understanding new ecosystems as they emerge. Identify and assess new sources of value and define where your organization might sit and what role it might play.

Build systemic connectivity. Application programming interfaces (APIs, a set of protocols for building software applications) and cloud computing are the tissue connecting ecosystems of organizations and individuals. The influence of APIs and cloud go far beyond the IT department. If handled right, APIs and cloud can empower dynamic new business models, consumer interactions and organizational flexibility.

Establish ecosystem partners. In the future, the most successful organizations are likely to be those who partner with the right organizations or people in the right ways. Partnering with anyone will introduce risk and confusion. Successful organizations will understand their capabilities and how to realize synergies with ecosystem partners.

5.3 Step three: Invest in digital mobilization across the organization

Appoint digital torchbearers. Succeeding in the E2E economy will require fundamental rethinking of markets, consumers and products and services. Appoint specific individuals to be digital torchbearers. Mandate these individuals with influencing strategy and educating other executives. Give them real authority, including a say in approving new projects and other investments.

Secure functional/business unit buy-in. Digital reinvention will require IT and the business to work together like never before. Compel a closer working relationship. Co-location, cross-functional tours of duty and combined planning exercises are among initiatives that might be pursued.

Pursue continuous innovation and experimentation. As new technologies mature and businesses adapt, the economy will begin to shift from an individual-centric to an E2E paradigm. Think about how to shift as well – continuously identify opportunities, conceive business models and navigate new ecosystems. Pursue experimentation, and apply the results of experiments to the business if successful.

6. Conclusion: Seize the future through digital reinvention

Until the turn of the century, the most powerful impacts of new technologies have taken years to emerge. Today, we're experiencing the transformative impacts of social media, mobile, analytics, cloud and other technologies at a highly-accelerated pace. Digital disruption has begun: it marks the start of a new technological and economic paradigm requiring the re-imagination of markets, strategy – and value itself.

Organizations must start reinventing themselves from the ground up to remain competitive. On one hand, rapid digitization is creating new value and new opportunities for organizations to gain influence and innovate. On the other, established norms are in peril due to the blurring of traditional industry definitions and formation of new ecosystems. To prepare for a radically different tomorrow, those who seek to prosper under digital disruption should constantly redefine strategy in terms of how best to open up to external influences, connect to new ecosystems and partners, and how they can drive digital mobilization across their organizations.

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