Business 4.0™
The behaviors of
digital transformation
Tracking the Business 4.0™ Impact
A TCS Survey

When disruption knocks, opportunity is always close behind. The rise of digital technologies has completely upended industries, companies, and consumers, throwing open abundant possibilities to redefine every aspect of business. We call this transformation Business 4.0™.

Business 4.0™ is the next wave of change breaking over organizations across the world. Digital technologies such as cloud, automation, robotics, and artificial intelligence are vital enablers of this transformation, but it is not enough to use these to simply mechanize existing functions.

Instead, firms are using technology as a foundation for four critical business behaviors that will help them move to the next level:

1. Driving mass personalization
2. Creating exponential value
3. Leveraging ecosystems
4. Embracing risk

TCS’ upcoming global research study – based on a survey of 1,000 senior executives across industries – will show the way forward by helping organizations benchmark their progress against peers. While the full report will be published in early 2019, this paper outlines the principles of Business 4.0™ and shows how early adopters are already creating huge value.
There is no such thing as a steady state any more. There is a period of intense change followed by a phase of stability, followed by another period of intense change. The most difficult thing is helping people overcome resistance to change when they are used to business as usual lasting for 10 years.

Brad Clay,
Chief Information and Compliance Officer, Lexmark International
Driving Mass Personalization

Of the four Business 4.0™ behaviors, mass personalization is the most familiar to business leaders. As consumers, we are all aware of how brands – retailers in particular – personalize offers and pricing according to previous purchases. Buy a set of golf clubs online, and prepare to be offered additional golf-related products and services – some from the original vendor, some from third parties.

Digital technologies allow companies to offer personalized products and services at scale, which significantly improves the customer experience and leads to higher revenues.

Digital leaders are best at tailoring offers to their customers' needs and appetites. Amazon, for example, has taken a lead in the race toward mass personalization. It has built analytical tools that can make sense of customers' buying habits and their likelihood to buy again, as well as algorithms that suggest additional products.

Most companies today have the capability to offer a special price or bundle to a customer on a one-off basis – by product or service. However, this does not mean they can carry out mass personalization at the same scale.

"While conceptually everybody understands the experience story, they often fall short on the implementation," says K. Ananth Krishnan, Executive Vice-president and Chief Technology Officer at TCS. "To really exploit the opportunities presented by mass personalization, organizations need to be able to calculate offers and pricing continuously. They need to be able to do this every time, all the time, on a very granular, per interaction, per transaction basis."

And personalization can extend beyond pricing and offers into other customer-facing processes. This is where machine learning and omnichannel customer experiences come into play. Machine learning enables organizations to build an accurate picture of customer data, including their buying behaviors, so that personalized offers can be made.

For Mitch Autry, Global Integration Head at payment processing company Worldpay, machine learning is likely to play an important role in the future. "Machine learning means you can anticipate the needs of customers at an individual level," he says. "And supply much more information to create more proactive chat, or respond to incoming enquiries more effectively."

Truly omnichannel customer experiences build on this by enabling customers to follow a journey across multiple channels – without having to provide more information as they begin a new interaction, whether on a web page, in-store, on an app, or through a contact center.

“Omni means both a consistent and a contextual experience,” agrees Prashant Nateri, Business Management Director for retail, consumer, and business banking at Huntington National Bank. “I want to make sure that if a customer starts with self-service on mobile or online, and in the middle of that process needs some help from customer services, the transition is seamless and that the person they speak to has the context of what they were doing prior to them being transferred.”
Facebook: Your wall, our tool

Facebook personalizes each user’s wall according to their friends’ circle and interest areas. This not only promotes a high degree of customer engagement, but also becomes an effective tool for targeted advertising. The social network’s core business model is built around mass personalization, and it allows companies to reach the most relevant audiences with the greatest propensity to buy.

Personalization is what is going to be visible to the customer. They are asking, ‘How much is my bank my true partner who knows me, understands me, and tells me proactively where I need to be going?’ This is what new fintechs are offering, and we have to do the same.

Prashant Nateri,
Business Management Director,
retail, consumer, and business banking,
Huntington National Bank

http://www.businessofapps.com/data/facebook-statistics/#3
Creating Exponential Value

Digital technologies enable companies to unlock new revenue streams and expand their addressable customer base. Organizations do this by integrating digital or online channels, and creating new business models that move from selling one-off products to offering subscriptions to products and associated services. Popular subscriptions are now available for boxes of curated beauty products, audiobooks, coffee, home-cooked meal ingredients, and even razors.

Products-as-a-service or servitization, whereby companies use their products to sell knock-on services, also bring higher revenues. The data the process generates can be used as a new product; for example, 'tire-as-a-service' data can be sold to car insurance companies.

And digital technologies allow companies to create value at multiple levels, which means that transactions are no longer linear. Organizations can derive more value – and even new products and services – from a single transaction.

Most organizations today operate at one or two value levels. They enact a primary transaction, then either analyze data to help encourage the next sale, or sell anonymized data about the transaction to another party. A power utility, for example, offers electricity services, and then creates a second income stream by selling anonymized data.

However, it is now possible to operate at even 10 or more value levels: data is used in multiple layers to provide the best products, services, delivery, and prices. Google, for example, uses its primary search engine service for a range of value propositions. Apart from using the search data for a host of customer value additions – such as personalized updates or traffic alerts – it monetizes its services through Google Ads, targeted email campaigns, sponsored searches, and a multitude of other offerings.

This type of organization can analyze each purchase and work out the propensity to buy based on the actions a consumer takes before the purchase. Taken together, there is a set of correlated events, including other products or services a buyer might have viewed and the way they might have compared the prices and features of the product or service.

This detail is not just monetized with the immediate purchaser and seller, but is also made available to the supply chain or ecosystem of related products. This creates additional information that can then be shared with all relevant vendors. It enables sellers to turn multiple layers of information about a sale into individual products that are monetized, sold, and made available to multiple buyers and sellers, as well as the original buyers.
Dollar Shave Club: Grooming as a service

Dollar Shave Club, which started in 2011 delivering razors on a monthly subscription, added other men’s grooming products to its offerings in 2014. From a single linear offering, the US-based company has been able to add multiple layers of value. Dollar Shave Club has expanded from the US to Canada, Australia, and the UK, and at the time of its acquisition by Unilever for $1 billion in 2016, it had three million customers.

Best Buy: The geek service

Consumer goods retailer Best Buy moved from a product-only business to also offering services and support. Total Tech Support, for instance, is a subscription service where Best Buy’s ‘Geek Squad’ looks after customers’ technology – offering support by phone, in store, and even in the customer’s home.

Leveraging Ecosystems

Organizations are familiar with extended supply chains, but only a minority have started working within a truly collaborative ecosystem.

How does this ecosystem work in practice? One example might be a company that provides motor insurance but recognizes that customers expect to buy more than just a policy – they want peace of mind. The insurance company builds an ecosystem of partners that can come to customers’ assistance if there is an emergency or an accident. Different parts of the ecosystem take responsibility for picking up customers from accident sites, repairing their vehicles, and delivering the vehicles back to the respective owners.

Platform technology means that companies are no longer forced into silos by their capabilities. Instead, they can offer consumers broader propositions based on dynamic collaborations with partners.

Aggregator platforms such as the Apple Store, Amazon Marketplace, and Google Play are showing how this approach can work effectively. Banks, meanwhile, are starting to use open platforms to integrate with fintechs and universities to bring new products and services to market.

Björn Ekstedt, the Chief Information Officer of PostNord, a Scandinavian communications and logistics company, says technology – including standard APIs – will unlock new ‘microservice’ propositions such as ‘warehousing-as-a-service’ and flexible last-mile delivery through various network models, from self-employed cyclists to larger delivery companies. “Online e-commerce means there is an increasing volume of parcels to deliver, with a wide range of services. There are also growing numbers of small retailers who need temporary access to storage. We have to look at how to build a fully-integrated IT and comms network to support these trends.”

Integrated systems will also enable organizations to collaborate with partners in their ecosystem and co-create value for end customers. “We can scale the business by extending parts of our offering further into the channel, where partners can personalize and customize products and services for their customers,” explains Brad Clay, Chief Information and Compliance Officer at imaging products maker Lexmark International. “We are looking at ways to work with partners on new services and business models, and for that we will really need zero latency across platforms.”
Airbnb: Homes on a platform

Founded in 2008, Airbnb now describes itself as a “global travel community that offers magical end-to-end trips, including where you stay, what you do, and the people you meet.” It offers lodging services without owning a single hotel using an ecosystem of homeowners through its online platform. Apart from using technology to monetize individual properties, Airbnb has started to offer ‘experiences,’ which give customers access to local activities such as concerts and tours. And it is making the most of its growing ecosystem in order to achieve this. Its partnership with dining platform Resy⁴, for instance, allows users to book local restaurants in selected countries.

AGL: Energy from the ecosystem

In Australia, energy provider AGL decided to help its customers buy energy in a clearer, more effective way. It wanted a cloud-based platform to make price discovery and acceptance much easier for its commercial customers – and needed to use its ecosystem of partners to get there. Together with its technology consulting firm, it pulled in expertise from innovative organizations such as the Indian Institutes of Technology. This collaboration ensured that AGL could put its name to a market-leading service – the Business Energy Marketplace – that gives customers a much simpler price comparison service.

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Embracing risk is the most difficult behavior for many organizations to adopt, because it goes against traditional management approaches. Business leaders are accustomed to undertaking initiatives with the least risk and the fewest resources.

In the digital era, however, it is important to embrace risk to stay ahead of the competition in innovation and give customers better value. Technologies such as cloud, combined with an agile approach, have made it easier to manage risk associated with innovative ventures. Moreover, microservice-based applications have reduced the risk and cost involved in introducing new features, services, and products, besides accelerating the speed-to-market.

“The agility component of embracing risk is compelling,” says TCS’ K. Ananth Krishnan. “If there are shorter cycles from idea to execution, organizations can change course and adapt to shifting circumstances much better than somebody with a very inflexible timeline that runs into months or years.”

Another important part of embracing risk is for organizations to think differently about the resources at their disposal. Cloud computing, for instance, removes limits on IT capabilities to scale business operations, while the open developer community can help organizations access a range of IT resources and innovation. This abundance of resources and the availability of digital technologies are helping companies redefine risk, and try new concepts regularly and rapidly.

“The rate of change and the capabilities of technology today are fantastic,” says Lexmark International’s Brad Clay. “The cost of entry to the cloud is virtually zero, and availability is almost instant. We can have new services in place for clients in a matter of days.”

Changing the established ways of conducting clinical trials is perceived as risky, and understandably so, as hundreds of millions of R&D dollars are at stake. A major pharmaceutical company is mitigating this risk by utilizing validated digital technologies to keep close tabs on any clinical trial element it is modifying. “Like many pharmaceutical companies, our company has established a dedicated clinical innovation group tasked with pushing the envelope on new ways to collect clinical trial data in a more cost-effective and patient friendly manner,” explains a company executive. “Once a new process has been created, and safeguards have been put in place, the real challenge is to get buy-in from all stakeholders to use this novel approach in a live clinical trial, i.e. achieving consensus to embrace a small amount of risk that things don’t work out as intended. It is important in this context to point out that patient safety must never be compromised when trying a new approach,” he adds.

Mitch Autry, meanwhile, says that optimization using robotic process automation – especially in the back office – will help Worldpay continue to grow internationally and increase scale. “We are a risk-averse organization because of the data we hold,” he says. “But by digitizing and automating processes, as well as leveraging ecosystems, we can take our global scale to the next level.”
Facebook: A business model based on mass personalization

Facebook users’ “walls” give the company a high degree of customer engagement and are an effective medium for targeted advertising. The social network’s core business model is built around mass personalization, and it allows companies to reach the most relevant audiences with the greatest propensity to buy.

Mohammed Jalaluddin,
Director, Office of Technology Support and Innovation, Mississippi Department of Employment Security

We need to accept the risk of changing governments, changing political structures, changing technology. We have to be brave enough to accept: ‘I’m going to try this. It’s new technology, but I’m going to try it.’ In an agile mindset, you’ve got to accept the half-truth, handle the smaller chunks, and build on top of that.

Pratik Pal,
President – Retail, Consumer Goods, Travel, Transportation, and Hospitality, TCS

Retailers have amassed a lot of legacy over the past several years in terms of systems, applications, culture, and processes. Change is not easy, but they realize that if they don’t change and adopt modern technologies, new ways of ‘fail fast’ working culture, and embrace risk and agile ways of working, they will be left behind. The business leaders realize that there is no choice – they have to do this.
Becoming a Business 4.0™ organization will not happen overnight. The businesses cited as examples in this paper took their first steps toward digital transformation several years ago – or are in the process of implementing new business models. How can organizations compete with these pioneers? There are five initial takeaways from our research so far.

1. **Collaboration with peers**, even competitors, can be a real success factor. Working together, organizations can effect industry change that removes regulatory barriers and increases trust in new processes that use technologies such as blockchain.

   “Within the ‘safe space’ of TransCelerate BioPharma Inc. (a non-profit enabling collaboration across the biopharma community), companies large and small can exchange ideas and experiences while collaborating on new solutions like Risk Based Monitoring (RBM),” explains an executive for a major pharmaceutical company. “This common approach reduces hurdles for later adoption of new technologies within a highly regulated sector.”

2. Many of the organizations that are already on the road to Business 4.0™ have found that adopting **agile methodologies** gives them quick wins that prove the case for further transformation.

   “Agile sets us up in a way that we’re in a cycle of continual improvement,” says Tobi Cates, Administrator at the Office of Workforce Programs for the Wyoming Department of Workforce Services. “For us, as a government organization, agile is truly key to how we begin to reform. I think it can start in small pockets, because then it will have exponential growth. Agile can overlay everything: it doesn’t just apply to the technology world.”

3. It is crucial to have **buy-in from all stakeholders** involved in the process, and that the entire transformation effort is driven from the very top. Otherwise, it will fizzle out.

   “Innovation and transformation have to be driven from the top down, as they require dedicated teams and budgets,” says the executive from the pharmaceutical company. “It’s not something that you can do in parallel to your day job, because when the going gets tough innovation will fall victim to the business priority of developing new medicines.”

4. Understand what your competitors are doing, but **inspiration can come from any sector**. There is much to learn, for instance, from companies such as Uber and Airbnb, which understand how to harness abundance in resources rather than planning with finite resources in mind.

   “We look at what other airlines are doing, but ideas and solutions can come from anywhere,” says Abdul Rahman Mohamed, the Chief Information Officer of Malaysia Airlines. “To retain customers and create new ones, you have to focus primarily on their experience with you. An open architecture helps to collaborate with ancillary businesses.”
5. Design any new processes, or redesign and simplify existing ones, with technology as a priority – a Machine First™ approach. How can you use technology to take mechanical tasks away from people and leave them free to devote their time to higher-value tasks? And how can you use that technology to tap into the data you need to create better products and services for your customers?

"In 10-15 years’ time a pharmaceutical business might look not unlike an IT company," says the executive for the major pharmaceutical company. "Already now one of our main activities is collecting data and making it accessible to a diverse group of experts, employing smart technology to make the best drug development decision at the earliest point in time. And while pharma is often seen as laggard when compared to other industries, we need to adopt existing technologies and ecosystems much quicker if we want to stay competitive and deliver value to our customers."

"Within the world’s leading, future-ready enterprises, business processes are seamless. With automation at its core, a Machine First™ approach affords technology the first right of refusal. Powered by analytics and AI, this approach drives greater efficiencies and creates exponential value for the enterprise. When delivered in an agile manner, a Machine First™ approach pushes the boundaries of human potential. The transformational journeys companies must take to position themselves for future success begin with a machine-first approach and, ultimately, achieve Business 4.0™.

Krishnan Ramanujam,
President, Business and Technology Services, TCS
“Businesses across all sectors recognize the risk of being disrupted by more agile, digitally empowered competitors – whether traditional incumbents or new challenger brands,” says TCS’ K. Ananth Krishnan. He is right. But organizations also have an unprecedented opportunity: if they harness powerful technologies themselves, they can radically change their business strategies and confront market disruptions head-on.

There are important drivers for Business 4.0™ – not least, pressure from stakeholders and investors to improve performance by embracing new business models.

Companies that can demonstrate progress in all four behaviors will be few and far between, but many are already taking their first important steps with respect to one, two, or even three, and are creating value in a range of sectors and geographies.

Our ongoing research will uncover the first in-depth insights about which organizations are adopting the Business 4.0™ behaviors, the benefits they have seen as a result, and the challenges they face as they pursue transformation.

We believe this study will provide a pragmatic course of action for organizations that know they need to change, but are not sure where to start.
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For more information on how TCS is partnering with global enterprises to drive Business 4.0™ transformation, visit - www.tcs.com/business-4-0

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