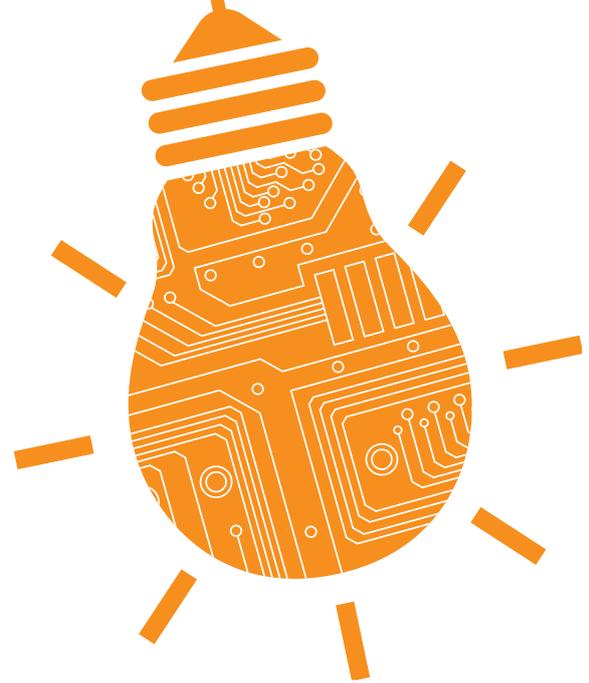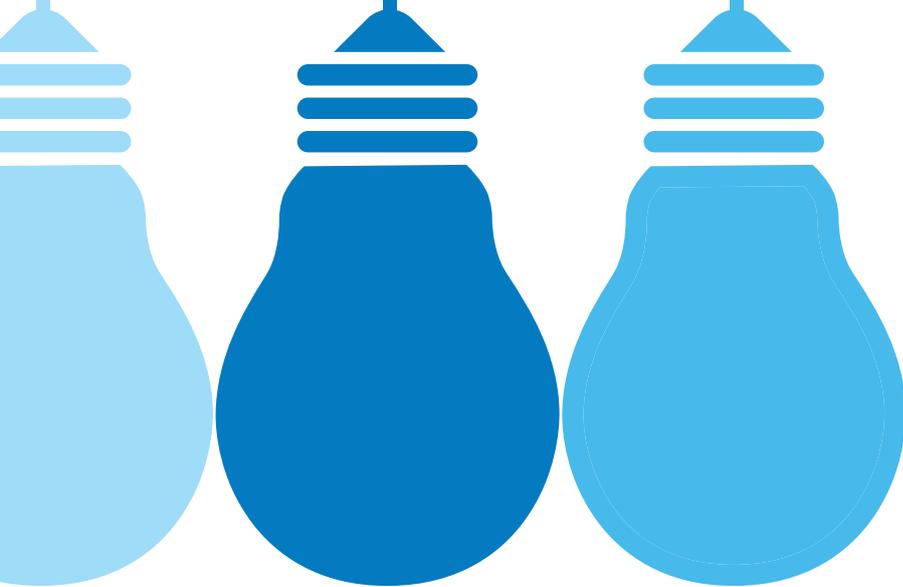# From Digital Experimentation to Digital Transformation

Managing the duality of new digital offerings and renewal of legacy products to transition into a digital enterprise

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Many of today's most established organizations are feeling overwhelmed by the complex duality of new digital products and the renewal of legacy products. Seemingly diverse industries, including telecommunications, media, automotive and insurance, are being radically disrupted by today's digital revolution. This paper discusses how established companies can manage the duality dilemma triggered by the coexistence of new digital offerings and legacy products, and provides expert insights into how a common set of core capabilities can accelerate the digital transformation journey ahead.

The authors of this white paper bring years of experience leading strategic engagements for companies grappling with these complex issues. Throughout you will find their objective views, backed by data and real-life examples, to help executives better understand a potential path forward.

A duality dilemma

A communications services provider discovered the hard way that *New* digital products require not only a new product development approach, but also a fundamentally different operating model and culture to be successful. The company launched a strategic initiative to create a digital telematics-based application, to be sold directly to consumers. The new application would help customers reduce insurance premiums through usage-based insurance policies, provide visibility into teenager driving habits, and offer remote car door unlocking. This product was conceptualized, prototyped and developed outside of the company's traditional product development process.

During market launch readiness, the president of business development suddenly discovered the duality dilemma – the successful launch of the new digital product would require product management, operating model, culture, competencies and skills which are vastly different from their legacy approach to product management. They had to make a critical decision whether to

run the new digital product as a stand-alone, new subsidiary with its own infrastructure and operating capabilities, or to bring it in-house and manage it as a line of business with its legacy products. With our support and leadership, we ultimately helped the client to bring this new product offering into the company and manage it with a new set of capabilities. This ultimately led to a successful launch while also significantly improving the company's legacy products' competitive positioning.

In this example, *New* products connote a new approach to the product lifecycle and ecosystem, not just a new product in the traditional sense. In a similar vein, *Renew* products suggest a fresh perspective on legacy or traditional products. Rather than simply toss out the old and bring in the new, 'renew' directly acknowledges the importance of existing cash flows from current products and long-standing investments in infrastructure. Far from being a liability, renewal products create an economic moat against the onslaught of new competitors

weaned as digital natives. Key structural differences exist however. While new digital products can be sold directly to consumers, in many industries like media, consumer goods and electronics, legacy products are often sold to consumers through intermediaries. The cultural agility required for new digital products is very different from the often slow-moving, bureaucratic processes for traditional products. Many companies are currently contemplating a strategic decision – whether to manage their legacy and new digital offerings with the same product development processes, organization structures and application stacks, or to spin them off as two completely different offerings even though they may serve the same customer segments.

According to our analysis and research, digital services revenue in the telecommunications industry continues to grow at double-digit rates since 2011. Industry disrupters like Netflix, Amazon and Hulu have launched internet video (over-the-top, or OTT) services which have forced traditional telcos and cable companies to respond by creating their own internet video services. For telcos, these services have to coexist with the traditional set top box video, broadband and telephony products that have different business models, regulations, pricing structures and customer expectations.

In the retail industry Amazon has forced big box retailers like Walmart and Target to completely reinvent their online channels – and to view e-commerce as a core business. In fact, Walmart's acquisition of Jet.com is a powerful testament to both the importance and urgency of the online shopping model at scale. Therefore, many major retailers are being challenged to manage this duality of digital and brick and mortar storefronts to achieve growth objectives. In the financial services industry, the rise of fintechs has forced traditional banks and insurers to launch their own fintech products which will now compete for resources with traditional banking, wealth management and insurance services. We see this trend of managing duality of digital and legacy products emerging across almost all industries as companies respond to the disruption of digital.

Challenges confronting organizations managing the duality dilemma

According to a 2015 Gartner survey, 22% of organizations said their business is digital, with 72% expecting to complete their digital business transformation within two years. Based on our experience, many organizations are struggling to manage the duality of new digital products and renewal of legacy products during the transition from early stage experimentation to digital transformation due to the impact of challenges depicted in this figure. Let's examine these more closely in this figure below.

New business models

The competitive threats posed by new business models adopted by digital natives are different from that of traditional competitors with similar models. Netflix poses a different type of challenge to AT&T than what AT&T experiences from direct competitors like Verizon or Comcast. Similarly, Amazon poses a different type of marketplace competition to Walmart than the traditional competition between Walmart and other retailers. Digital natives are disrupting industry business models, while traditional competitors seek to gain market share and preserve existing industry economic models. Traditional companies experience this duality dilemma first-hand, every day.

Revenue cannibalization

Digital natives tend to disrupt with very aggressive pricing. If traditional companies match aggressive pricing from digital competitors, they create a price war, which ultimately can cannibalize revenue from their legacy products. If the new revenue generated from digital products does not offset the revenue decline from legacy products, the result is a net revenue decline for traditional companies. We see this example with over-the-top (OTT) video and telecom (cable) providers. Netflix charges a fraction of what telecom and cable companies charge for video services. Telcos responded late to the market with their own OTT offerings, driven by an unwillingness to cannibalize their video revenue. Consequently Netflix was able to dominate the OTT market, evolve its business model and become a much stronger competitor by entering into the programming content business. Today, telecoms and cable companies are creating "skinny" video products and launching their own OTT services – both of these products are cannibalizing multi-channel video products.
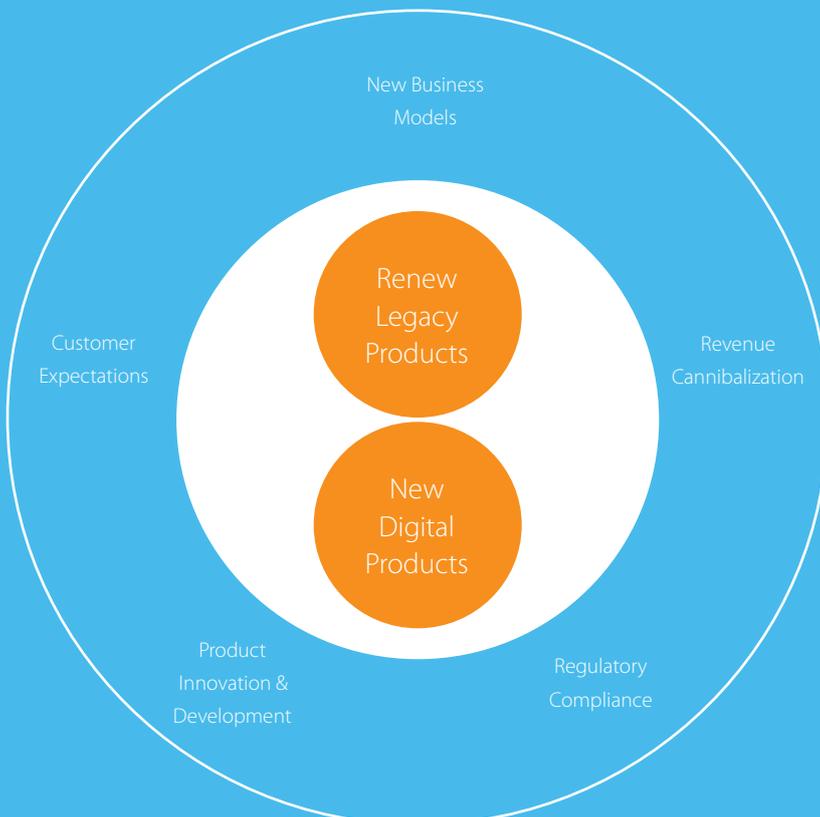
Regulatory compliance

Companies in highly regulated industries like telecoms and financial services are subject to greater regulatory scrutiny of their legacy products than their digital native competitors. Having to operate under more stringent rules makes it difficult for traditional companies to respond aggressively to digital competition with the full strength of their resources. For example, if the U.S. Federal Communications Commission (FCC) had not introduced the Net Neutrality Law (which compels telecom and cable companies not to offer discriminatory broadband services), telcos would have responded more aggressively to Netflix and other OTT providers by providing the OTT customers with subpar broadband speeds. In banking and financial services, traditional banks are more regulated than fintechs, making it more difficult to respond with competitive offerings.

Product innovation and development

With the increasing maturity of open source technologies and applications, digital natives are adopting an open innovation strategy. Contrast that with the traditional "walled garden" approach to innovation, which is based on internal research and development activities. While internal research was historically considered a competitive advantage (think of ATT Labs, GE, IBM and Xerox), it also bred cultures that were slow-moving, bureaucratic and often highly inefficient. Open innovation offers flexibility, speed-to-market and access to expertise. Managing this duality of both open and walled garden innovation naturally increases complexity.

CHALLENGES OF THE DUALITY DILEMMA

New Business Models

Customer Expectations

Revenue Cannibalization

Renew Legacy Products

New Digital Products

Product Innovation & Development

Regulatory Compliance

Digital product development requires frequent releases of new features, quick responsiveness to customer feedback and organizational agility. On the other hand, legacy products have traditionally survived through fewer and less frequent new feature releases, less responsiveness to customer feedback and slower-moving execution processes. The duality dilemma for established companies is how to manage a two-speed product development process with two-speed IT, without adding significant increases in complexity and cost.

Customer expectations

Through online and mobile apps, consumers use technology to find the lowest price, best quality and features closest to their needs. Music lovers who were accustomed to buying entire albums can now purchase individual songs, or subscribe to services like Spotify or SiriusXM. Digital businesses have radically elevated customer expectations, empowering today's consumer to demand exactly what they want, when they want it, how they want it, and at the lowest price. As digital businesses train consumers to expect amazing experiences, this principle will become the gold standard when these same individuals interact with traditional brick and mortar companies for legacy products.

In summary, these challenges help explain why so many organizations today are hesitant, or not fully able to embrace digital transformation. Instead, these organizations approach digital experimentation by creating separate digital business units, or stand-alone teams, where things may appear simpler on the surface than is actually the case. Through our experiences and in the evidence we'll provide here, this path ultimately produces greater inefficiencies and operational complexity that further hinders an organization from driving forward their long-term change agenda. So, what is the right model to solve this complex duality dilemma?

An integrated approach for managing the "duality" dilemma

Looking at all the factors above, we can see why many companies are inclined to create a separate digital products unit with completely separate processes and infrastructures. Considering that most companies want to preserve the cash flow and status quo for their legacy products, taking a silo approach tends to be an appealing strategy to stimulate growth. However, it does not recognize that the challenges shaping digital transformation can only be overcome if the initiative is viewed in the context of its potential to disrupt legacy products and the value chain overall.

In our view, organizations should leverage a new approach to digital product management: disrupt their legacy products in a positive way before allowing other companies to disrupt them. Pursuing this "constructive self-disruption" strategy requires embracing leading practices for digital product management, as it also applies pressure to improve processes and practices for managing legacy product life cycles.

Instead of focusing on discrete product capabilities for New digital offerings or Renew legacy offerings, organizations could conceptualize "platform" capabilities that can be tailored to the needs of each product. Think of products as trains and platform capabilities as rail tracks. Adopting this approach will provide opportunities to realize synergies where feasible, while minimizing impediments in speed to market, customer experience and brand positioning.

Organizations should consider a product strategy framework that enables an operational and technology capability supporting both legacy renewal and new digital offerings – while resisting the temptation to launch new products with completely separate infrastructures that are disconnected from the legacy organization. Unless the targeted customer segments are completely different, a bifurcated approach may alienate or confuse customers, as well as increase operational cost and complexity. For example, cable and telecom companies are now rapidly launching digital offerings leveraging legacy infrastructures to accelerate market launch and payback time.

CORE CAPABILITIES FOR MANAGING NEW AND RENEW PRODUCTS

Digital Products
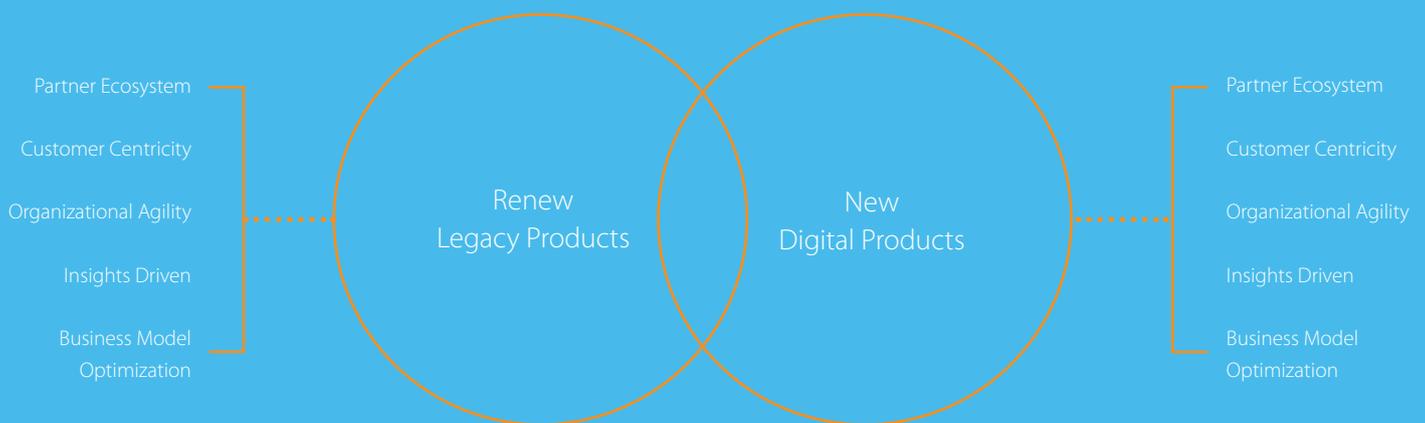
Legacy Products

Platform capabilities

Standardization of new and renew products on a set of common core capabilities

In order for companies to successfully manage the duality dilemma created by the coexistence of legacy and digital offerings, an aspiring organization must embed digital capabilities across the entire enterprise. Otherwise the inefficiencies of legacy products will become more apparent, as these offerings will struggle to meet the expectations of today's astute customer, who has been conditioned by digital businesses to expect more.

By creating a common set of capabilities aligned to support both new and renew offerings, investments in one will benefit the other, creating a virtuous cycle and enabling ROI justification with shorter payback and less risk. Creating dual-use capabilities will also allow an enterprise to better understand customer behaviors through a 720-degree view of customer data and advanced analytics, as customers migrate between product offerings. Through our client experience working through these challenges, we have identified digital enterprise capabilities that can be leveraged across both new digital and legacy renewal products (see chart below):

CORE CAPABILITIES FOR MANAGING NEW AND RENEW PRODUCTS

Partner Ecosystem

Customer Centricity

Organizational Agility

Insights Driven

Business Model Optimization

Renew Legacy Products

New Digital Products

Partner Ecosystem

Customer Centricity

Organizational Agility

Insights Driven

Business Model Optimization

Open innovation partner ecosystems

Open innovation is one of the vital traits of today's successful digital business. Digital businesses work with many partners and leverage open software and intellectual property, while companies with legacy products rely more on their internal research and development to drive innovation. For companies to successfully manage the co-existence of digital offerings and legacy products, they need the capability to manage open innovation with ecosystem partners at the enterprise level.

Cultivating an ecosystem of preferred partners to collaborate on product innovation requires a strong capability in partner onboarding,

API management and innovation life cycle management. It requires having a partnership ecosystem operating model purposely designed to optimize efficiency, increase value creation and improve mutual partner success.

Significant organizational and cultural change is required to embrace open innovation at scale to support new digital business and legacy operations, as the organization must free up capacity to identify and integrate external assets with the internal innovation process. This process requires governance for decision making and a process for managing innovation with third parties, from ideation to market launch. Intellectual property rights management is another capability required to manage open innovation at scale, and to proactively clarify ownership of assets shared with partner ecosystems.

AT&T has embraced open innovation at scale to transform both legacy products and new digital offerings. AT&T Foundry was established in 2011 in Palo Alto, California, as the engine to promote open innovation throughout the company for new digital services and traditional connectivity services. The Foundry has since grown to 6 innovation facilities across the U.S. and is supporting innovation across its legacy core products (software defined network for voice and data, business and enterprise services) and new digital offerings (internet of things, connected car, connected healthcare and cybersecurity). To drive this it has established relationships with many start-ups, system integrators, software companies, hardware manufacturers, customers and other partners.

Customer centricity

Customer centricity requires understanding the customer needs and desires, and having capabilities that are designed solely around their viewpoint. Many companies with legacy products focus on improving customer satisfaction by faster complaint resolution or improving first-pass resolution metrics. Digital natives such as Google and Amazon, along with leading brands like Apple and American Express, focus on customer needs by designing their culture and operating model from the customer perspective, leveraging many of the capabilities depicted in the chart below.
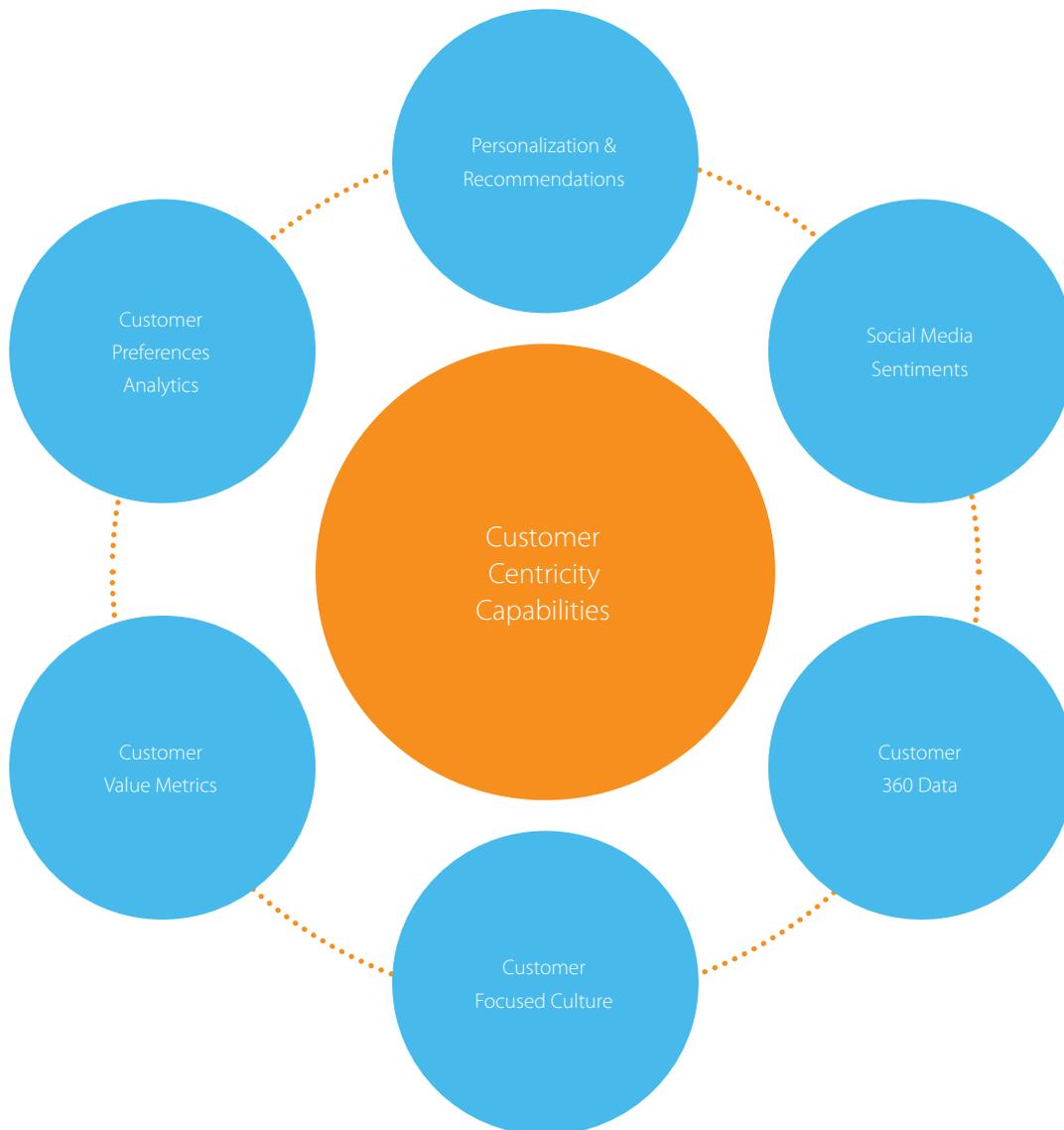
Managing duality of new digital products and renewal of legacy products requires a shift from optimizing customer touch-points to improving the customer journey and experiences for all products. This can be done by extending digital experience capabilities such as personalization, recommendations, experimentation and design thinking to legacy products. Artificial intelligence through machine learning can also help automate and integrate the process for understanding customer preferences for legacy products.

For example, after launching a digital OTT product to co-exist with their legacy set top box video offering, the CEO of a leading pay TV company created a customer experience unit which reported directly to him. The experience team was responsible for improving the customer journey across all channels, and enhancing the entertainment experience for all products. Core capabilities developed by the new unit included conducting A/B testing, new interaction functionality experimentation, product feature prototypes and real-time market research.

In this endeavor, the content discovery-to-consumption journey was diagnosed and transformed for the over the top digital product – and was subsequently extended to include the legacy products as well, thereby improving the customer journey for both product lines. Integrating customer centricity capabilities for both new and renewal products moved the needle on overall brand perception, and also reduced customer churn through improved product stickiness.

CUSTOMER-CENTRIC ORGANIZATIONS: KEY CAPABILITIES

Customer Centricity Capabilities

- Personalization & Recommendations
- Social Media Sentiments
- Customer 360 Data
- Customer Focused Culture
- Customer Value Metrics
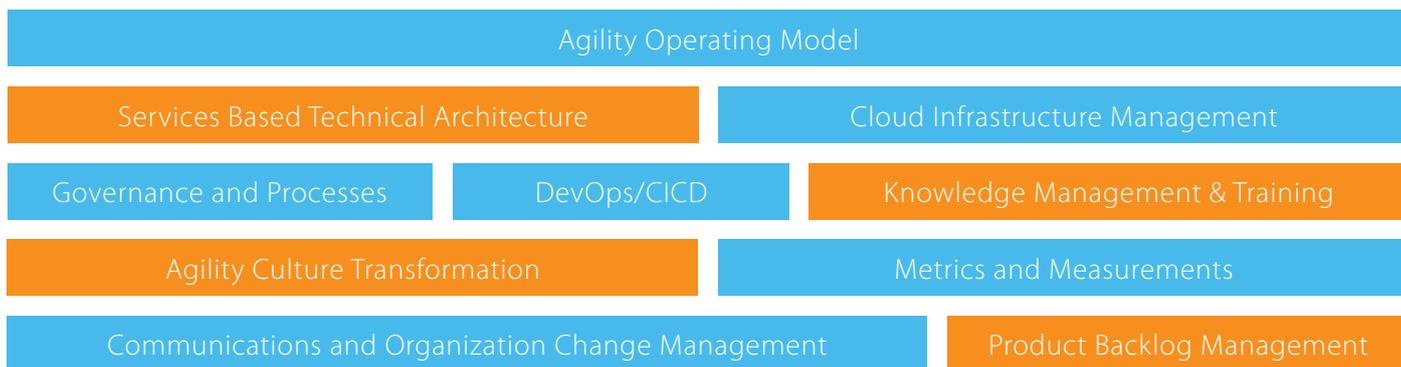- Customer Preferences Analytics

Organizational agility

One of the strategic traits of a digital business is the ability to move with speed and responsiveness. Traditional legacy businesses are associated with moving slowly, with more bureaucracy, and with inefficient processes and centralized decision making. To successfully manage the coexistence of digital offerings and legacy products, organizations need to embrace agility across the entire organization by adopting the capabilities depicted below.

One way to achieve this is to adopt agile software development at scale. This requires re-architecting the funding model, improving the business and IT engagement model, and redesigning the organization to become more flexible. One successful approach is to adopt a matrix structure and design governance models that encourage decentralized decision making by teams closest to challenges and opportunities. Ultimately, adopting scaled agile requires technical architecture simplification. An emerging trend to accomplish this is to adopt micro services as an architectural principle. This requires transformation and carries risks that many traditional companies have been reticent to face. Our experience and research shows that high-tech and telecom businesses that successfully adopt agile at scale, backed by an effective agile operating model, improve their average time-to-market for digital and legacy products by as much as 50%.

In another example, a leading telecom service provider embarked on a digital transformation journey by launching a series of digital products that included internet video, mobile payments and music streaming. They quickly realized that they could not use their traditional software delivery process, as it took on average 18 months for new features. The company decided to adopt agile at scale across IT and engineering. They redesigned the operating model, first by changing business-IT interactions to reduce handoffs and to create product owner roles. This approach engaged business stakeholders throughout the software delivery process. The company also streamlined its organization structure and governance to accelerate decision making. They are currently embarking on the last step of the journey - architecture simplification - by streamlining six application stacks to two and moving from two-tiered legacy architecture to an N-tier architecture that leverages micro services and middleware technologies.

AGILITY IN THE ENTERPRISE

Agility Operating Model

Services Based Technical Architecture	Cloud Infrastructure Management

Governance and Processes	DevOps/CICD	Knowledge Management & Training

Agility Culture Transformation	Metrics and Measurements

Communications and Organization Change Management	Product Backlog Management

Insights driven

Data and analytics is the fuel of digital businesses. However, many legacy organizations still have low adoption of data and analytics for decision making and new product development. To manage the coexistence of digital and legacy products, organizations need to accelerate the adoption of analytics as a core capability and strategic priority. This means more than serving users with reports and developing pretty dashboards. This requires changing the culture and mindset of both senior leaders and front-line managers to understand the value of using models and algorithms to develop insights into business issues and to solve problems. While this may be natural for digital executives, many leaders often prefer to delegate such analytics functions to junior employees. Without changing their mindset

to embrace a culture of analytical rigor, digital and legacy teams will lack a common language which is supported by data and insights.

We have seen in organizations where analytics capabilities have been centralized, data is rarely used efficiently by front line employees in customer service, sales, field operations and marketing – the very people who routinely interact with customers the most. To adopt analytics at scale, organizations should embed analytics as a core capability with an application stack for the front line employees. Customer facing employees also capture customer response data that is often valuable to optimize the organization's operating strategy. Becoming an insights-driven company is required to manage the co-existence of digital and legacy products because it extends core analytical thinking used for the digital business into the legacy one as well.

Analytics and artificial intelligence platforms should leverage data management capabilities integrated for both the digital and legacy products. This will enable a 720-degree view of customer behavior, transactions and preferences. Many companies are now consolidating their environments into a unified analytics view to minimize and eventually eliminate data silos. For its legacy products, a pay TV company had a disparate data and analytics environment across marketing, customer service, network engineering, operations and finance. When the company embraced an analytics culture across its digital and legacy services, they consolidated data across all functions and products. This provided the benefits of scale and comprehensive insights into customer interactions across each touch point and product. This shift also enabled the company to execute a customer experience strategy that significantly reduced customer attrition.

Business model optimization

For legacy products, business models have been established over many years and tend to be stable. Digital businesses are the opposite, with dynamic business models that are rapidly evolving. The reality in today's traditional business is that everyone is being subjected to constant disruption. To manage the coexistence of new and renew products, businesses should develop the capability to frequently tune their business models as they are constantly exposed to disruptive attack.

This frequent business model and strategy tuning is difficult for most established companies to execute because of long established, strongly held ways of thinking about industry structure, value creation, and customer needs. Fundamental assumptions about these factors need to change for traditional companies to innovate their business models. When considering the potential for cannibalization of existing business, it is easier to appreciate why established firms find it difficult to optimize their model to simultaneously support both new and legacy offerings. Digital disruptors start with the premise of changing fundamental industry assumptions and the status quo. Uber, Lyft and Airbnb created new businesses without manufacturing anything - they have been able to disrupt long established industries with an entirely new approach!

Overcoming duality challenges through common capabilities

Managing the coexistence of new digital products and legacy renewal offerings with common capabilities will help organizations to overcome these duality challenges by reducing operational complexity and accelerating the pace of digital transformation. For example, applying the customer centricity capabilities to legacy products will alleviate the duality challenge of higher customer expectations for legacy products. Applying the combination of capabilities that includes customer centricity, organizational agility and insights to legacy products could reduce the steepness of the revenue cannibalization slope.

Where feasible, leveraging the business model optimization capability to converge the legacy and digital business models will alleviate the duality business model challenge. While duality challenges of regulatory compliance may not be eliminated by applying all the digital capabilities, they will help to optimize the cost structures and revenue growth for both offering types, ultimately minimizing the impact of regulatory drag on legacy products.

In conclusion, the brave new world of digital transformation for today's established firms requires managing the duality of legacy and new digital products to successfully migrate into a full-scale digital enterprise. Navigating this transition successfully demands the rethinking of how to extend new digital capabilities across both product categories. And, by viewing digital transformation as a journey that leverages a common set of capabilities for both offerings, organizations will be able to seamlessly transition into the new digital world.
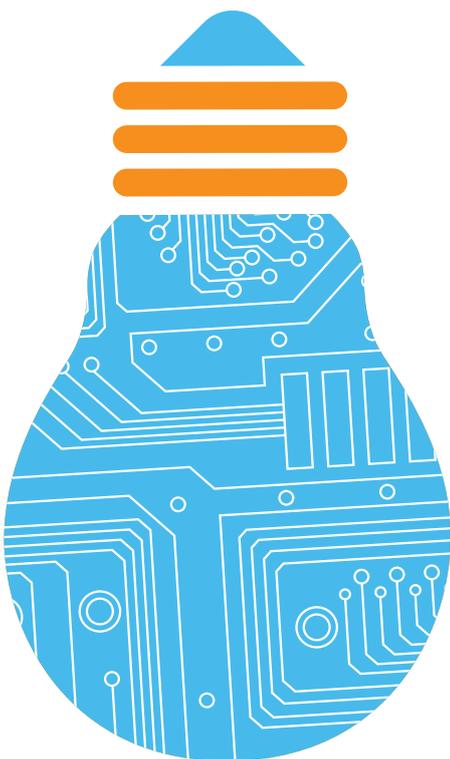
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