

A globe is centered in the background, showing continents in a light blue color. Overlaid on the globe is a complex network of white lines and dots, representing a digital or data network. The overall color palette is dark blue and black, with a red-to-white gradient on the left side.

**21**

Innovation  
Imperatives  
for the **21st**  
**CENTURY**

**KALYPSO**

At the current churn rate, approximately 75% of companies listed on the S&P 500 today will be replaced in the next decade.<sup>1</sup> **Just a mere quarter of the way into the 21st Century, 375 of these companies will have either gone bankrupt, merged, been acquired, or simply fallen below this top threshold.**

The pace of change is accelerating. The future will be littered with underperforming companies that did not effectively evolve to meet it.

To avoid the fate of the majority, companies will need to deliver better results from innovation. But innovation as we've known it no longer offers a competitive advantage, and **companies must prepare, equip and evolve to compete and grow in a dynamic, digital new world.**

There is, of course, no single solution. We've identified 21 innovation imperatives that companies should holistically consider and prioritize.

**What will it take to compete and win in a dynamic, digital world?**

Consider these 21 Innovation Imperatives for the 21st Century, organized across six dimensions.

<sup>1</sup>Source: Creative Destruction - Richard N. Foster/Standard & Poor's



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# Strategy & Process



Strategy & Process

1

# Beyond Product

**Systemically expand innovation scope to include services, experiences, business models and new markets by formally embedding this consideration across all NPD processes**

Whenever organizations struggle to identify new growth opportunities, the conversation often turns to expanding the innovation lens to consider not just products, but services, experiences and new business models as well. Within this broader view, bundling opportunities, new applications for technology, market adjacencies or alternative routes to market are all viable options to explore.

Currently, however, this mindset and approach is usually fleeting and limited to jumpstarting only front-end ideation.

To identify the biggest growth opportunities, organizations must formally embed a mindset and framework into their new product development (NPD) process that forces teams to consistently consider more holistic options throughout the entire development lifecycle. This discipline must start as a standard element of the ideation methodology, but then continue as a required component of project selection, questioned at gatekeeper reviews and taken into account when making portfolio prioritization decisions.

The ability to expand beyond product will not always be there, however to drive real, significant growth, organizations will need to push and at least consider the potential to broaden the scope for every opportunity at every point along the ideation, development and commercialization path.



Strategy & Process

2

# Global 3.0

## Leverage global processes and systems to expand capabilities

To drive growth as the penetration of global markets hits a level of saturation, companies need to emphasize building out and leveraging global processes and systems. Most large organizations have already established brand awareness and expanded international distribution (often considered Global 1.0). Many have also implemented standard processes and systems to enable enterprise-wide consistency and visibility (Global 2.0).

Global 3.0 will consist of deriving more value from these global processes and systems through better adoption and by extending capabilities to include: improved consolidation of supply and purchasing efforts, systematic reapplication of successful regional products, extrapolation of country insights to define universal needs, and dedicated design-to-value engineering practices that cater to emerging market incomes.

US policy changes may force organizations to re-think or adjust strategies to some extent, but the global market and demand will remain a driving force. The promise of globalization is still untapped, but to capitalize, organizations must work to realize more value from the underutilized global systems and processes they currently have in place.



# Foresight Process

## Incorporate a proprietary view of the future as part of corporate strategy development

No one can predict the future. However, dedicating time and mindshare to work through a structured approach to think specifically about the future will help organizations better forecast and understand where industries and markets are headed in the next 5, 10 and 20+ years.

Incorporating the practice of foresight into strategic planning efforts forces companies to look beyond trends, to consider how various external market forces will converge and what impact they will have on the business. What follows is a series of well thought-through scenarios and a proprietary view of the future that provides a strategic advantage and head start against competitors. This proprietary view is validated or adjusted as projected internal and external milestones and thresholds are realized, then used to drive organizational consensus that informs long-term research, R&D product roadmaps, supply and operational planning. Most importantly, this process and collective vision helps direct leadership priorities on where and when to place the biggest investments.

Incorporating a foresight process into corporate and innovation strategy development empowers the organization to effectively monitor, proactively prepare for, address, and capitalize on what awaits.

# Future-proofing

## Proactively and continually evaluate core offerings for adverse changes

Companies that complete a strategic foresight process to define, clarify and articulate potential future scenarios can use that information to drive new innovation opportunities. Futureproofing complements this effort by proactively protecting existing products against replacements or adverse forthcoming changes.

Altering any core offering that drives significant revenue is risky, but leaders must continuously and systematically consider the reformulation, re-engineering or complete overhaul of current raw material inputs and manufacturing outputs to safeguard relevance.

Just as soda companies have reduced the amount of sugar in their products and automobile manufacturers have redesigned to decrease CO2 emissions – all organizations have to be both on the offensive looking for new opportunities, and on the defensive to protect existing products and mitigate potential disruption in an ever-changing world.



Strategy & Process

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# Mass Customization

## Reallocate human and capital resources to serve demand for customized products at scale

As markets become increasingly fragmented and consumers become more accustomed to variety and availability of choice in all areas of their life, the demand for niche products based on individual requirements will increase.

Technology advancements and business model changes already enable companies to mass customize products via easier access to 3rd party and shared manufacturing, smaller quantity-run options, 3D printing, configure-to-order tools and the proliferation of direct-to-consumer channels. A complementary trend is 'local for local' manufacturing, where companies build small scale, localized plants for customer-design-manufacturing proximity, prototyping, test-market runs and post-launch iterations. Strategies, partnerships, and physical manufacturing assets across the ecosystem can be leveraged to address both trends.

Companies must develop the internal skill sets and/or external partnerships to deliver this scale of customized products, adjust their CapEx approach to provide more flexible manufacturing asset options, and organize for networked distribution models that look much different than today's.

# Systems



Systems

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# Data First

## Improve quality, consistency, and access to data

Two universal takeaways of the big data opportunity are 1) most companies recognize the strategic importance of leveraging data, but 2) most struggle to drive any actionable insights from the volumes of information available to them. Before any action can be taken or insights derived, the fundamental step that many companies miss and underestimate is the need to first get their systems and data in order.

When assessing how to best exploit the opportunity to gain insights from data and also derive value from the digital capabilities it can enable, most organizations quickly learn that their data and access to that data is a mess. The quality is poor, the consistency is lacking and it takes real time and resources to fix. With the digital functionality and advancements around business intelligence (BI), predictive analytics and machine learning rapidly expanding, the urgency to solve this basic ability to capture, organize, trust and access all data is elevated.

The market will not wait and will not be kind to those who are still trying to figure this out while others are compiling, learning from, experimenting with, and capitalizing on internal and customer data they can trust.



Systems

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# Learning Organization

## Build a learning organization that preserves important innovation knowledge before key stakeholders retire

The pending impact of the retiring baby-boom workforce is a real and immediate issue. The amount of undocumented, fundamental company know-how or 'tribal knowledge' understood only by a select group of longer-term employees is substantial. Combined with the increased rate of employee turnover means that it's no longer just nice to have a legitimate knowledge management solution.

Companies with a fundamental commitment to knowledge management build learning organizations that employ organizational design principles, foster shared knowledge and value continuous improvement.

The knowledge capture piece is not incredibly difficult to do given the relatively inexpensive and simple technology solutions available. We've seen this coming for years, but the time is now to transfer knowledge so it can be accessed digitally, ubiquitously and on-demand by the next generation of workers.



# Capabilities

Capabilities

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# Digital Products & Services

## Focus on creating more value for external customers and end users

Burgeoning digital technologies will, quite simply, revolutionize the world. The Internet of Things (IoT), machine learning, predictive analytics, artificial intelligence, augmented reality, 3D printing, digital product creation – these technologies will continue to rapidly change innovation via both the products companies develop and the way they operate.

As with any paradigm shift driven by technology, leaders will need to recognize that at its core, “digital” is simply a new enabler to create and deliver value. It will be critical to think strategically to find ways to extract value from all the hype.

When developing a new smart, connected product or service, or a blended digital/physical experience, companies must carefully identify customer needs, develop a strong business case, and perform strategic experiments – or proof of concepts – to reliably confirm viability. This is not a linear process. Companies must commit resources (time, money, people) to get smarter from these experiments, understanding they will need to launch, learn, fail (undoubtedly), learn more, and launch again to uncover the true value and become the best at delivering it.

Committing scarce resources to unknowns will always be a challenge, and without a relentless focus on customer value, the organization will drift and short-term priorities (most likely with better initial ROI) will take precedence. Successful companies will drive faster replacement of existing products while staying alert for new ways to enable IoT and digital to continue to deliver external value to customers and end consumers.



Capabilities

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# Digital Operations, Skills & Processes

## Organize to create and deliver internal value

Understanding how to innovate in a digital world is so critical to success, that it requires deliberate emphasis and a second inclusion on our list.

Organizations that wish to be industry and market leaders will focus on both delivering value to external customers via products and services, but also on creating internal value for the organization through digital operations, skills and processes.

Leaders will build internal organizational value by developing capabilities like modeling & simulation and digital product creation, and by investing to build smart factories of the future (Industry 4.0). Initiatives like smart factory require coordination of multiple functions (manufacturing, logistics, product development, IT, etc.) and the integration of many data sets (PLM, ERP, MES, etc.). Achieving internal value is less about the actual technology and more about aligning organizational structures, talent development, funding approaches and success metrics with an overarching corporate digital strategy.

Companies that align resources, strategies and capabilities around what they produce (products and services), and how they produce (operations, skills and processes), will have the best chance to effectively maximize and capture value from these digital imperatives.

True business transformation occurs when these internal and external strategies overlap. As evidenced by the concept of the digital twin, linking data about the design, manufacture, use, feedback, optimization, and maintenance of a product will merge the what and the how to transform business as we know it.



Capabilities

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# Customer Intimacy

## Be creative and active to maintain end-customer relationships

Many successful companies rely on an innovation framework that delivers on one of three core value propositions:

- 1) product leadership (i.e., Apple)
- 2) operational excellence (i.e., Wal-Mart)
- 3) customer intimacy (i.e., Ritz Carlton)

As the next century unfolds, #3 - customer intimacy - will not only increase in importance, but the methods to gain access and execute will also change dramatically.

The number of new technologies and social media platforms that extend a voice to individuals will only escalate and become more impactful. It's critical to uncover important insights and data, but even more important to make the insights and data accessible to product development, marketing and sales teams – down to the specific customer in many cases.

Leading organizations will place a premium on being at the forefront of social monitoring and customer engagement techniques, first by being creative in their approaches, and then continually exploring new options, tools, technologies and channels.

To develop deep relationships, anticipate new needs and ensure brand authenticity in the minds of consumers, a core competency in maintaining tight intimacy is required.



Capabilities

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# Design Thinking

## Understand the problem to be solved, and leverage this across more areas of the business

Many leading organizations already deploy design thinking elements into pockets of their internal processes and external offerings. Those that lead the way have taken the discipline beyond product design and incorporated it more broadly into other areas of the business including organizational structure, internal and external processes, system user experience, engineering and customer service.

Design thinking works because unlike more traditional methods, it focuses first on understanding the problem to be solved and identifying challenges before jumping to solutions – which often leads to solving the wrong problem. Using this approach, hidden parameters are identified (then overcome), creative solutions are unearthed, and alternative paths designed. Leveraging design thinking results in improvements across all areas of the business because it looks at situations through different (cross-functional) lenses, and identifies opportunities that would have otherwise been missed.

Organizations that embrace this iterative way of thinking – once solely the domain of software developers, designers and creative firms – will increase productivity and satisfaction amongst their employees, be viewed as easier to work with by partners, and delight their customers in more ways than one.



# Organizational Structure



## Organizational Structure

# 12

# Innovation Funding Models

## Support dedicated innovation teams with new funding models

Companies have begun to recognize that dedicating resources to focus exclusively on breakthrough innovation is the best way to realize significant results. Many physically separate these teams from their peers in the hopes of unburdening them from the business model constraints, bureaucracy, operational metrics and general 'group think' of the corporate machine. However, these companies often discover that simply establishing dedicated teams and providing separate work areas with trendy furniture and a few ping-pong tables is not enough to overcome the more inherent challenges, realities and pressures of the business.

To be successful with Innovation Centers of Excellence or similar organizational models, an honest look must be taken at funding considerations across business units and regions. Today, programs are often not pre-funded beyond the discovery phase or executive support and financial commitment are not sustained. This is often because larger, more profitable business units or regions are asked to subsidize these endeavors, and simply don't see the corresponding innovation output or ROI.

Unless alternative and sustainable internal funding models or external hybrid funding/staffing arrangements are identified, dedicated innovation teams will continue to be undermined or abandoned over time.



Organizational  
Structure

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# Corporate Venture Capital Funds

## Increase investment of capital (funds and people) in external entities

As demonstrated by companies like Intel Capital, GE Ventures, and General Mills' 301 Inc., many organizations have determined that an alternative route to breakthrough and business model innovation may be to take financial positions in smaller start-ups with significant upside.

By acting as a more traditional Venture Capital (VC) firm and investing a portion of corporate capital to external entities, organizations can better achieve their innovation diversification goals, explore promising technologies, accelerate development of new innovations or simply capitalize on the next big thing that was missed or underestimated internally. Balancing externally-focused corporate VC funds with new funding models for existing internal innovation teams and initiatives will form the basis for innovation strategy, resourcing and execution going forward.

To be successful, organizations should dedicate a larger portion of their portfolio spend to external investment vehicles and complement that by elevating the internal accountability role to a distinct C-suite level position and dedicating cross-functional teams with higher performers to manage the partnerships.



# Open for Business

## Design organizational elements to facilitate openness and the ability to collaborate externally

The transition to a more externally focused organization has been underway for years, but few companies have truly embraced the intentional design and mindset to be open, networked and predisposed to collaborative development as the basis for running a business.

While “open innovation” is less of a buzzword these days and businesses no longer cling as strongly to the notion of “not invented here,” an open organization goes well beyond crowdsourcing ideas or technology scouting. Leaders must first communicate a clear strategy and then recalibrate organizational design, governance, incentives and access to data so they encourage co-created and unsolicited growth opportunities. Organizations that are designed to be open and empowered to be nimble towards new opportunities are viewed by the market as an attractive alliance partner.

This open approach and mindset is something many software companies have figured out, and the open source and collaborative programming standards they use need to evolve and be adopted by the broader business ecosystem.

# People & Culture



# Incentive Realignment

## Realign incentives to address career stage of employees

In the past, realigning employee incentives was meant to ensure that individual, team and cross-functional goals were tied to innovation, business unit or overall corporate performance. Moving forward, this approach will need to advance to better address the age, or more accurately, the career stage of employees.

The lack of innovation and growth in many of today's companies can be attributed to longer tenured decision makers that play it safe late in their careers so as not to disrupt their standing prior to retirement. On the opposite end of the spectrum, younger employees with (assumed) less at stake financially, are more interested in high-upside opportunities with greater risk and benefits that mimic those of start-up or self-entrepreneurial companies.

Employee incentives should be creatively redesigned to encourage older employees to more willingly support longer-play, potentially riskier opportunities and discourage younger employees from jumping ship to seemingly more attractive companies.

People & Culture

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# Start-up Mentality

## Foster an entrepreneurial attitude through leadership example

While many large, mature organizations try desperately to act like a start-up or foster a culture that encourages thinking unbound by traditional business barriers, most fail miserably to capture true entrepreneurial spirit.

For public companies, the goal is often to deliver 5-7% growth to pay dividends. As a starting point, this is a comparatively low bar that may itself stifle bold thinking. Instilling an entrepreneurial essence takes just one simple, but elusive capability: leadership. Leaders must share information, promote inclusion of ideas, empower managers, and not only encourage risk-taking, but even more importantly, not penalize failure.

So often companies talk of their desire to celebrate failures or learn from mistakes – a simple tactic that any company of any size can employ that would change the culture overnight – and yet very few can actually do it. Start-up entrepreneurs by comparison often try, fail, try again and reinvent themselves en route to greatness.

To realize growth rates that are on par with many smaller or start-up companies, employees must be allowed to suspend consideration of how new ideas will be funded, approved or moved through the system – something that is counter to any corporate mentality. Leaders must recognize this reality and lead through action to change this restrictive dynamic.



People & Culture

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# Diverse Workforce

## Consider diversity a competitive advantage

The past decade of presidential elections has produced the first African-American president and female leading a major party ticket, underscoring the demographic shift that has taken place in the United States. The important takeaway for business leaders to recognize is that to remain competitive, they need to build a workforce that better resembles our diverse electorate.

It is important to appreciate that committing to diversity is not an ideological inclination, but rather a business advantage. Quite simply, a diverse workforce itself helps secure the best and most talented people to your organization in two ways:

1) people of diverse color/origin/religion/gender are often the most qualified, and  
2) diversity also helps attract the best people across all demographic types because they want to work for organizations that adhere to this principle. This desire is especially true for the younger, millennial generation.

A diverse workforce with broad backgrounds and varied opinions expands the perspective of the business, particularly for innovation, which ultimately results in improved business performance.

People & Culture

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# Human Capital

## Commit to and invest in people

Valuing and investing in employees will provide one of the highest ROIs of any budget line item in the coming decades. However, a commitment to people should not be an HR initiative. Instead, companies should put in place leaders with the right perspective and approach that recognize the value of career development, training programs, work/life balance and even a higher-order sense of belonging.

As the US economy continues its move away from manufacturing towards a more service-based, knowledge economy, people will become a more critical asset. Ironically, as robots, artificial intelligence and machine learning become more prevalent and replace many human functions, the focus on people will become an even more delicate, complex and vital issue.

Investing in human capital, committing to people, and being recognized as a place where people want to work will be a real differentiator and competitive advantage.



# Social & Sustainability



# Sustainability Investment

## Understand and consider the entire value chain to inform investment level in sustainability

Without taking any stance, most would agree the debate on climate change will likely be resolved one way or another before the end of the century. Regardless of which scientists are correct, most businesses accept the premise that the customer is always right and should use this to guide their sustainability approach.

Companies will need to dig deep and listen not only to direct customers, but to their further downstream customers, end-consumers and key ancillary influencers to understand the individual value they each place on environmental sustainability and lifecycle analysis. With that entire value chain voice as a compass, the prudent executive will invest commensurately but aggressively – with a longer-term view of ROI – to ensure he or she does not lag the competition. Once the forward-looking investment is committed, the hard work will be thinking through ways to do this that are modular or scalable (hedges to some extent) so that they can be adjusted as certain environmental unknowns become known.

Regardless of scientific, governmental or business opinion, it appears the public is moving in a direction that would support a thoughtful but committed investment in sustainability.

# Supply Chain Transparency

## Recognize that suppliers - by extension - represent company brand

Trust is a critical component of brand equity and often a primary reason why one product, service or company is selected over another. Trust in what is in products – how and where they are manufactured, how and where raw materials are sourced, labor practices – plays a role in this equation.

Organizations must recognize that going forward, in the minds of customers, consumers and the general public, they will be held accountable not only for their end delivery, but the inputs and practices of their upstream suppliers as well. From sourcing specifications to test methods to documentation and approval processes, companies will need to enforce stricter standards, and stress the importance of completeness and quality of supplier data. At the same time, manufacturers must in turn treat the supply chain as a partner in delivering products. This requires transparency, working together to solve issues, and combining forces to satisfy end customers (not just driving to lower costs).

Though the number of suppliers will most likely contract in the future, this number for most organizations is still incredibly vast and in many cases, unmanageable. Suppliers are in many ways keepers of the brand equity, so organizations must put programs in place that demand thorough data, ensure timely access to that data, require adherence to process, and demonstrate a commitment to transparency and helping ensure trust.



# Authenticity

## Pay attention to corporate social responsibility and avoid being inauthentic

The idea of 'Doing Well By Doing Good' is becoming less of a catchphrase and more of a customer expectation that successive generations will only amplify. For years, regardless of industry, consumers have exposed companies that exhibited what they consider blatant socially irresponsibility (child sweat shops, misleading interest rates, etc.). However, as consumers are becoming more informed and smarter about the products and services they purchase, a subtler recognition is occurring – one that exposes companies not just for being irresponsible, but for being inauthentic.

Customers today can better sense when brands are portraying themselves as genuine simply to capitalize on a trend. With social media empowering consumers like never before, backlash against inauthentic brands will only become more public and financially impactful. Organizations must legitimately commit to and accelerate current efforts in corporate social responsibility, as playing catch-up will appear obvious, disingenuous and only expose them further.

A movement that started in several industries with relatively superficial designations (i.e., Fair Trade certification, Rainforest Alliance) has progressed to the creation of legal entities like Benefit Corporations or Certified B Corporations (B-Corps).

Many private and public organizations have or are considering converting to this designation because it legally allows them to include the positive impact on society, workers, the community and environment along with profit when making business decisions.

Whether this new form of corporation becomes simply another marketing ploy or a type of authenticity litmus test remains to be seen. Numerous studies have shown that consumers will pay extra for products and services from companies committed to social responsibility. So while customers may not flee companies that do not aspire to such causes, they may instead reject those that disingenuously attempt to portray themselves as such.

In January 2000, the AOL-Time Warner merger was announced and hailed as the 'deal of the millennium.' Facebook did not even exist in 2003. Today, AOL is relatively irrelevant and Facebook is one of the most ubiquitous and valuable brands in the world.

The 21st century is still in its infancy, yet the playing field, rules and even the players have already drastically changed. No industry is immune to the macro and competitive forces that will transform markets. No matter how innovation evolves, the imperative remains the same: companies must develop products that increase revenue, improve profitability and enhance people's lives in order to stay competitive.

**As the pace of change accelerates through the 21st century, there is no single action companies can take to ensure survival, relevancy or growth. Longevity requires the self-awareness and open mindset to consider organizational shifts and evaluate new strategies and approaches.**

**To learn more about your organization's strategy and readiness for innovation in the 21st century, contact:**



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The background features a stylized globe with a network overlay of white lines and dots, set against a dark blue and red gradient. The globe is centered and slightly tilted, with the network lines connecting various points across its surface.

# KALYPSO

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