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# The new face of digital architecture: the driving force of digital transformation

**In an anti-fragile world, digital architects play a pivotal role in enabling organizations to thrive amidst rapid change and complexity. They connect business strategy with technology implementation, ensuring alignment with strategic goals and delivering sustainable value. This article explores their evolving role and the challenges they address, starting with the concept of thriving in an anti-fragile world (I). It then examines how architects create and realize value (II), leverage modern tools and frameworks to navigate complexity (III), foster a forward-thinking mindset to support adaptability (IV), and prepare for an evolving future where their role becomes even more integral to business success (V). Together, these insights reveal how digital architects are transforming organizations to innovate and compete effectively in today's dynamic environment.**

## I DIGITAL SUCCESS IN AN ANTI-FRAGILE WORLD

Well-known Author Nicholas Taleb ([Tale12]) describes three types of “worlds” in his work. First, there is the fragile world, where things break when dropped; second there is the robust world, where things can fall without breaking; and third there is the anti-fragile world, where survival hinges on learning to navigate chaos, volatility, rapid change, and factors we don’t yet fully understand. There is little doubt that we now live in an anti-fragile world – a reality with significant implications for the role of digital architecture. One thing is certain: data is the primary source of business value, making digital transformation a top priority for many companies.

Amidst these dynamics, it is challenging to unlock the digital potential across the entire organization and develop the speed needed to thrive in a demanding environment. There’s no shortage of innovative ideas and compelling data-driven business cases. What’s often missing is an organization-wide understanding of the shift, along with the competencies, processes, and structures required to unleash data’s full potential – while maintaining control and oversight. An important challenge lies in designing a digital architecture that is both robust and adaptable. In our view, a significant issue is that organizations fail to fully leverage digital architects, largely because they do not understand how advancements in their tools and methods can drive value creation.

This article explores how digital architects can be the driving force of digital transformation, by serving as a vital link between business strategy and technological implementation.

## II THE ROLE OF DIGITAL ARCHITECTURE: SUSTAINABLE VALUE FROM DIGITAL INVESTMENTS

Digital architects are essential in unlocking the full potential of digital transformation for companies, translating strategic goals into tangible outcomes. They identify and model key value streams, help build compelling business cases and ensure efficient and effective decision making and accountability at every stage of the transformation. By driving user adoption through intuitive, user-centric design and implementing change management strategies, they ensure that digital solutions are embraced across the organization.

This means that their role extends far beyond technology – they serve as the bridge between technology and business objectives. By aligning digital initiatives with broader business strategies, managing technological

complexity, and designing agile, flexible architectures, they enable organizations to swiftly adapt to evolving market demands. Additionally, digital architects champion data-driven decision-making, using analytics and insights to guide strategic choices and continually optimize digital outcomes. Ultimately, digital architects ensure that companies achieve measurable, sustainable value from their digital investments.

This sounds good, right? The question is: is all this utopian thinking, or is it feasible? First, let’s establish some background, and then analyze the key building blocks of a modern digital architecture designed to address current challenges.

Until recently, transformation was often seen as a trip from point A to point B – a linear journey with a clear destination. You’d map out a target state, make necessary changes, and then settle into the new way of working. But today’s digital world has upended that old approach. Digital transformation is more of a flowing river than a direct road trip – it’s continuous, adaptive, and never truly finished. While there may still be interim goals or milestones (like product launches or system upgrades), these are part of an ongoing journey rather than an endpoint. The digital architecture that supports this is not a static blueprint, but a dynamic framework that must adapt to the ongoing changes and challenges in the landscape.

We have witnessed a tremendous shift towards a more dynamic, business-centric model, where business and data strategy are becoming the same thing. Today’s digital architecture is about creating an AI-ready, data-driven, and environmentally sustainable foundation that can support rapid change and innovation while delivering tangible value. To achieve this, six critical areas must be addressed: fostering strategic decision-making through close alignment with business goals, promoting cross-functional collaboration to break down silos, managing technical debt to sustain operational efficiency, balancing agility with stability and security to thrive in an anti-fragile world, ensuring regulatory compliance and risk management, and ultimately focusing on delivering multidimensional value. These areas are interconnected, each contributing to a robust and future-ready architecture that drives sustainable growth and innovation.

### 1 Digital architects must leave their “ivory tower” and enable strategic decision-making

Architecture teams should not operate in isolation from the rest of the business, creating plans and models that have little practical impact on day-to-day operations or strategic decision-making. Instead, they must work closely with business leaders, contributing to strategy development and driving digital transformation initia-

tives, and translating business needs into technological solutions and vice versa. They must ensure that business goals are reflected in future state technology definitions and that IT capabilities are leveraged to drive business success. Furthermore, they should monitor the alignment of architecture with strategic goals to make real-time adjustments as needed. With a deep understanding of the company's needs and capabilities, they can provide strategic insights into which technologies to invest in, ensuring that every investment supports long-term growth and operational efficiency. Architecture also supports scenario planning, allowing organizations to model different future states and understand the implications of various strategic choices.

## 2 Digital architects must “connect the dots”

In today's interconnected business environment, cross-functional collaboration is more important than ever. Digital architects facilitate this collaboration by providing a common language and framework for discussing technology and its business implications. They help break down silos between departments, fostering communication between business units, IT teams, and other stakeholders. There's also a risk of silos forming *within* IT departments. Digital architects work across domains such as cybersecurity, artificial intelligence, cloud computing, and data analytics, ensuring that these areas are integrated and aligned. This integration is crucial for creating cohesive, efficient IT systems that can support the organization's overall goals.

## 3 Digital architects must manage technical debt

As organizations rapidly adopt new technologies, the accumulation of technical debt has become a significant concern. Technical debt refers to the implied cost of additional rework caused by choosing an easy solution now, instead of using a more sustainable approach that would take longer. Digital architects must develop strategies for modernizing legacy systems, while maintaining operational stability. This involves not only addressing existing debt but also preventing its accumulation. By addressing and preventing technical debt, they build a resilient foundation that ensures ongoing adaptability and efficiency, supporting sustainable growth and preventing future drains on resources.

## 4 Digital architects must balance agility with accuracy, stability, security and sustainability

Remember the anti-fragile world we referred to in the introduction? In this new reality, organizations must both be fast on their feet and be reliable. Therefore, digital architects should help leaders understand the tradeoffs between agility, accuracy, stability, security and sustain-

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# Digital transformation is continuous, adaptive, and never truly finished

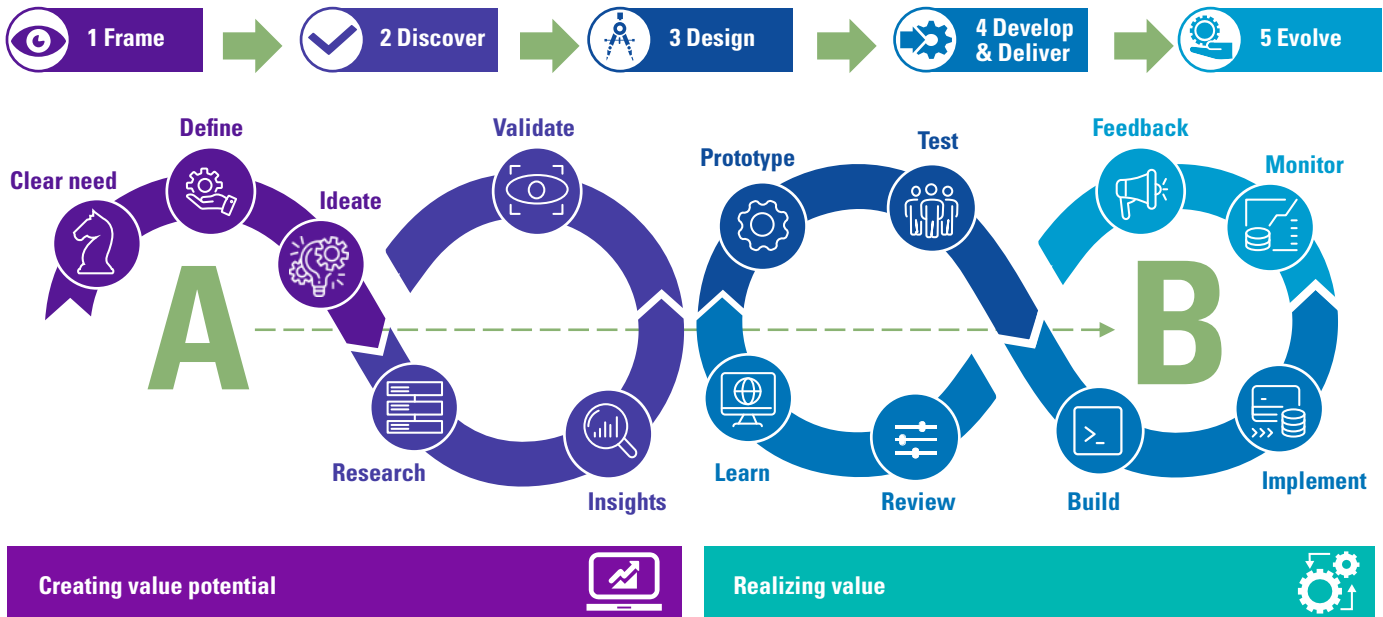
ability objectives, supporting the well-informed decision making. They must enable rapid innovation without compromising the integrity of foundational systems. Yet again, this means close collaboration with other functional expertise, such as security experts to ensure that increased agility doesn't lead to heightened vulnerability.

## 5 Digital architects must keep a close watch on Regulatory Compliance and Risk Management

In an era of stringent regulations like GDPR, DORA, NIS 2, DSA it is key to have digital solutions that are innovative yet compliant and resilient to risk. Therefore, digital architects should work with legal and compliance teams to design “compliant-by-design” and “resilient-by-design” architectures that safeguard sensitive information and respect user rights.

## 6 Digital architects must deliver value

Value delivery extends beyond financial returns, encompassing operational efficiency, user satisfaction, and alignment with strategic and sustainability goals. As depicted in Figure 1, digital architects play a pivotal role in the transformation chain, continuously creating and realizing value across all stages – from #1 Frame to #5 Evolve. By combining design thinking principles with DevOps processes, architects guide organizations in transitioning from their current state (A) to an evolving and adaptable future state (B). This process is dynamic, aligning innovation with shifting business objectives. Architects identify opportunities for consolidation, automation, and standardization to reduce costs and enhance performance. They also establish governance frameworks, foster cross-functional collaboration, and ensure compliance and resilience. Ultimately, they deliver sustainable, multidimensional value that includes financial gains, innovation enablement, and contributions to environmental and social objectives, ensuring organizations thrive in a rapidly changing world.



**How architects help:**

1. Engage in scenario planning to model different future states and understand the implications of various strategic choices.
2. Challenge assumptions and highlight trade-offs.
3. Assist in developing and refining new business ideas to ensure alignment with technological capabilities.
4. Build flexible and scalable architectures that evolve with the organization's needs.
5. Identify opportunities for standardization, optimization, automation, and cost reduction.

**How architects help:**

1. Establish clear governance frameworks for strategic alignment and oversight.
2. Facilitate cross-functional collaboration to break down silos and enhance communication across departments.
3. Guide transitions with effective communication and training for new technologies.
4. Ensure compliant and resilient architectures in collaboration with legal and compliance teams.
5. Balance agility with stability, security, and sustainability.

Figure 1. The transformation chain.

### III THE GOOD NEWS: MODERN SOLUTIONS OFFER OPTIONS

All in all, it is a daunting challenge to build a digital architecture that enhances digital transformation. It is a challenge with a multitude of topics to consider. The good news is that modern technology offers help to deal with the complexity of the challenge. To be effective in the digital age, digital architects need to leverage modern concept such as:

- *Agile architecture frameworks*  
Modern digital architecture emphasizes agility and flexibility. Agile architecture frameworks support iterative development, continuous improvement, and alignment with Agile software development practices. They require minimal viable governance structures that balance flexibility with oversight, ensuring responsiveness without sacrificing stability. By establishing lightweight governance, architects can adapt frameworks to evolving project requirements and speed up value delivery, reducing unnecessary bureaucracy. This adaptability supports rapid iterations and helps maintain alignment with business needs, even in a constantly changing environment.

- *Real-time data integration and analytics*  
With the increasing focus on accuracy and importance of data-driven decision-making, digital architecture now incorporates robust data integration and analytics capabilities. Architects design systems that can collect, process, and analyze data in real-time, providing valuable insights to drive business strategy. This includes designing data lakes, implementing stream processing systems, and creating dashboards and visualization tools that make data accessible to decision-makers across the organization. The goal is to turn data into a strategic asset that can inform every aspect of the business.
- *AI and machine learning integration*  
Artificial intelligence and machine learning are no longer just buzzwords but essential components of modern digital architecture. Architects are finding ways to integrate these technologies into existing systems, enabling predictive analytics, process automation, and enhanced decision-making capabilities. This integration requires careful planning to ensure that AI and ML initiatives align with business goals, have access to the necessary data, and can be scaled effectively. Digital architects play a crucial role in identifying opportunities for AI/ML application



and designing the infrastructure to support these advanced technologies.

- *Composable architectures*  
Digital architects are embracing composable architectures, which allow systems to be built from independent, reusable components that can be flexibly combined. This approach enables faster adaptations to business requirements by “swapping” or adding new components without system-wide disruption. Composable architectures enhance agility, improve efficiency by reusing components, and reduce costs by allowing businesses to select the best tools for each need. However, in certain contexts, a “return to monolith” strategy can be viable for simplicity and operational efficiency, especially where modularity may introduce undue complexity.
- *Modern architecture software to support dynamic architecture overviews*  
Modern software architecture tools enable architects to move away from static documentation in PowerPoint or Word documents toward dynamic overviews that serve as a single source of truth. These tools allow for automatically updated architecture views as systems evolve, reducing manual effort and ensuring accuracy across different teams. By integrating with CMDB, CI/CD pipelines, and other IT tools these platforms can provide real-time insights into the current state of the architecture.

## IV MORE GOOD NEWS: THE POWER OF A PROPER MINDSET

We have elaborated on the fact that achieving the right balance between flexibility and robustness in your digital architecture is key to thriving in a constantly shifting environment. Too much flexibility can lead to chaos, where frequent changes disrupt stability, while excessive robustness can create rigidity, making it difficult to adapt when new opportunities or challenges emerge. We have also shown that there are modern options to build a core architecture that is robust enough to ensure security, data integrity, and operational continuity, while maintaining the flexibility to evolve incrementally.

However, a fool with a tool is still a fool. As helpful as modern technology may be in building future proof digital architectures, there will only be sustainable results with professionals in the lead who understand that the current dynamics call for a different approach. Professionals who understand what it means to succeed in an anti-fragile world.

The evolving role of digital architecture therefore requires a new set of skills and a new mindset. Modern architecture teams need to be multidisciplinary, combining

technical expertise with business acumen, communication skills, and strategic thinking. Organizations should invest in continuous learning and development for their architecture teams, ensuring they stay up to date with the latest technological trends and business practices. Cultivating a culture of innovation within architecture teams is also crucial for success. Digital architects must stay ahead of emerging technology trends, anticipate evolving business needs, and be ready to steer their organizations through the next wave of digital transformation. By cultivating a forward-looking mindset, architects can ensure that their organizations remain agile, resilient, and well-positioned to leverage future technological advancements for sustained growth.

## V THE FUTURE

What will the future bring? There is hardly any doubt that most organizations will continue to operate in an anti-fragile environment. A world where technology and the use of data becomes ever more integral to business strategy. The role of digital architects will continue to evolve, potentially elevating them to the C-suite as Chief Architecture Officers (CAOs). Their role will no longer be confined to just system design and technology alignment; they will increasingly contribute to high-level strategy, guiding organizations in how technology can drive innovation and competitive advantage.

The boundaries between digital architecture and other disciplines like business strategy, innovation management, and digital ethics will blur. This convergence will require digital architects to develop a broader skill set, encompassing not only technical expertise but also deep business acumen, leadership, and a solid understanding of ethical and sustainable technology practices. As a

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**Modern architecture teams need to combine technical expertise with business acumen, communication skills, and strategic thinking**

## Checklist

### Mindset of a digital architect

- ❑ **Value-centric approach:** Prioritize business outcomes and measurable value over idealized technical perfection. Make trade-offs thoughtfully within the business context, ensuring today's decisions avoid unnecessary technical debt and preserve future flexibility.
- ❑ **Collaborative educator:** Actively teach and mentor stakeholders, from business to IT, how to think like an architect. Create opportunities to help others think more holistically, understanding how architecture impacts long-term goals.
- ❑ **Adaptability and curiosity:** Maintain a growth mindset, staying open to emerging technologies, methodologies, and ways of thinking. Digital landscapes shift rapidly, so remaining adaptable is key.
- ❑ **Empathy and humility:** Demonstrate humility in your work, respecting the diverse perspectives of colleagues and stakeholders. Be open to feedback and willing to adjust strategies based on input from non-technical peers.
- ❑ **Sustainable and ethical thinking:** Consider the ethical, sustainable, and societal impacts of digital architecture choices. This can involve thinking about data privacy, environmental impact, and inclusive design.

### Skillset of a digital architect

- ❑ **Dual language proficiency (business and IT):** Be fluent in both technical jargon and business terminology. This dual fluency allows architects to act as translators, bridging gaps between business goals and technical solutions.
- ❑ **Analytical problem solving:** Possess a strong capability for systems thinking, pattern recognition, and troubleshooting, all grounded in a deep understanding of the interconnectedness of digital components.

- ❑ **Communication and influence:** Use clear, persuasive communication tailored to the audience, whether business executives or technical teams. Ability to present complex ideas simply is critical for gaining buy-in and driving change.
- ❑ **Value-driven architecture design:** Incorporate fitness functions and other value-based metrics to ensure that architectures remain aligned with business needs over time. This includes understanding broader interpretations of value beyond monetary, such as user experience or long-term sustainability.
- ❑ **Strategic foresight and roadmapping:** Ability to anticipate future trends and plan accordingly, creating architectural roadmaps that accommodate both current requirements and future scaling or pivoting needs.
- ❑ **Tool proficiency and technical depth:** While a broad understanding of digital ecosystems is crucial, an effective architect should have hands-on knowledge in relevant technologies and tools (e.g., cloud platforms, APIs, microservices) to understand limitations and possibilities.
- ❑ **Collaboration and leadership:** Inspire cross-functional teams, promoting alignment across disciplines and levels. Digital architects should know how to manage and delegate while empowering teams to deliver.
- ❑ **Cybersecurity and risk management awareness:** Be an advocate for security by design, embedding cybersecurity principles from the start and considering risk management as a core element of architectural decisions.
- ❑ **Financial forecasting and value realization:** Develop financial acumen to support investment planning and roadmap development. Use forecasting to assess the financial impact of architectural choices, ensuring that investments align with business priorities and deliver measurable value over time.

result, architects will be expected to think holistically, ensuring that technology decisions not only support operational goals but also long-term strategic and ethical objectives.

In conclusion, embracing the transformative role of digital architects is crucial for navigating today's anti-fragile world. By leveraging modern tools and fostering a strategic mindset, organizations can effectively align technology with business goals to drive innovation and resilience. As the landscape evolves, these architects will be key in ensuring that your organization not only adapts but thrives amidst ongoing change. To assess whether your digital architects possess the necessary skills and mindset, refer to the checklist provided in this article. Is your organization ready to embrace this transformative potential?

## Reference

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## About the authors

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