



Unlocking Competitive Advantage with Digital Mosaics





Context for Decade Ahead

Over the last decade, we clearly saw that most businesses worked hard to address the initial phases of their digital transformation and learned a great deal in the process. While some digital efforts failed, companies adapted and became much smarter at planning and executing their vision.

Organizations learned that both IT and Line of Business can now drive effective solutions together using the new online capabilities available on the cloud.

The notion of digital enterprise has become pervasive and the impact of this reality is now felt across all industries, segments and markets. In fact, most businesses struggle to compete today if they are not operating as a digital enterprise.

In support of the digital enterprise, we see a new bond and codependency forming between the Line of Business and IT organizations. Digital innovation is fueling new revenue producing services, enterprise wide shifts and cost reductions.

IT is now delivering new cloud-based capabilities that enable increased enterprise composability and agility, allowing the business to flex and adapt to changing market dynamics and demand.

As a consequence, IT is now seen as a critical source of competitive advantage and IT leaders are moving beyond their core roles to accelerate technology adoption, rebuild infrastructure and enable business innovations.

Likewise, Line of Business leaders are taking full advantage of this new enterprise composability to create new business models, products and offerings as extensions of existing businesses as well as completely new innovations that take advantage of their evolving partner ecosystems. In this reality the new weapon of choice for the LOB leader is accelerated co-innovation with clients, partners and suppliers.

A digital enterprise delivers intrinsic business value across the board — on the bottom line helping increase operational efficiency and on the topline accelerating the capture of new and existing markets that drive growth.

Today's Reality

The new reality for digital transformation is that all businesses now have a broad selection of software and platform components that by themselves provide significant value.

When these components are combined in the proper solution context, they can unlock completely new revenue streams and deliver significant cost management to your enterprise.



Core processes are now digitized, including automation, IoT, analytics, artificial intelligence and machine learning. There is much more value to be obtained as businesses improve their ability to drive actionable insights and optimization from the data these digitized processes create.



Organizations had been challenged to meet and exceed the rising expectations for modern, delightful and intelligent customer experience but have recently been catching up to customer experience standards, driven by mobile-first user experience and cloud-enabled capabilities.



Significant competitive advantage and business value have been created by organizations that learned how to capture, connect and analyze data across all facets of the business and their ecosystem — most notably customer data.



The adoption of cloud technology increased in the last five years, moving beyond values like “consolidation” and “virtualization”. Leading businesses are implementing repeatable, hybrid and multi-cloud infrastructures, which bring new levels of flexibility to business and IT.



Industry incumbents have followed the lead of disruptive startups to build technology into the fabric of their business models — transforming many of the world’s top brands from being software-enabled into software-driven.



Gone are the days when IT picked a technology camp like .Net or Java, or a monolith stack which created a clearly defined scope of coding paradigms, API standards and partners. While this simpler era of IT helped intra-enterprise endeavors progress, it impeded organizational agility in rapidly accelerating markets.

The Decade of Digital Mosaic

As we enter the new decade, we believe significant business value will come from greater enterprise composability — enabled by a digital mosaic of business solutions, applications, data platforms and infrastructure.

Now untethered from monolithic legacy systems, constrained software standards and outdated architectures, businesses have the potential to create a unique digital mosaic for their organization.

This new architecture unlocks increased flexibility, operational speed and the freedom to pursue opportunities and growth well outside legacy value chains.

In this environment Business and IT leaders can more effectively partner to create business value from technology investments at a much faster pace and at scale.

Primary Drivers for the Next Era of Digital Transformation



A broad and robust ecosystem of cloud vendors drove a hybrid, multi-cloud reality onto most organizations.

Containerization and Kubernetes brought a new level of flexibility to deployment and scaling of applications across the cloud environment.

A new focus on agile development of microservices and DevOps changed how applications are now built, integrated and maintained.

All major software and platform vendors embraced this new reality at scale and SaaS became the standard — with everyone creating services.

At the same time, the right digital mosaic opens up business opportunities across a broad and growing partner ecosystem.

But for those who fail to adapt the price is high. Those who fail to embrace this shift risk missing out on valuable and time-critical opportunities or worse, losing market share and relevance.

The age of cloud experiments is behind us. Everyone has played, put up a new application, done some wrapping of an application and re-hosted it. We learned that the new software vendors will run “multi-stack” whether that’s low code systems, or financial services components like loan origination systems, or components that enable digital manufacturing. These same

vendors run code everywhere, catering to several cloud vendors’ low-level APIs. Knowing how many APIs you need, from whom, and how to manage the cost has become the trick to deriving value.

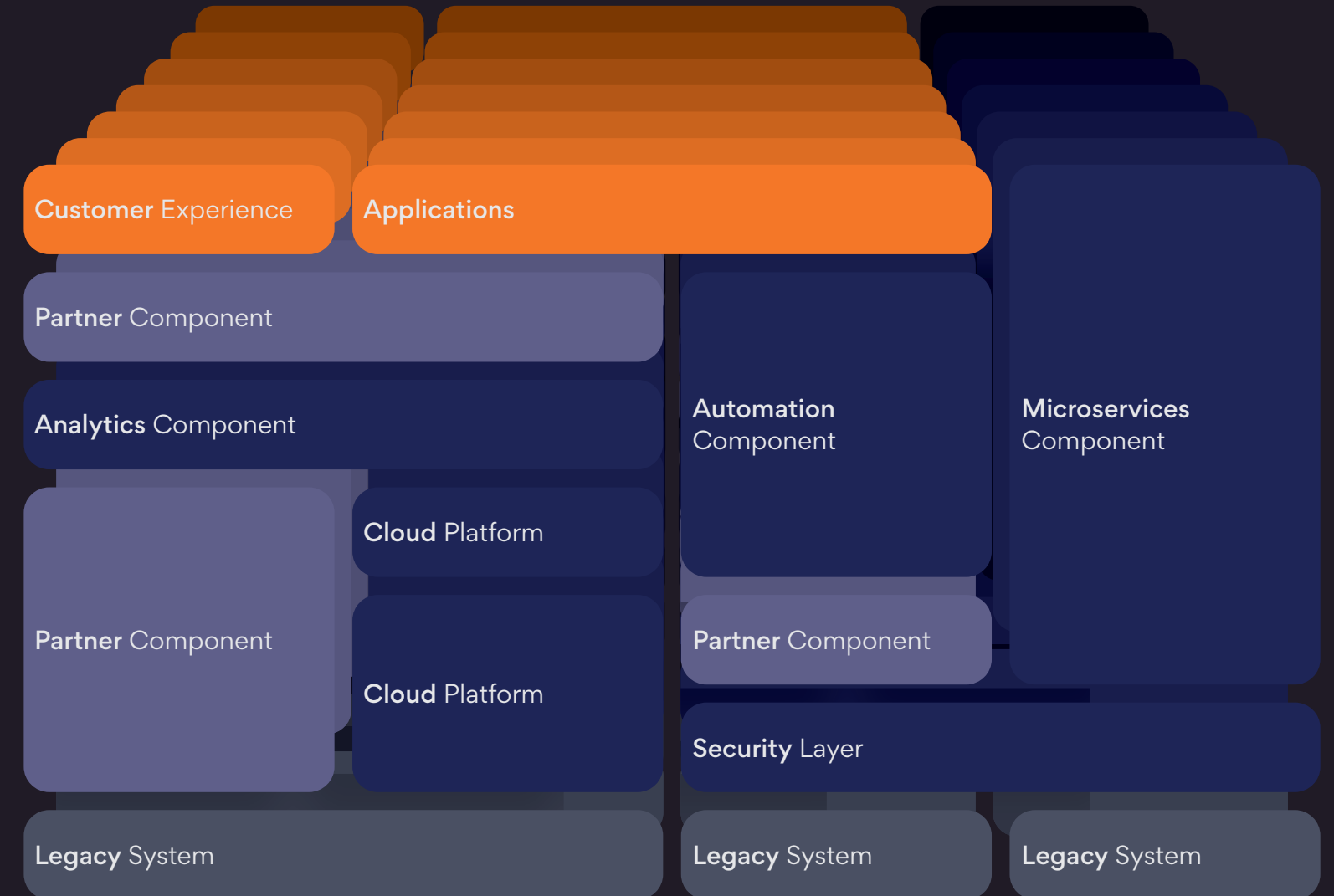
Today the world has amazing choices with no allegiance to a single stack required. It comes only with the cost of an amazing

complexity of choices. The code components are like tiles on a floor. Lay them out correctly, join them properly and you have a well-structured repeatable pattern that allows you to grow and compete in the modern business world, while keeping your costs down.

Building Your Digital Mosaic

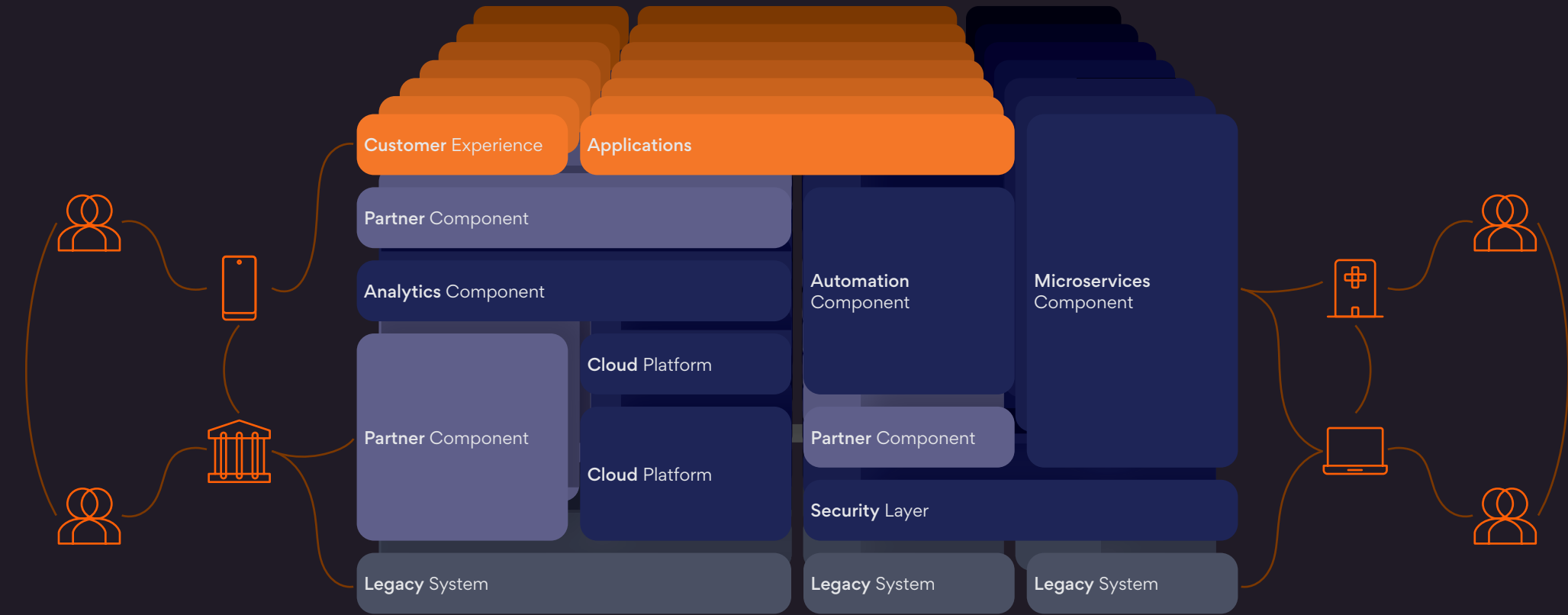
The digital mosaic is multi-cloud and multi-service, with composable tiles that can be pieced together to deliver the working applications needed in an enterprise. In this context, the process of building the digital mosaic is appropriately suited for a devops operating model.

Existing core applications will typically serve as the foundational tiles in a digital mosaic. However, by establishing a new digital mosaic adjacent to the core business, leaders will enable more rapid and agile experimentation along with faster time to market for new business initiatives.



Capitalizing on Composability

Digital mosaics must be constructed with your business' unique goals and objectives in mind — regardless of whether you are going after new customers, additional revenue streams, greater business agility or OPEX and CAPEX optimization.



A properly designed mosaic provides:

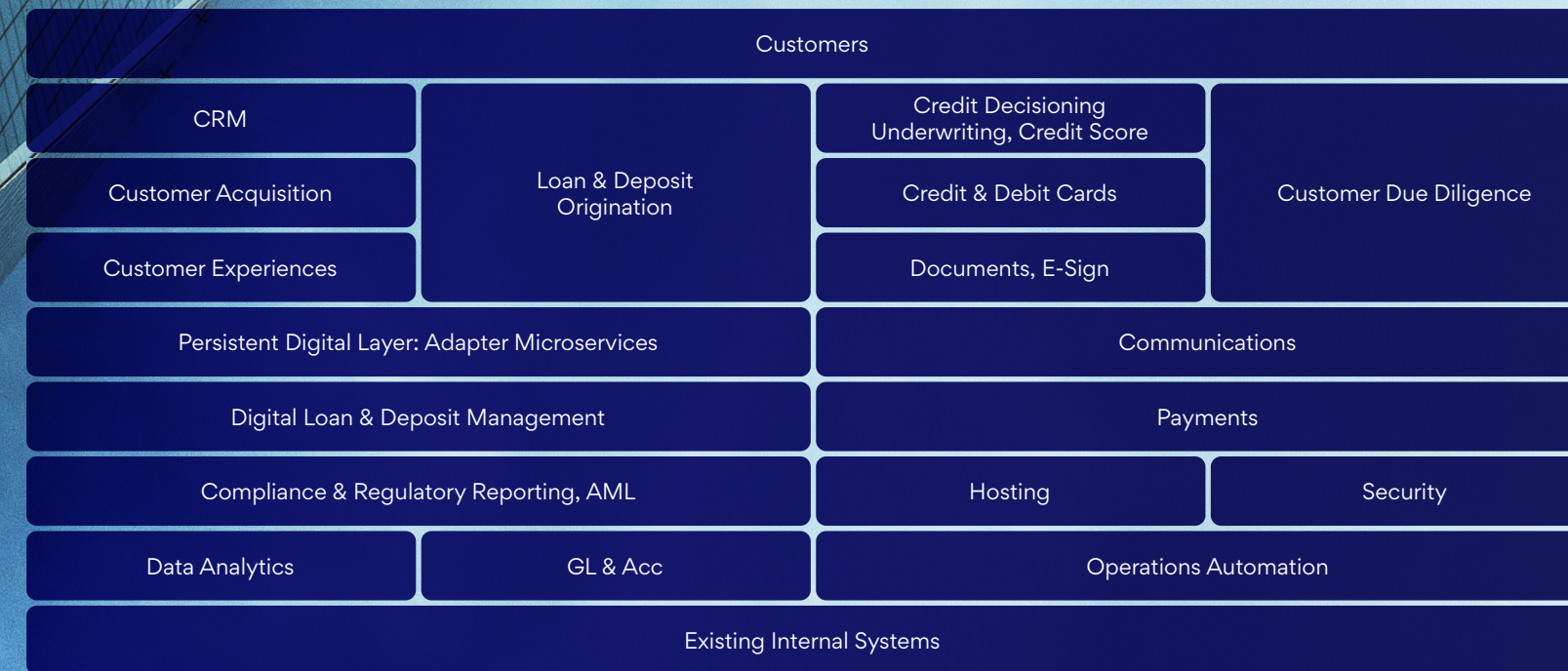
Expanded digital reach to new customers, partners, employees and suppliers.

Extensibility to legacy environments, without a *rip and replace* of your current investments.

Flexibility in multi-cloud environments, allowing for seamless operations across vendors like AWS, RedHat and Microsoft.

Access to a wide range of “best in class” and “best fit” solutions across security, cloud, analytics as well as industry verticals.

Exploring Digital Mosaics in Banking and Financial Services

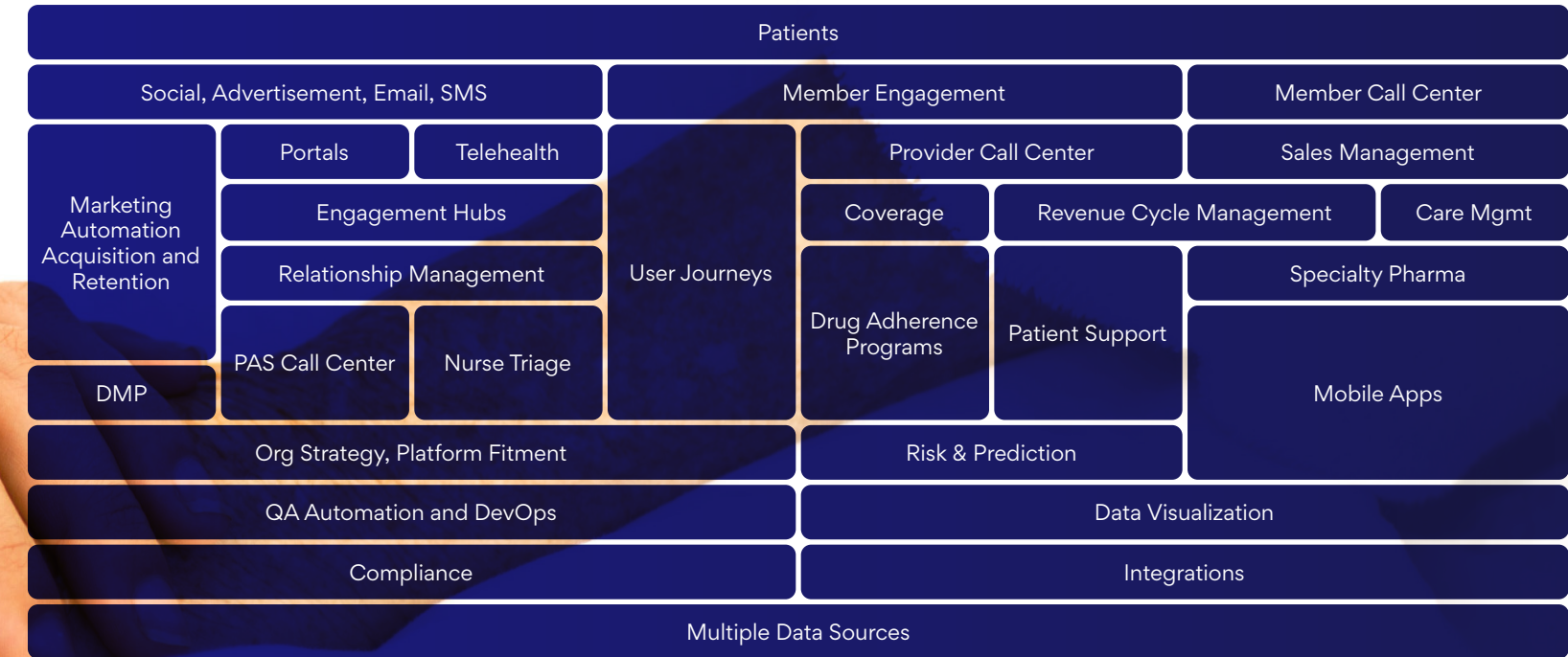


In banking, the significant transformation is driven by the need to deliver hyper-personalized experiences. Fintech challengers are creating new services from the ground up to address new or underserved markets, while established companies seek to match this innovation while leveraging the massive amount of data they have at their disposal. Going digital means financial institutions are no longer glued to the location of their businesses to attract new money and clients.

A digital mosaic strategy addresses these challenges by enabling rapid, scalable platforms that offer sophisticated banking experiences integrated with additional services. It also enables the advanced data analytics needed to address the “segment of one” the industry is now trying to achieve, as it strives to meet and exceed the expectations for personalized services and offerings.

We already see companies like EzCorp, IDFC, Kbz Bank, My Community Bank and Gojoko embracing this model. Specifically, Gojoko is creating an integrated marketing and lending platform which is opening up new lending options to underserved segments, previously unreachable by established institutions. US banks are investing heavily to launch digital experiences that extend their reach to new customers who prefer a digital-only experience.

Exploring Digital Mosaics in
Healthcare and Life Sciences



The healthcare industry is going through significant transformation driven by the shift to becoming patient-centric in particular. Healthcare organizations also hold massive amounts of data, as patient records are the backbone of the industry. This critical data must be securely synchronized across business and clinical units, while meeting strict government data requirements.

A digital mosaic strategy helps organizations in this ecosystem address these challenges by enabling integration and new workflows, combined with advanced analytics to manage data, including new data sources such as genomics. Advanced machine learning and AI can also streamline tasks for greater precision and replace manual tasks for greater efficiency.

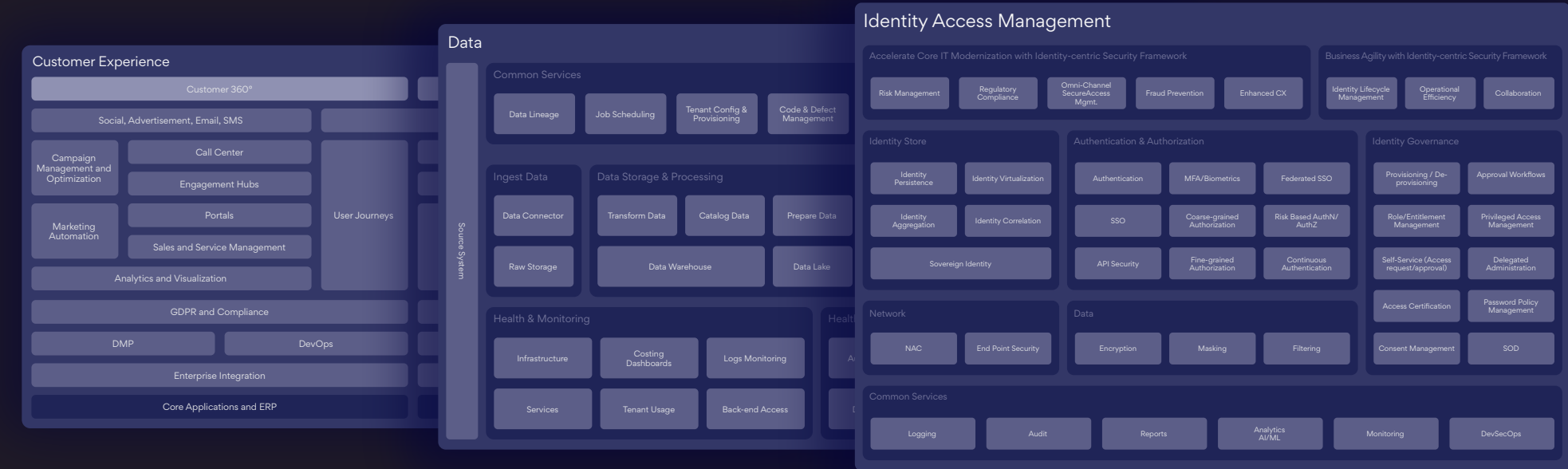
Care delivery organizations like Partners Healthcare and Mount Sinai Health System are orchestrating the build of different solutions that support their operations, clinical care and patient engagement by leveraging their data stores. These are further enhanced by advanced analytics and machine learning.

Digital Mosaics of Technology

As you look to apply the digital mosaic concept to your business, it is critical that you not only include industry specific components, but also that you design technology focused mosaics that support your Data, Security and Customer Experience, as well as other domains.

These core enabling capabilities breakdown into their own digital mosaics that are also made up of distinct applications, workflows and integration points.

Through the adoption of repeatable patterns, target operating models, tools and design thinking approaches an organization can quickly begin to deploy a mosaic strategy that not only drives cost out, but also enables growth through speed, agility and innovation.



Customer Experience

Across the CX layer, organizations must exceed expectations by innovating new AI-enabled experiences, data visualization, campaign optimization and best of breed commerce.

Salesforce embraced the notion of enterprise composability to support a full customer 360° well before others—and their growth trajectory shows it.

Data

In this mosaic, we see a need for a modern data stack that is scalable through the cloud, pay-as-you-go and supportive of cloud-native analytics.

Domo, Snowflake and Matillion are deploying this model with the intent of helping companies derive meaningful business outcomes from their data stacks.

Identity Access Management

In the context of the IAM mosaic, a well-crafted digital strategy enables end users to engage with business data across hosting models, applications, devices and machine identities securely and easily.

Saviynt and Ping are already embracing this reality in their solutions.

What stands in your way?

Constraints imposed by the enterprise itself are usually underestimated and hard to foresee. In addition, many organizations must now run joint business models with companies outside their traditional ecosystems, introducing an inherent set of complications and risks. This shared strategy requires new approaches that must be supported with extensive stakeholder buy-in. These partnerships will change over time and quickly, but the leading organizations will be the ones that can continually adapt.

In a world of digital mosaics, enterprises must move beyond the simple monolithic IT process and architecture that have historically hinder business agility. However in doing so, each business must first deal with the inherent **complexity of choice and integration of platforms, applications and other technologies.**

Complexity of Choice

- 1\ Cloud providers overlap in reality and perception, so getting clarity on who does what is critical.
- 2\ You will likely have more than one cloud services provider, so your multi-cloud strategy is key.
- 3\ Driving for new revenue and/or reduced infrastructure cost are deliberate design decisions that need to be taken with care.

Despite this complexity, the benefits of creating the digital mosaic outweigh the challenges. The software vendors, platforms, marketplaces, cloud providers and system integrators that focus on simplifying the creation of these digital mosaics will be the ones leading the industry.

Complexity of Integration

- 1\ Keep your legacy in any transition. Design your digital mosaic to work with it and enhance it.
- 2\ Not all digital tiles can sit beside each other. The compatibility is difficult to understand and it matters.
- 3\ Your users, current and next generation, come first in all digital designs.

With the proper strategy, planning, analysis and best practices a business can quickly begin to capture incremental value from their digital mosaic. It won't be built overnight and just like the last decade of digital transformation, leaders should prioritize based on where they think the biggest and quickest value will come from.

Building on Your New Foundation

As leaders move beyond the foundational design and composition of their core digital mosaic, they should extend value by addressing six key business imperatives.

1\ Establish a business strategy that capitalizes on greater composability and speed to market.

- Understand your offerings, related IT assets and target customers.
- Define the constraints imposed by technology on your business agility.
- Envision how technology can better enable, not just support, your business model.

2\ Re-imagine customer experiences to maximize value at every touch point, leveraging real-time data.

- Define the expected and desired CX across all channels.
- Understand how to exploit context while exposing products and services to customers.
- Maximize opportunities to capture real time insight to enhance CX.

3\ Engineer new digital products, services and business models that capitalize on your data and broader ecosystem.

- Design a data fabric that powers the business. Data should help define the business and not drown it.
- Define a composable set of microservices to present relevant, granular and selectable offerings.
- Understand current IT bottlenecks that hinder business expansion.

4\ Modernize applications, operations and infrastructure to increase agility and reduce cost using DevOps.

- Redraw base platforms to increase elasticity of technology while reducing total cost of ownership.
- Cloud is king. Understand how to use its power to help your business grow while reducing cost.
- Invest smart, be strategic and create a five-year vision and roadmap.

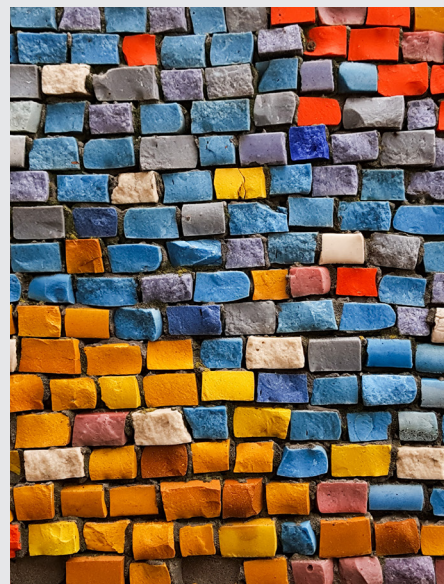
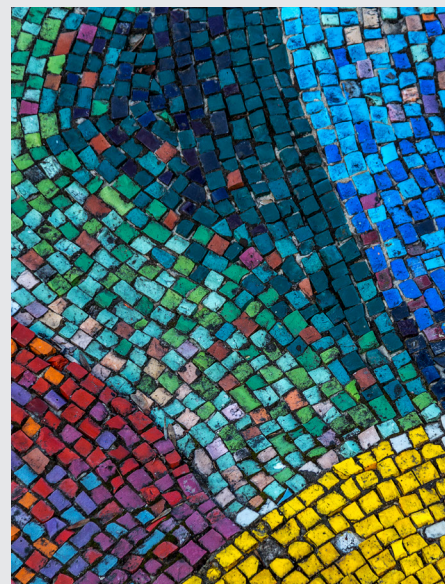
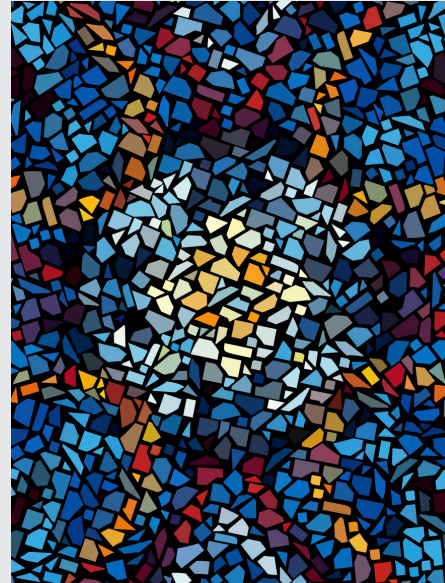
5\ Harmonize data across enterprise and deploy advanced analytics to unlock actionable insights.

- Democratize data.
- Take stock of all your data assets, educate your teams and provide them tools to leverage the data.
- Understand how to use data to power continuous analytics that facilitates growth.

6\ Establish trust across the enterprise with your customers and beyond by maximizing data security.

- Define a proactive, technology-enabled privacy approach to take care of your customers and their data.
- Educate customers on how they benefit from data being collected.
- Work with experts to understand the changing landscape of global compliance and regulations.

Embracing Your Digital Mosaic



The arrival of the digital mosaic marks a tectonic shift in how organizations take advantage of technology. It brings a degree of flexibility and cost-effectiveness never before possible with traditional IT infrastructures. It unleashes business opportunities and advantages that can shake up markets — new players emerge and old players create new services.

For established players the risk of dis-intermediation is real, as challengers start afresh with game-changing offerings unencumbered by legacy decisions.

While new organizations will have less of a complexity challenge and can likely get to market faster, industry incumbents can leverage the full potential of their data.

The **digital tiles** of the world are here in abundance and growing.

There are now **repeatable, proven patterns** across industries and technology domains.

Create your digital mosaic today.
When done properly, it's a real work of art.

Leaders in every industry are using these tiles to **accelerate growth** and **manage costs**.

Differentiation will come from **integrating these patterns uniquely** for your business.

About Persistent

With over 22,750 employees located in 21 countries, Persistent Systems (BSE & NSE: PERSISTENT) is a global services and solutions company delivering Digital Engineering and Enterprise Modernization. We work with the industry leaders including 14 of the 30 most innovative companies as identified by BCG, 8 of the top 10 largest banks in the US and India, and numerous innovators across the healthcare and software ecosystems. As a participant of the United Nations Global Compact, Persistent is committed to aligning strategies and operations with universal principles on human rights, labour, environment, and anti-corruption, as well as take actions that advance societal goals.

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