MACH @Logixal

MACH as a culture @ Logixal

LOGIXAL INC

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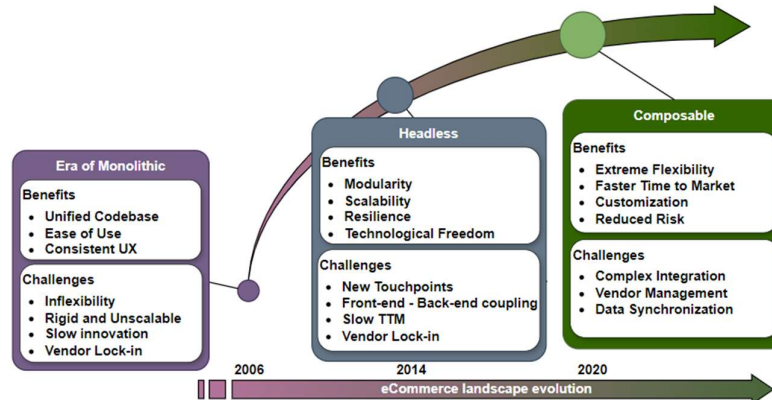USA.

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Introduction

Evolution from Monolith to Composable Commerce

E-Commerce landscape has undergone significant transformation from monolithic platforms to agile Composable Commerce and innovation over the past few decades reflecting the changing demands of businesses and consumers in an increasingly digital and competitive world.

The business drivers for this transformation are the need to adapt to evolved customer expectations, limitations of existing solutions, complexities and rigidness to deliver flexible, scalable, adaptable, focused on customer centricity and provide a competitive advantage to provide a Composable and Unified solution.

> "By 2023, organizations that have adopted a Composable Commerce approach will outpace competition by 80% in the speed of new feature implementation." - **Gartner**

Composable Commerce is emerging as the go-to architecture for businesses prioritizing agility and innovation. While greenfield enterprises easily adopt it, existing businesses need a tailored strategy. The MACH Alliance provides essential guiding principles to achieve Composability, ensuring a smooth transition for all. MACH technologies support a swappable enterprise tech stack in which every component is pluggable, selectively scalable, replaceable and can be continuously improved through agile development to meet evolving business requirements.

While MACH principles are crucial for Solution Providers, at Logixal, we believe they also apply to Solution Integrators throughout the SDLC to deliver truly MACH-compliant solutions. At Logixal, we leverage MACH to meet the challenges of the evolving digital landscape, ensuring robust and agile solutions for our customers.

Logixal's strategic focus, closely aligns with MACH Alliance' vision statement making us a natural ally with MACH Alliance members.

> "Evolutionary Composable Commerce is an essence for enterprises to deliver tantalizing CX powered by continuously evolving best-of-the-breed industry leading platform."
> - **Logixal**

> "Future proof enterprise technology and drive new digital experiences"
> - **MACH Alliance**

This whitepaper focuses on how we have adopted MACH as a culture across our solutions and within each of our software development lifecycle (SDLC) phases.

Challenges

Traditional monolithic solutions often limit businesses, making it difficult to keep up to deliver with the dynamic nature of the industry.

Each evolution from Monolith to Composable Architecture addressed certain specific challenges. Here are the key Business and Technical challenges which are addressed with MACH adoption:

Business Challenges:

- **Diverse Landscape**:
  Unique requirements, goals & workflows across Industries and Verticals. Multi everything – Brands, Regions, Currencies, Devices, Languages, Tenants.
- **Evolving Markets and Time to Market**:
  Keep pace with latest trends, advancements in technologies, expansions via M&A.
- **Customized, Personalized Customer Experience**:
  Creating engaging personalized experience.
- **Future-proof and Rapid Adaptibility:**
  Alignment with long-term business goals and quickly delivering innovative solutions to remain competitive.

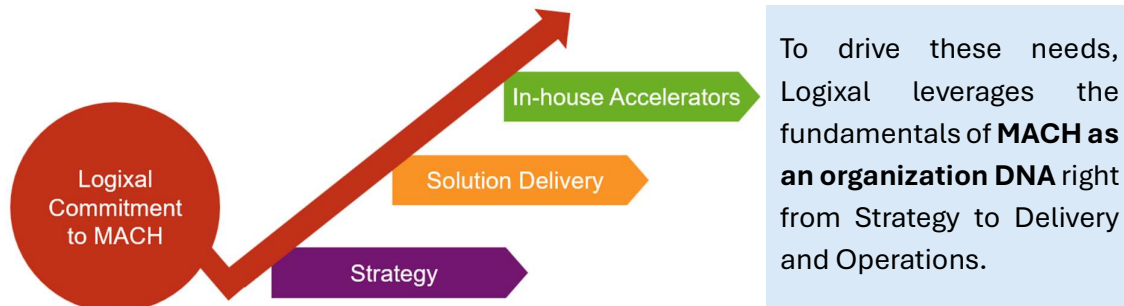
Technical Challenges:

- **Preventing Vendor Lock-in**:
  Need to enable selective swap-ability and integration of solutions without significant impact to services.
- **Demanding and Evolving Requirements**:
  Reducing scope creep & tech-debt, legacy transitions, scalability and flexibility in adapting newer tech stacks.
- **Increased Productivity and Cost Reduction**:
  Optimize costs and resource utilization across the lifecycle.
- **Security & Compliance:**
  Secure user data, handle vulnerabilities, ADA, PWA and OWASP compliances.

MACH Adoption Strategy

Logixal's strategy is driven by the following drivers:

- Time to market for our end customers.
- Easier management of User experience.
- Enablement of composable best-of-the-breed composable commerce ecosystem for our customers.
- Quick adaption to evolving market trends and needs.

To drive these needs, Logixal leverages the fundamentals of **MACH as an organization DNA** right from Strategy to Delivery and Operations.

We at Logixal understand the power of composable architecture to design leading-edge tailored solutions that maximize efficiency, enhance customer experiences, and drives revenue growth for our customers by leveraging the fundamental pillars of:

- Pluggable multi-platform-based domain driven solution
- Micro-services supporting selective scalability
- Headless Micro-frontend UI leveraging the power of allowing omnichannel integration
- Event-Driven Architecture to enable loose coupling among components
- AI/ML Powered Personalization
- Cloud agnostic deployment

Our MACH journey

The MACH (**M**icroservices-based, **A**PI-first, **C**loud native SaaS, **H**eadless) pattern is an effective way to implement a composable architecture allowing businesses to integrate flexible cloud native technologies using an ecosystem of independent components to deliver packaged business capabilities (PBCs). Flexibility is then realized through decoupled experience layer from the application layer through the domain driven use of APIs.

Logixal's enterprise solutions & services portfolio based on MACH:

Enterprise Solutions	Services

• Logixal's Templated Storefront: **B**ackend-**F**or-**F**rontend composable enterprise commerce platform
• DES: AI/ML Experience Engine
• Integrations with best-of-the-breed Search, Payment Gateways, CMS etc. solutions
• MACH applied integrations
   o Talon.One
   o Broadleaf Promotions Engine
   o CommerceHub
   o Monetate Personalization
   o Verifone Payment Gateway
	• MACH Maturity Assessment
	• Transformation:
	   o Monolith to Headless
	   o Headless to Composable Commerce
	• MACH applied BoB Integrations

Composable Commerce

Composable Commerce is the future of digital commerce, where businesses, no longer constrained by rigid one-size-fits-all solutions, are empowered to innovate and evolve rapidly. Today customers are looking for more engaging experiences with ability to purchase in-vehicle or engage using Augmented and Virtual Reality with the product.

AR lets customers preview products and experience services in their own space before purchase. AR helps online shoppers understand what they're buying and how the items will suit them by creating engaging experiences in clothing, makeup, accessories and even eyeglasses.

> 61% of consumers say they prefer retailers with AR experiences. - Threekit

AI and ML are revolutionizing customer experience by enabling businesses to deliver highly personalized and relevant interactions at scale by supporting advanced use cases like Personalized and Predictive Recommendations, Customer segmentation and targeting, Enhanced Search and Discovery, Voice and conversational AI at various touchpoints in the ecosystem.

While building these capabilities into the platform can be time-consuming and expensive, Composable commerce empowers businesses to meet customer demands swiftly, efficiently, effectively, staying competitive and easily allowing continuous innovation.

Logixal envisions a MACH applied flexible, scalable, and modular architecture for our composable enterprise commerce solutions with an ecosystem of best-of-the-breed solutions:
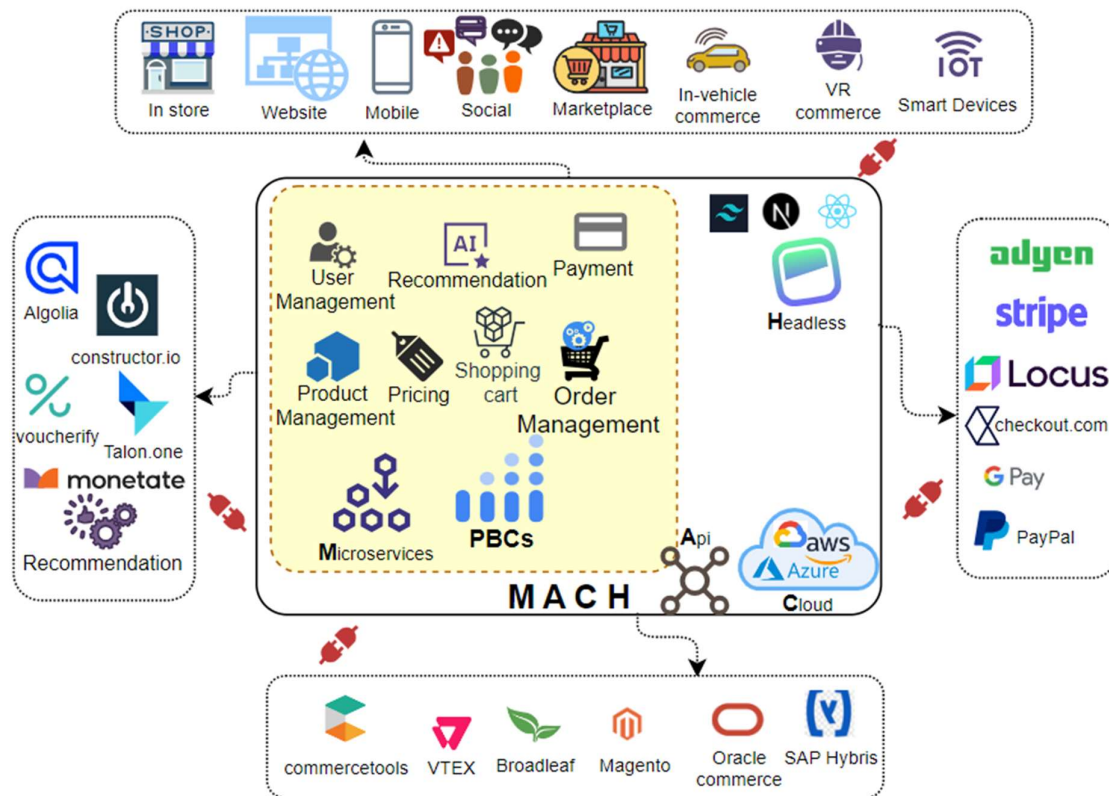
This composable commerce platform is built using **Microservices** at its core building block each of which is implemented and managed independently enabling the e-commerce architecture to be more flexible, selectively scalable and resilient.

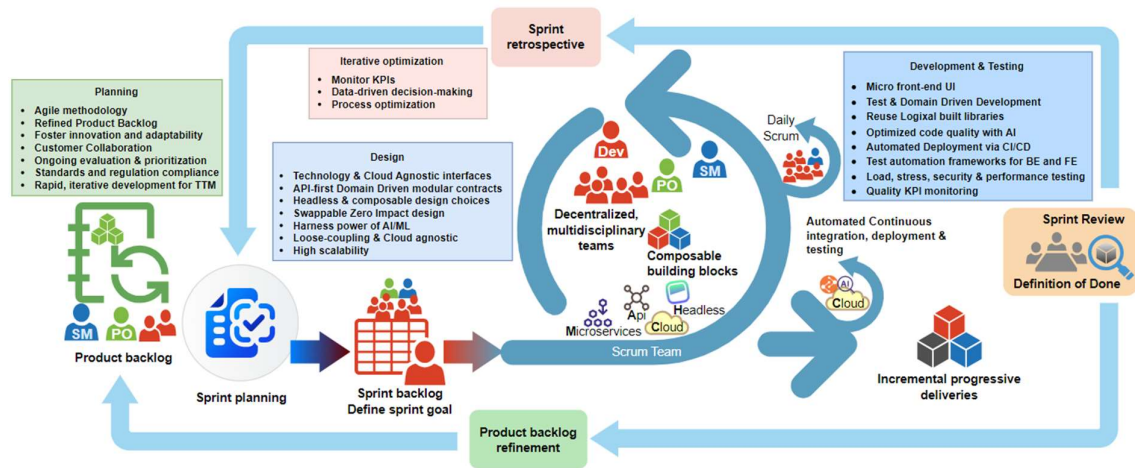**APIs** enable loose coupling of Domain driven industry-standard contracts.

Cloud provides elasticity and managed services for businesses to focus on business cases rather than maintenance of systems and tools

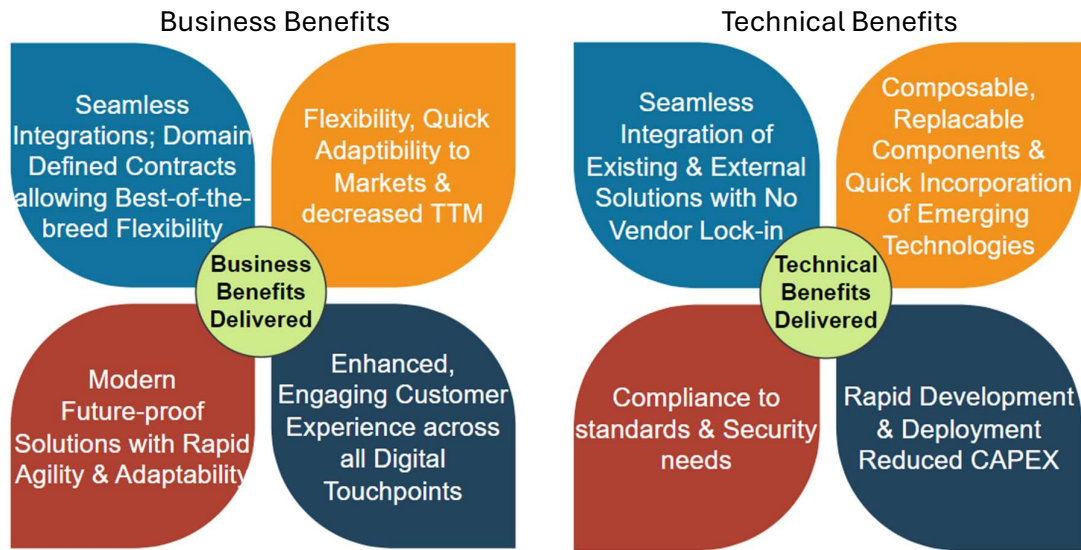**Headless** Design are comprised of smaller components:

- Atoms - basic building blocks, including shapes, colors, icons, and fonts.
- Molecules - simple groups of UI elements that function as a unit, like Input Groups.
- Organisms - more complex components composed of groups of molecules.
- Templates - page-level objects that layout the underlying content structure.
- Pages - specific instances of templates that represent a design in its final form.

This architecture allows us to integrate best-of-the-breed solutions across our solutions and services, providing our customers flexibility, pluggability and swap-ability to choose as per their needs.

Logixal adapted to MACH culture with a goal to achieve **composability** and **swap-ability** to assemble best-of-the-breed enterprise solutions at shorter TTM within our agile SDLC in each phase, accelerated with Scrum methodology for efficient project delivery that provided iterative delivery, quick adaptability to change in requirements along with customer involvement. With Scrum, we had more structured process, with planning and delivery cycles, ultimately improving team performance and client satisfaction.

Benefits Delivered

Business Benefits

- Seamless Integrations; Domain Defined Contracts allowing Best-of-the-breed Flexibility
- Flexibility, Quick Adaptibility to Markets & decreased TTM
- Modern Future-proof Solutions with Rapid Agility & Adaptability
- Enhanced, Engaging Customer Experience across all Digital Touchpoints

Business Benefits Delivered

Technical Benefits

- Seamless Integration of Existing & External Solutions with No Vendor Lock-in
- Composable, Replaceable Components & Quick Incorporation of Emerging Technologies
- Compliance to standards & Security needs
- Rapid Development & Deployment Reduced CAPEX

Technical Benefits Delivered

Summary

Leveraging MACH Alliance fundamentals across, Logixal has been able to accelerate solutioning for our customers. Composable solutions are the pathway to a future-proof digital transformation strategy, empowering enterprises to adapt, innovate, and grow in an ever-changing market.

About Logixal

Since 2005, Logixal, is focused on composable solutions & digital banking enterprises. Logixal has partnered with industry leading platforms to provide custom implementations or in-house enterprise solutions. For over 18 years we have been providing services to Retail, Luxury Goods, Manufacturers, Distributors, Media, Telecom, and Subscription model-based businesses serving customers across Americas, Europe, Asia, Africa & Middle East.

Visit http://www.logixal.com for more information

Footnotes/Sources

- MACH Alliance https://machalliance.org/
- Nasdaq research: https://www.nasdaq.com/articles/uk-online-shopping-and-e-commerce-statistics-2017-2017-03-14
- Scrum: https://www.scrum.org/
- Gartner: https://www.gartner.com/en/insights
- Threekit: https://www.threekit.com/resource-library

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