

The Lego Blocks Approach to Agility for the Water Utilities Industry:

Helping firms achieve their business outcomes

Abstract

Currently, businesses are disrupting and innovating at pace thanks largely to changing customer behavior, demands, and expectations. Dynamic market conditions and accelerating technological developments also contribute to this shift.

Organizations that have mastered the art of innovating at pace have an innate agility which gives them a competitive advantage. Their digital strategies and the enabling IT landscape are flexible and can evolve quickly to deliver intended business outcomes. While these companies may not follow a single template for their digital strategies, there is a common theme.

Using the analogy of Lego blocks, this paper explores this common theme on digital strategies to understand how utility firms can structure their IT systems to facilitate an outcome-oriented nimbleness required to compete in today's business environment. While the paper focuses on water utility firms, the approach can be applied to all industries.

Accelerating Digital Transformation with the Lego Blocks Approach

Organizations are increasingly developing and supporting products using agile methodologies and DevOps toolsets. They are backed by dedicated product teams comprising of technology and domain experts who own the product throughout its shelf life. However, a product mindset doesn't necessarily guarantee outcome-based teams or lead to agility. Often, while switching from the application mindset to the product mindset, teams just move from managing application key performance indicators (KPIs) to managing product KPIs. If the KPIs remain the same, it is challenging for the teams to achieve the desired business outcomes.

So, what is the way out? Digital strategies based on platforms can become a strategic lever to deliver desired business outcomes. Platforms are the building blocks of IT architecture and deliver business-aligned KPIs as a service. Each platform consists of a set of products or services. The products within a platform can be easily assembled and disassembled, or swapped, much like Lego blocks, to modify a platform's intended business outcome, or to build new platforms. Platforms can be coupled with other platforms and can be swapped easily without impacting the entire architecture.

In fact, the modular nature of the platform architecture allows technology companies to experiment, learn, fail, and innovate at pace. This means each platform team delivering a business capability 'as-a-service' can shift their focus from managing individual applications / products to managing business outcomes and defining their evolution.

Aligning Business Strategy with IT Platforms

To achieve desired business outcomes, it is essential to closely align business strategy with IT platforms. However, this requires firms to select IT platforms based on the target business KPIs, the business capabilities and issues of stakeholders, and how business KPIs are mapped. Firms must also understand how business capabilities should evolve based on the budget, prioritization across business outcomes, and resourcing strategy.

Firms can then select the right technology components and products to develop and evolve the platforms. They can further determine how to decrease the turnaround time to develop the products to form the platforms. Firms must also create guidelines for product usage, enable efficient cross-platform dependency management, and establish a lean governance model.

Once the above requirements are met, platforms can be owned by business and supported by IT, and the underlying products can be owned by IT and supported by business. This removes any overlap of issues that occurs between the business and IT teams while also tightly aligning strategy, planning, and execution.

Organizing Platforms and Products with a Lego Blocks Approach

The platforms in any organization can typically be categorised into three blocks (see Figure 1)¹:

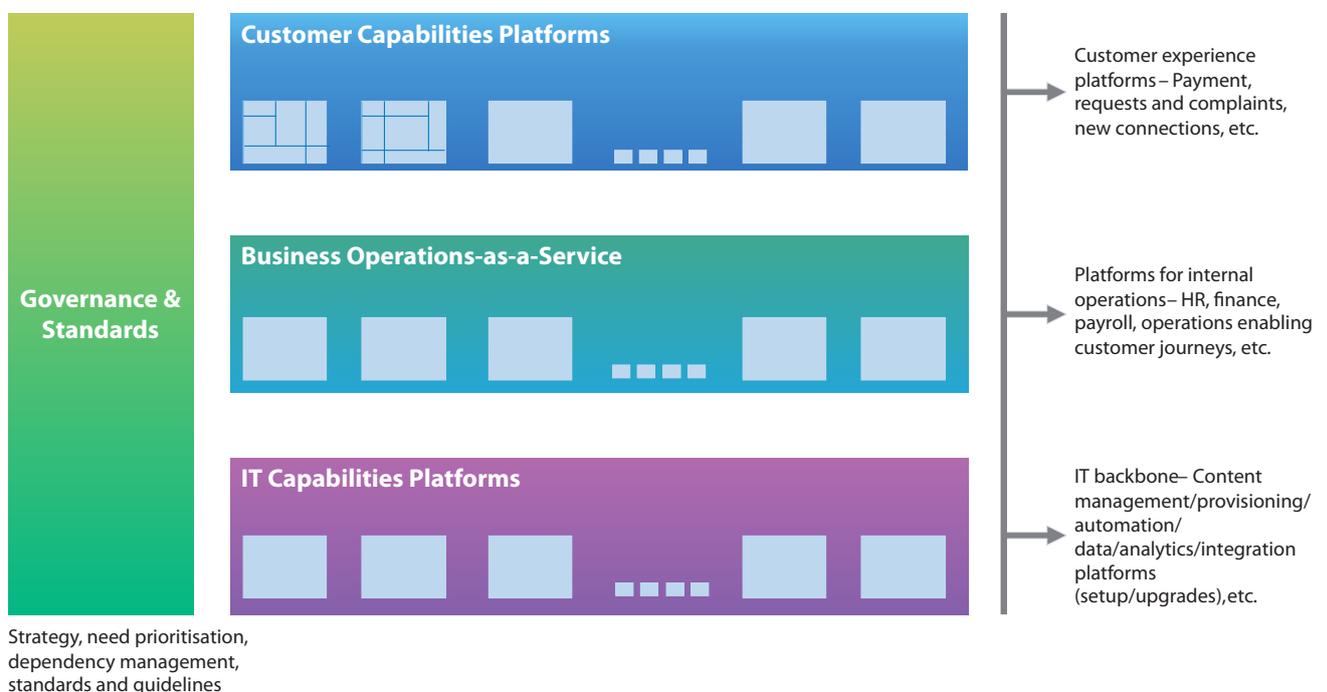


Figure 1: IT strategy – A Lego blocks approach

- **Customer capability platforms** (customer journeys-as-a-service) improve capabilities related to payment and billing, customer requests and complaints, marketing communications, new connections, business-to-business services, regulatory requirements, and more.
- **Internal capability platforms** (business operations-as-a-service) develop capabilities for human resources, finance, timesheet and payroll management, capital planning and delivery, network maintenance, site maintenance, and more.
- **IT capability platforms** build horizontal IT capabilities used by other platforms such as collaboration, infrastructure, automation, IT service management, data and analytics, and integration.

[1] McKinsey & Co.; *The platform play: How to operate like a tech company*; February 2019; <https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-platform-play-how-to-operate-like-a-tech-company>

As the customer experience and internal operations platforms are focused on business outcomes, they should be owned by the business team and supported by the IT team. The individual product teams, which form the platforms, should be owned by IT and supported by the business, as explained above. On the other hand, the IT capability platforms or product teams are crucial for setting up the base platforms, enabling feature availability for other platforms, and overseeing maintenance and upgrades. Therefore, these are owned and governed entirely by IT. Any development on top of these platforms—for instance, platform integration to enhance a customer relationship management—are driven by business outcomes and should, therefore, be considered as part of business outcome-driven platforms.

The Lego Blocks Approach in the Water Industry

To illustrate the Lego blocks approach in the utilities industry, let’s consider water utility companies. Customer journey platforms in this sector are typically used to build new connections, enable reactive and proactive customer service, and ensure customer payment. Each of these platforms own a single or a set of logically grouped customer journeys. For instance, a reactive customer service platform will be responsible for resolving customer complaints and addressing issues over water availability, water quality, pollution, and more. Each of them uses a set of products managed by individual product teams which can be common across platforms. Figure 2 illustrates how the Lego blocks model can be visualised in the water utility industry.

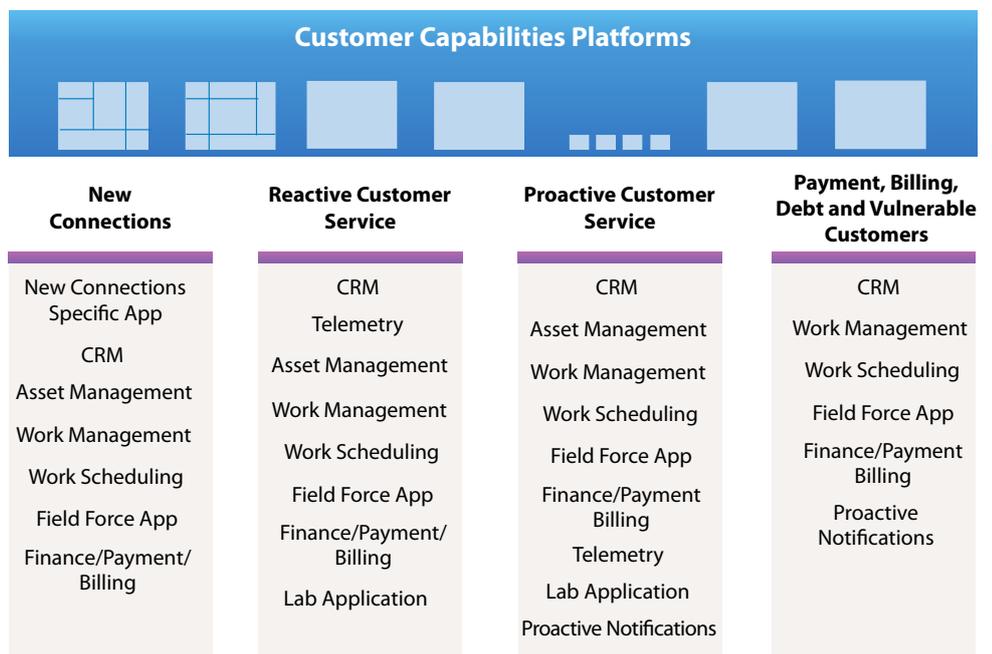


Figure 2: Customer journey platforms for water utilities

The backlog for those products will be the sum of needs from dependent platforms. Any prioritization will be based on a pre-agreed priority matrix for the business KPIs associated with the dependent platforms. For example, reactive customer service KPIs, which directly impact customer experience, might have a higher priority as compared to KPIs for new connections.

Additional planning is required to swap products which are part of multiple platforms simultaneously, as they are highly dependent on each other. A high number of dependent products makes it difficult for teams to implement a nimble and agile architecture. With such a high percentage of interdependent core systems, how do firms deliver business needs at the pace of individual business functions without compromising on both the individual needs and the varying degrees of required agility?

In order to reduce dependencies, 'systems of record' features such as customer relationship management, asset management, work management, scheduling, finance, billing, and a geographic information system can be made available as cloud-based microservices. Low code platforms are now sufficiently matured to enable businesses to create apps at three times the speed, and thereby, at a much lower cost. Low code platforms can be adopted as the front end to leverage microservices and create business apps as per requirements and quickly as needed. Similarly, leading cloud platforms such as AWS and Azure have multitude of services which can be assembled at pace to build applications. The microservices and applications thus built can then serve as the agile Lego blocks ('systems of differentiation' or 'systems of innovation') for the various platforms that can evolve independently at the pace of evolving business needs, laying the foundation for innovation at pace.

Accelerating Change for Utilities Businesses

Utilities are overwhelmingly embracing agile as their preferred delivery model. Studies show that Utility companies across the globe are embracing agile, cloud, mobility and AI at pace. However, companies need to transform their established internal processes and work culture to become agile. Accelerating change that is constructively disruptive to the organization is a challenge. Investing in the latest technologies such as cloud, data, artificial intelligence, and mobility is half the job done. The other half requires the right application of technology and frameworks to achieve desired business outcomes. While these tools are crucial to enhancing agility, how they are leveraged will differentiate and determine the leaders of tomorrow.

About The Author

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