

The Next Disruption in BFSI: Embracing Industry 4.0 with BizDevOps

Banking, Financial Services and Insurance



Abstract

Banking, financial services, and insurance (BFSI) organizations must embrace Industry 4.0 principles to move to customer-centric paradigms to generate consistent value for their stakeholders and achieve economic sustainability. To make this a reality, BFSI firms should adopt the BizDevOps approach to software development. BizDevOps helps bridge the gap between business objectives and IT prerogatives, infuses IT agility, delivers continuous and consistent value, and maps business metrics with the performance of actual IT systems executing the underlying processes. Continuous tracking of the impact of IT metrics on business (and vice versa) and making suitable adjustments can help BFSI firms deliver enhanced value to customers. This white paper discusses how leveraging the BizDevOps pillars can help firms embrace Industry 4.0 principles as well as achieve faster time-to-market, enhance customer experience, ensure regulatory compliance, and infuse business resilience.

BizDevOps in the context of Industry 4.0

As BFSI firms step into the Industry 4.0 era, the focus is on embracing empathetic customer-centric business models. To achieve this, firms must leverage several Industry 4.0 elements, including digital currency, digital marketplace, non-fungible tokens, device independence, digital assets, social media, digital humans, and natural language processing (NLP).

BFSI firms are adopting the principles of DevOps and site reliability engineering (SRE) to become customer-centric and agile. While these practices deliver distinct business value, end customers are yet to benefit, making the vision of a customer-centric BFSI firm a distant reality. This is because DevOps and SRE still prioritize business stakeholders, often overlooking end-customer needs. As BFSI firms evolve, the need to connect the business ecosystem with IT in an agile fashion becomes paramount. Industry 4.0 facilitates connects with customers, business, IT, and society. However, transitioning to such an environment will require BFSI firms to embrace the principles of BizDevOps as a first step. Establishing a BizDevOps framework is thus an important lever for BFSI firms to adopt Industry 4.0 principles, in turn transforming into customer-centric entities.

Figure 1 depicts a BizDevOps framework for BFSI organizations. Integrating business and IT processes provides the much-needed premise for embracing Industry 4.0, which is critical to delivering value to customers. Figure 1 also shows how the BizDevOps metrics map to the underlying IT metrics and how they connect with the corresponding business and IT processes to achieve such integration. However, based on the nature, complexity, and IT maturity of individual BFSI organizations, extraneous business factors may impact the parameters.

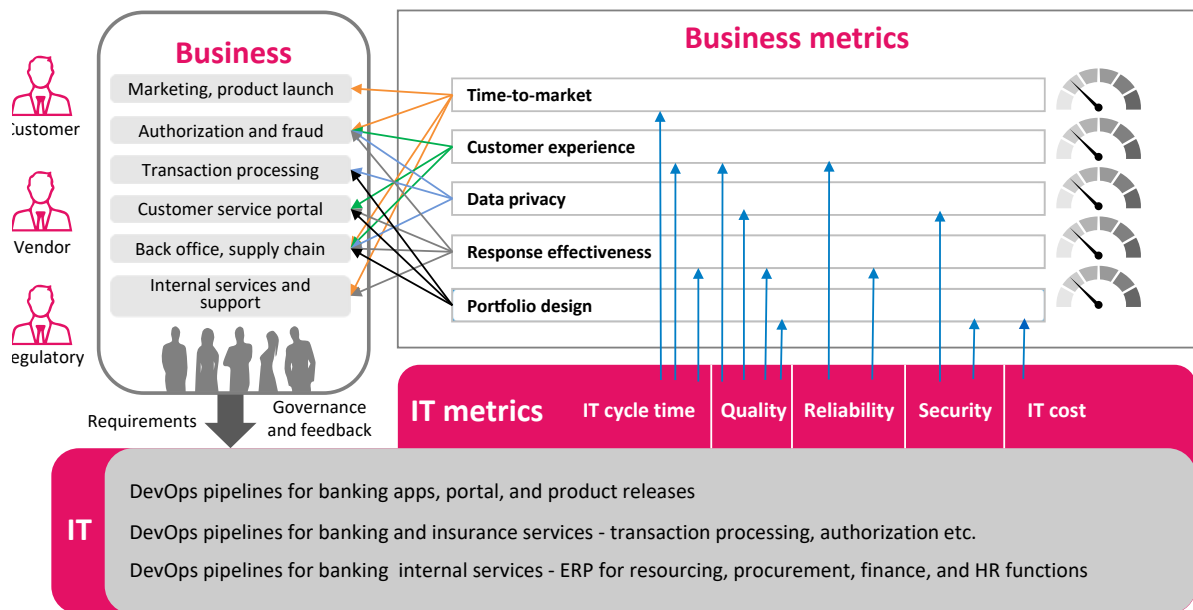


Figure 1: BizDevOps framework

Given the adoption of BizDevOps principles has become an imperative, BFSI firms must consider some crucial dimensions while defining the BizDevOps roadmap.

IT cycle time optimization

A swift response to shifts in market dynamics such as changing customer requirements is critical in the BFSI industry. This necessitates optimizing the IT cycle time to achieve faster time-to-market. Banks and insurers are often under pressure to quickly launch new products and services or introduce new features to existing portfolios to keep pace with the competition. Further, card authorization failures at points-of-sale or substantial response times for such authorizations may cause significant business loss both in terms of customer flight and lost revenue. This calls for IT systems that incorporate highly automated fail-safe pipelines for change and risk mitigation processes.

Hence, banks and insurers must define a BizDevOps roadmap that maps and analyzes the IT cycle time and release frequency metrics with the timing and frequency of product launches. Similarly, card authorization systems at point-of-sale terminals must map the mean time to repair (MTTR) and mean time between failures (MTBF) metrics for the underlying IT systems to detect and predict failures and take suitable and timely corrective action. Such mapping of IT metrics with business requirements will help achieve greater decentralization of banking services and maintain optimal redundancy in the IT architectures to handle infrastructure failures during periods of peak loads.

Multi-dimensional moments-of-truth

There are multiple dimensions constituting moments of truth for customers. Customer experience is thus a combination of multiple business metrics. It demands back-end IT systems with the capabilities to deliver consistent, delightful, and personalized experiences in terms of both quality and the performance of a product or service. Such experiences may span online portal services and the delivery of tangible products requiring seamless integration of multiple channels, including the internet of everything (IoX) and more.

While creating the BizDevOps roadmap for such systems, business metrics such as the number of online portal complaints and processing time for specific online requests in areas like underwriting or insurance claims must be mapped with relevant IT metrics. The IT metrics should include UI/UX test

and IT pipeline reliability metrics (including change success ratio in production versus pre-production stage), data integrity measures, and technical debt of code. Such mapping will facilitate BFSI firms to better utilize IoT technologies, improve the transparency of operations, and enhance customer experience.

System resilience

When disruptive events occur, BFSI firms are expected to step up and meet changing customer demands while delivering seamless service. For example, during the COVID-19 crisis, insurers had to process a huge number of claims in a short window, putting significant pressure on policy claim management systems. This calls for high system resilience to process requests in real-time.

Metrics such as the time taken to adapt to new scenarios that include product innovation to cater to a new customer segment or time taken to recover from security failures will need to be mapped while designing the BizDevOps roadmap. Metrics such as time taken to set up new IT pipelines for incorporating product or service changes, IT cycle times, security test and data integrity metrics, and coverage and success rate of artificial intelligence (AI) tools would need to be mapped with the corresponding business metrics. This will enable BFSI firms to enhance the level of integration of business processes with IT processes to achieve the target metrics, which in turn will help increase resilience to weather unexpected paradigm shocks.

Data security and compliance

BFSI firms have a huge amount of customer data on their systems that is analyzed to enable hyper-personalized service by leveraging diversified IoT ecosystems and social media. BFSI firms must ensure the security and integrity of such data. Transitioning to Industry 4.0 will require BFSI firms to have an in-depth understanding of the IT impact on the security of highly sensitive financial and customer data, especially when such data moves across hybrid and multi-cloud infrastructure across nations. The emergence of digital currency and payment mechanisms further necessitates this understanding. While designing the BizDevOps roadmap, firms must map IT metrics such as data integrity (from a regulatory perspective) and percentage traceability of database failures in production with corresponding business metrics. This will enable data-centric design systems, which in turn will help ensure transparency of operations from a regulatory perspective.

Portfolio design

BFSI firms must ensure an optimized design of the overall business portfolio with its underlying IT application landscape while maintaining redundancy to manage system failures to enable optimal resource utilization and costs. Ensuring the right balance between optimality and redundancy will require technology interventions such as intelligent automation (to autonomously detect application utilization and redundancies), services-based applications (to maintain high modularity), and cloud adoption (to achieve on-demand scalability).

While designing the BizDevOps roadmap, BFSI firms must look at metrics such as return on investments from new IT pipelines and the revenue to transaction cost ratio, which will map to IT metrics such as the number of changes per pipeline and the number of failures in production. This will help firms identify IT resource utilization and leverage intelligent automation to consolidate such resources, in turn rationalizing the technology and application stacks. For example, for a bank operating a diversified cards portfolio, a lower number of changes in the IT systems underlying a certain card portfolio may indicate either a very stable portfolio (based on the number of transactions) or customer defection to the competition. Automation through a DevOps pipeline can help banks rationalize the portfolio and reduce cost per transaction or divert such portfolios to newer markets. Performing predictive analytics on such business processes based on the IT metrics may further help in faster decision-making from a business standpoint.

Conclusion

IT is a core pillar to achieve faster time-to-market for new offerings, enhance customer experience through robust and secure systems, drive regulatory compliance, and build resilience across multiple business value chains in BFSI firms. Overcoming challenges around ensuring alignment of business with underlying IT processes calls for being able to quickly correlate changes in business to IT, thereby making such changes data-driven and establishing robust feedback mechanisms that can predict, prescribe and quickly change the course of business outcomes. BFSI organizations must vigorously move ahead in embracing the BizDevOps paradigm at scale in turn facilitating a shift to Industry 4.0 and customer-centricity. This may require them to collaborate with a trusted partner for the requisite technology expertise and contextual knowledge after a well-rounded market analysis.

About the authors

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Manas Shome is a DevOps evangelist and consultant with TCS' BFSI Technology Advisory Group. He is a published author, patent holder, and a regular speaker across conferences, talking about all things DevOps. He holds a Ph.D. in management from the Indian School of Business Management and Administration and is widely connected with thought leaders in the IT and DevOps world.

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Awards and accolades



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