Emerging Technologies in Banking
How Datacenter Investments & Strategies Create Network Effects

An IDC InfoBrief, Sponsored by Dell EMC and Intel | April 2019
Executive Summary

Better Performing Banks Have Embraced Automation and Shifted to Data-Driven Decisions

IDC performed an in-depth study of banking organizations to better understand their ability to innovate, the challenges they face, and their investment strategy and vision for datacenter resources. By and large, banks with better business outcomes ("Thrivers") have embraced automation and shifted to data-driven decisions — essentially harnessing data to streamline processes and drive innovation via:

» Better business outcomes driven by a customer-first focus and digital use case deployments
» A mindset for innovation
» Operational excellence to fuel positive outcomes

Thrivers Recognize the Interconnectedness of Technologies

Big data analytics (BDA), Internet of Things (IoT), artificial intelligence (AI), and machine learning (ML) aren’t independent initiatives. Rather, each is a multiplier that dramatically improves the benefits gained from the others. In combination, these technologies create business capability force-multipliers or “network effects.”

Modernized datacenters serve as the foundation for and pathway that extends the benefit and value of emerging technology capabilities across the organization. Thriving IT organizations understand the interconnected nature of emerging technologies and are developing expertise that complements their broad efforts to implement these technologies.
Executive Summary (continued)

Thriving Banks Realize Stronger Business Outcomes Relative to Their Peers

By investing in modernized datacenter resources and emerging technologies, Thriving banks stand out from the rest with their customer offerings, reduced risk, efficient operations, and effective business processes.

THRIVING BANKS REALIZE:

- **1.7X BETTER** results in regulatory compliance
- **2.4X MORE** product and service offerings and 1.3x better customer satisfaction / loyalty
- **2.6X SHORTER** time-to-market for new products and services
- **3.5X BETTER** employee productivity
- **10X HIGHER** deployment rates of digital use cases (e.g., retail customer on-boarding, automated mortgage origination, retail transaction monitoring, etc.)
Global Research Methodology and Definitions

In 2018, IDC conducted a global research study to better understand the linkage between digital use-case deployments, investment in emerging technologies, and business outcomes.

Based on the outcomes achieved, IDC grouped study participants into four categories. Those with the most positive business results are called “Thrivers” and those that lagged in positive results are called “Survivors.”

Additionally, IDC conducted 16 in-depth interviews with organizations to dig deeper into the business value and real-world deployments thriving organizations have made.

Full research results were published in a Dell EMC and Intel-sponsored IDC White Paper: “Emerging Technology and Modern IT: The Key to Unlocking Your Data Capital.”
Defining Characteristics of Leaders in Banking

Leading banks are harnessing their investments in modernized datacenters and emerging technologies — with the goals of improved customer experiences and an empirical mindset to drive better decisions — all while enhancing operational efficiencies to improve compliance and effectively prevent and mitigate data and security risks.

Attributes of Thrivers include:

» Greater deployment of technologies that improve operational efficiency, ensure security, reduce management complexity, and reduce provisioning times.

» Investing in their own datacenters at a rate of 3x their lagging peers ("Survivors").
  - 94% had made major investments in upgrading their datacenter resources.

» A clear and unified strategy leveraging technology and transforming their business.

In contrast, Survivor organizations lack a unified strategy around customers, innovation, and operational excellence. They invest in advanced datacenter technologies at lower rates and are less mature in their digital use-case deployments.
To be competitive, banks need to connect with customers in new ways

» Supporting mobile technologies and social platforms is critical to achieving customer preference.

» It’s increasingly challenging for banks to stay focused on leveraging new technologies for competitive differentiation — when also faced with ever-increasing challenges to improve security.

» While customer experience is a number-one priority, ensuring data and physical security, preventing fraud, and streamlining regulatory compliance are also pressing. These priorities are in fact “table stakes” and essential for survival.

» For Survivors in the banking industry, these priorities are viewed as discrete and opposing challenges, each requiring their own separate investments in IT services and infrastructure.

» Thrivers handle it differently. They recognize the interconnectedness — or “network effect” — of their investments in IT.
Banking **Thrivers** Excel Through...

**Better Business Outcomes**

**A Customer-First Mentality**
- 1.3x better customer satisfaction and loyalty

**Deploying Digital Use Cases**
- 9x as likely to have deployed retail customer onboarding
- 100x as likely to have retail transaction monitoring
- 25x as likely to have deployed regulatory compliance reporting

**A Mindset for Innovation**
- 2.4x more product and service offerings
- 2.6x shorter time to market for new products and services

**Operational Excellence to Fuel Positive Outcomes**

**Improving Productivity**
- 3.5x more employee productivity

**Investing in Advanced Datacenter Capabilities:**
- Ensure secure configuration of IT assets
- Meet regulatory compliance
- Quickly add or reallocate compute resources
Thrivers Deploy More Advanced Technologies in Their Datacenters

In their own datacenters, banking thrivers report higher technology deployment rates that improve operational efficiency, ensure security, reduce management complexity, and reduce provisioning times.

**THRIVING BANKS ARE:**

- **7.9X** more likely to invest in all-flash storage.
- **22X** more likely to invest in storage for unstructured data.
- **21.5X** more likely to invest in enhanced datacenter security provisioning.
- **11.6X** more likely to invest in improved data protection/control.
- **100X** more likely to invest in hyperconverged infrastructure (HCI).
- **100X** more likely to invest in embedded big data, integrated analytics, and machine learning (ML) within IT and datacenter management processes.
The Interconnectedness (or “Network Effect”) of Investments in IT

IDC research shows that thriving banks share similar approaches regarding investing in and adopting emerging technologies.

Notably, they plan with the foundational assumption that emerging technology adoption is a longer-term process to ensure that their IT and business organizations have the flexibility and agility to recognize and take advantage of new opportunities and change direction if necessary.

Thrivers Think Ahead, Experiment, and Are Willing to Adapt and Change Course

By threading together emerging and modern datacenter technologies, companies are creating force-multipliers for their markets, customers, and operational capabilities to address critical banking needs.
Real-World Experiences of Thriving Banks

Competitive Advantage
“If you are faster than the competition in analyzing data, market data or other types of data coming in, you can react faster. That means you can significantly improve your P&L throughout the day. We’ve seen improvements of 20, 25, 30% if the algorithms are faster and can analyze more data at the same time.”

Regulatory Compliance
“We have fewer incidents with the regulators because we’re able to utilize real time surveillance, and the regulators like that. Our financial institution had been fined before for issues with controls, not being able to proactively monitor transactions and have the right real time controls in place. So, now with the use of this robotic process automation and artificial intelligence, as well as real-time audio and video surveillance and reporting, we’re able to more easily pass regulatory audits.”

AI, ML, and Big Data
“In practically every step of the trading process that I’m responsible for, we are using elements of big data. We use various quantitative strategies that utilize artificial intelligence and machine learning, historical patterns, analysis, statistics, and things like that.”

Innovating to Exceed Customer Expectations While Ensuring Security
“In various compliance models we use machine learning and AI to validate that this was a valid order received from a valid client or what kind of request we received validating this.”

Innovating for Operational Excellence
“We are also using robotic processing automation. They are well integrated into the process. If they feel that something is out of order or something does not make sense or something is not complete, then we have automatic ways of dealing with those situations.”
Becoming a Thriver

To become a Thriver, banks must be able to unlock the value of data and leverage the interconnectedness of their IT investments.

Thrivers recognize modernized datacenter resources are the foundation for supporting emerging technology and are able to reduce fraud, improve security, and above all — innovate to improve the customer experience.

Want to become a Thriver? Here are the key questions to ask:

**Are my datacenters up to the task?**
- Can my datacenter resources support the demands of emerging technologies?
- Do my datacenters support agility through on-premises and cloud infrastructure?
- Have I invested in technology that reduces management complexity?
- Can my systems gather, clean, protect, and organize data for advanced analytics?

**Am I prepared for the people & processes part of change?**
- Are my employees able to scale the learning curve and navigate disruption to existing processes?
- Can I close the skills gap with trusted services?
- Can I deploy infrastructure and technologies that simplify management and leverage autonomous and self-healing capabilities?

**Am I prepared to overcome internal barriers to change?**
- How can I show examples of improvements to customer experience as measures for success?
- Can I develop a playbook that evangelizes the synergies of more comprehensive customer profiles?
- Do I understand the hurdles and roles that will gain cross-organization buy-in and garner the full benefits of emerging technology?

**Am I ready for AI?**
- Is all the data that my bank gathers and stores able to be leveraged? What will it take to cleanse, organize, and protect this data?
- Am I ready to shift from rules-based to risk-based transaction monitoring and analysis?
- Can I leverage comprehensive customer profiles to improve risk scoring, reduce fraud, and improve transaction analysis?
Key Takeaways and Next Steps

» Thriving banks consistently report higher profits (3.7x), revenue (1.3x) and productivity (3.5x) than Survivors

» Thrivers are more able to fend off competition and disruption through delivering new services and innovating through IT

» Thriving banks can shift to a customer-first mentality by:
  • Using data and analytics to create a more seamless and efficient mortgage origination process

» Thriving banks can develop a mindset for innovation by:
  • Leveraging advanced analytics to reduce fraud and streamline regulatory compliance by building more comprehensive customer profiles

» Thriving banks can achieve operational excellence by:
  • Leveraging machine learning and cognitive analysis to shift from rules-based to risk-based transaction monitoring analysis

Thriving banks have invested in modernized IT and rely on technology such as all-flash storage, hyperconverged infrastructure, and advanced datacenter security provisioning to drive operational excellence. IDC recommends developing a new datacenter vision that enables the organization to create “Network Effects” based on their modernized datacenter resources and ability to leverage investments in emerging technologies.

Click here to learn more