

FORRESTER®

Operationalizing Machine Learning Achieves Key Business Outcomes

Focus On The Business Promise Of ML To Improve
Efficiency, Productivity, And Customer Experience

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FORRESTER OPPORTUNITY SNAPSHOT: A CUSTOM STUDY COMMISSIONED BY CAPITAL ONE | SEPTEMBER 2022

With Operationalization, Machine Learning Will Fulfill Its Promises

Machine learning (ML) applications have the potential to supercharge data science and improve analytics, enabling organizations to make data-driven decisions quickly. Successfully leveraged ML applications can boost business goals, improve customer experience (CX), and in turn grow revenue. The next few years are crucial to ML operationalization; organizations must move past experimentation with ML to fully realized automation and deployment of applications with tangible results that can drive success across the business.

In a study commissioned by Capital One, Forrester Consulting surveyed 150 data management decision-makers in North America about their organizations' ML goals, challenges, and plans to operationalize ML.

Key Findings



ML is beginning to drive business impact, with automated anomaly detection as the top priority in the next one year to three years.



Despite their goals to operationalize ML, organizations face difficulties with data silos, explainability, and transparency, slowing maturity.



To overcome challenges, organizations must focus on the business outcomes of ML and build partnerships with proven leaders in their ML journey.

Organizations Are Experimenting With ML As Some Move Toward Maturity

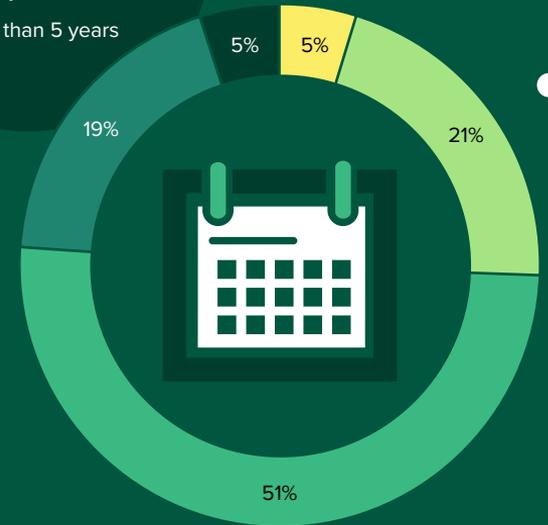
Most organizations have some experience with ML, with more than half of respondents reporting that their organizations have been developing and releasing applications for one year to two years. In these one to two years, organizations are still mostly experimenting with ML. A mature ML strategy does not begin to take shape until about three years or more into the ML journey, where fewer than a quarter of respondents' organizations currently are.

AI/ML is critical to enterprises that want to build differentiated experiences and applications. Forrester's 2021 data showed that three-quarters of data and analytics decision-makers who were using or expanding AI and had high maturity in their insights-driven business strategy and practice said that their AI platform was their core business platform for delivering value at the departmental level or higher.¹

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“How long has your organization been developing and releasing ML applications?”

- Fewer than 6 months
- 6 to 11 months
- 1 year to 2 years
- 3 to 5 years
- More than 5 years



Base: 150 data management decision-makers in North America
Note: Percentages do not total 100 because of rounding.
Source: A commissioned study conducted by Forrester Consulting on behalf of Capital One, July 2022

ML Addresses Top Business Priorities Like Anomaly Detection

As organizations continue to experiment with ML, decision-makers are focusing on increasing efficiencies across their organizations. At the same time, they are laying the foundation for ML success with IT-heavy data and analytics strategies, focusing on multicloud, building a better performance stack, and scaling to changing data demands.

As ML evolves, data and analytics strategies will shift alongside it, with deployment of ML to automate anomaly detection replacing multicloud as decision-makers' top priority in the next one year to three years. Once they lay the foundation and move toward maturity, decision-makers will likely shift their focus to growing revenue and improving CX with their ML applications.

53% of respondents plan to improve business efficiency by leveraging ML.

“Which of the following will be part of your data and analytics strategies over the next one year to three years?”
(Not all responses shown)

TODAY

46%

Using a multicloud environment (including private clouds)

44%

Looking deeper into the performance stack to rearchitect how we process and better utilize the data we have

41%

Scaling to changing data demands/data volume (e.g., not restricted by capacity demands)

NEXT ONE YEAR TO THREE YEARS

40%

Deploying ML to automate anomaly data detection

39%

Receiving transparent application and infrastructure updates automatically

39%

Meeting new regulatory and privacy requirements for responsible and ethical AI

Data Silos Slow ML Maturity, Inhibiting ML Growth At Scale

In addition to the technical competencies required to operationalize ML, organizations are experiencing roadblocks around people and processes. When asked about the ML challenges their organizations faced, decision-makers noted that internal, cross-organizational, and external data silos slowed ML deployments and outcomes.

In addition, difficulties in translating academic models into deployable products are hindering operationalization. Alongside internal and external data silos, the lack of connection between academic or scientific models and tangible insights needed for business success is slowing the momentum needed to drive ML strategies forward.

57% of respondents believe silos between data scientists and practitioners inhibit ML deployments.

“What are your biggest ML challenges relating to people and processes at your organization?”

(Top five responses shown)



41%

Breaking down data silos between internal departments

39%



Translating academic models into deployable products



38%

Reducing AI risk

38%



Breaking down data silos across the organization and external data partner(s)



36%

Working with large, diverse, messy data sets

Lack Of Clarity In ML ROI Affects Executive Buy-In

ML adoption has increased in the past two years. However, no one has mastered ML, and the difficulties in translating academic models into action are leading to difficulties with transparency, traceability, and explainability of ML data flows when attempting to use and scale ML to more use cases.

Without better explainability and transparency, upper-level executives and board members at respondents' organizations have trouble seeing business benefits after adopting AI/ML solutions. If there's no clear connection to ROI, executive buy-in decreases, which reinforces data silos, creates struggles in driving actionable insights, and inhibits operationalization.

73% of respondents find transparency, traceability, and explainability of data flows challenging.

“To what extent do you agree or disagree with the following statements?”

(4 or 5 on a scale of 1 [strongly disagree] to 5 [strongly agree]; not all responses shown)

We lack the technical expertise to leverage ML across all cloud platforms



Upper-level executives and board members at my organization are having difficulties seeing a difference in business after adopting AI/ML solutions



My organization struggles to drive actionable insights from our current ML strategy



Focusing On Business Outcomes Will Keep The C-Suite Onboard

Decision-makers know that ML has the potential to positively influence their organizations. To keep executives onboard, they are focusing ML efforts on cross-business outcomes. Two-thirds of respondents said that increasing the use of ML across their organizations is important to their ML strategy within the next three years. Easier data mobility and traceability and faster time to action are benefits that respondents' organizations are expecting to see as they scale their ML strategies. As they begin to achieve goals of better CX and revenue growth, decision-makers can pivot to operationalizing ML applications.

The core focus of AI/ML platform vendors is to operationalize more ML models faster with less friction at handoffs in the AI lifecycle. This will improve productivity and show executives the value they need to stay bought in.²

“How important are the following to your organization’s ML strategy over the next one year to three years?”

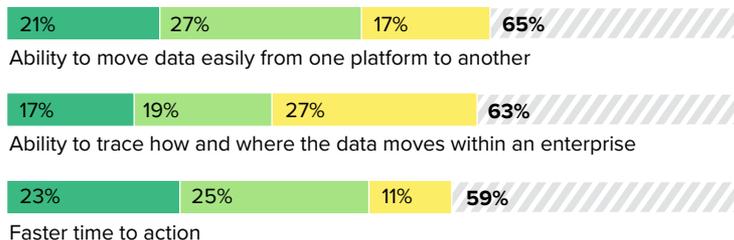
(4 or 5 on a scale of 1 [not at all important] to 5 [very important]; not all responses shown)



“What are the top business outcomes that your organization expects to experience/has experienced from ML?”

(Top three responses shown)

● Rank 1 ● Rank 2 ● Rank 3



Concentrating On Business Outcomes With Proven Partners Will Drive ML Maturity

To address the challenges of current ML strategies and enhance model development, training, and data sourcing, two-thirds of respondents' organizations are currently partnering with a third party. Close to one-fifth of respondents' organizations plan to begin a partnership in the next year.

To push their organizations out of the experimentation phase, decision-makers should seek out ML partners that have firsthand experience in building and operationalizing ML applications. These partnerships will help organizations resolve their explainability, transparency, and skills gap issues and create an AI/ML ecosystem and community of practice, setting organizations up for success in scaling their ML strategies.

67% of respondents intend to leverage partnerships to fill ML staff gaps.

“What are your organization’s plans for partnering with a third party for ML model development, training, and/or data sourcing?”

(Not all responses shown)



Currently partnering with a third party and planning to grow partnership



Currently partnering with a third party and not planning to grow partnership



Not partnering with a third party but planning to in the next 12 months



Not partnering with a third party but interested in a partnership

Conclusion

Data management decision-makers believe in the promise of AI/ML to grow their businesses. To keep executives bought in, they are moving their organizations out of experimentation and toward operationalizing their ML strategies.

To continue to evolve their ML applications, decision-makers must overcome silos among both people and processes. They must also find better ways to translate academic models into deployable products to better illustrate ROI to executives.

By leveraging partners with firsthand experience and remaining relentlessly focused on the business promise of ML, decision-makers can prove the key outcomes of operationalizing ML like efficiency, productivity, and improved CX to executive leadership. With leadership buy-in, organizations can then pivot to scaling and operationalizing ML applications.

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Methodology

This Opportunity Snapshot was commissioned by Capital One. To create this profile, Forrester Consulting supplemented this research with custom survey questions asked of 150 data management decision-makers in North America. The custom survey began and was completed in July 2022.

ENDNOTES

¹ Source: "Enterprises Must Invest In AI Platforms To Empower Multirole AI Teams," Forrester Research, Inc., August 26, 2022.

² Source: "Now Tech: AI/ML Platforms, Q1 2022," Forrester Research, Inc., March 28, 2022.

ABOUT FORRESTER CONSULTING

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Demographics

TOP FOUR INDUSTRIES

Technology and/or technology services	13%
Manufacturing and materials	10%
Retail	8%
Financial services and/or insurance	8%

TOP FOUR JOB TITLES

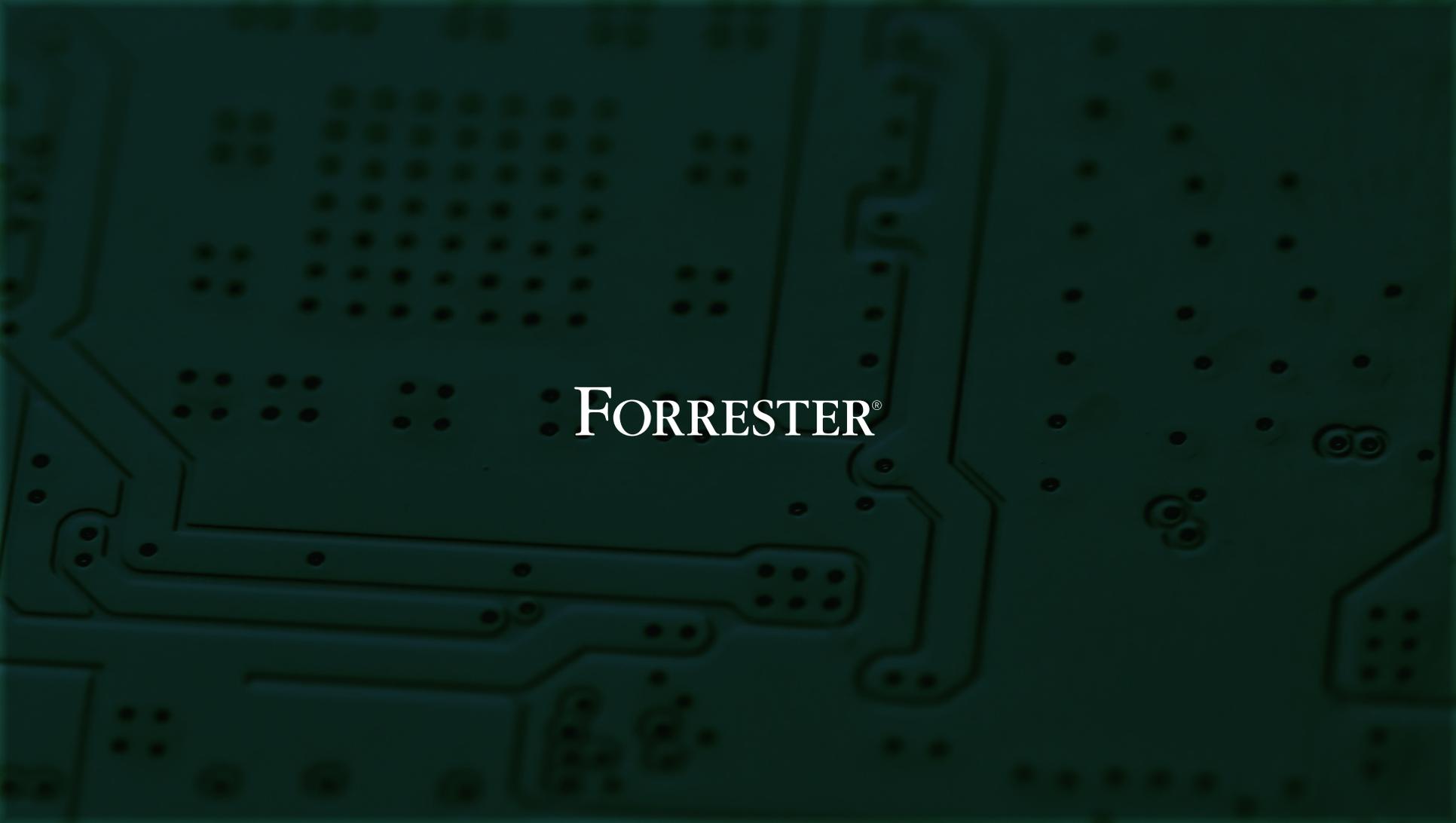
Director in IT	21%
Manager in IT	14%
VP in IT	11%
Most senior IT decision-maker in the firm	10%

REGION

United States	80%
Canada	20%

COMPANY SIZE

20,000 or more employees	14%
5,000 to 19,999 employees	24%
1,000 to 4,999 employees	43%
500 to 999 employees	19%



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