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FSI GUIDE

A world without limits

Realise the endless possibilities
of data for financial services

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INTRODUCTION:
A NEW ENVIRONMENT FOR FINANCIAL SERVICES

As a result of recent accelerated digital transformation, it's become increasingly clear that we're on a one-way street lined with rapid innovation and an increased pace of change.

Financial services organisations need to be customer -centric, nimble, and ahead of the curve, and data is key to this. Data provides everything financial services organisations need to adapt to ever-accelerating technology, financial crime, regulatory changes, and customer evolution. Utilising this data in real -time unlocks endless possibilities for innovation and ensures your organisation is not left behind.

To help you reach these new possibilities, this guide will explore:

- How financial services organisations sustain this accelerated transformation and emerge as leaders not followers

- The new, unlimited opportunities available with a more data-driven culture and a hybrid data approach

Data can make what is impossible today, possible tomorrow and unlocks unlimited potential in your business.

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WHAT'S DRIVING THE FORCE FOR CHANGE?

There are **three key areas** which are forcing financial services organisations to look at data differently:
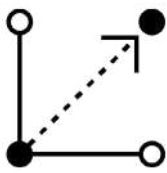
1 Industry demands

There is an almost endless list of things to consider here, including enhanced digital experience, optimising trading and credit risk models; regulatory compliance; data privacy; counter terrorism and sanctions; environmental social governance (ESG); open application processing interface (API); financial crime prevention; anti-money laundering (AML); cybersecurity and surveillance; risk management; stress testing, and Regtech.

2 Customers first

Customer experience and engagement is the catalyst here, as customers seek the highly-personalised, omnichannel experiences they receive in other areas of their lives, such as retail, including self-service, mobile first, and instant payment solutions. Other business priorities include customer loyalty and lifetime value, forging growth through new customers and improving efficiencies.

3 Technology challenges

The rising costs associated with legacy data platforms and back-office business process outsourcing (BPO) means that financial services organisations are looking for a way to move safely between on-premise and public cloud bi-directionally, according to business needs. They also want to utilise the powerful analytics of artificial intelligence (AI) and machine learning (ML) and break down data silos.

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DATA JUST GOT REAL

Financial services organisations require holistic data insights from across customer touchpoints to tackle these challenges. To achieve this, data teams need relevant, real-time access to disparate and voluminous data along with the right computational resources to efficiently process it for rapid decision-making.

To transform these decisions into revenue-generating, growth opportunities, they must be able to quickly develop, test, enrich, and implement innovative products and services.

The end-to-end data lifecycle empowers financial services organisation to make effective and efficient use of the volume and type of data collected. For each stage of the data lifecycle, there are tools that help organisations achieve real-time access to this data for business insights and intelligence.

Cloudera Data Platform is a unified platform with portable, interoperable data analytics for the full data lifecycle and distributed data management running on public clouds, on-premises and at the edge.

Cloudera DataFlow (CDF) ingests real-time and batch data at high volumes from multiple sources including market data, transaction data, risk data, mobile banking, chatbots, enterprise data sources (core banking, origination platforms), ATMs, investments, loans, and call centre systems, for key insights and immediate actionable intelligence.

Cloudera Warehouse (CDW) efficiently stores data while SDX secures and provides governance for all your data and metadata on private clouds, multiple public clouds, or hybrid clouds. Multi-tenant data access and governance policies are set once, and automatically enforced across the data lifecycle in hybrid as well as multi-clouds.

Cloudera Data Engineering (CDE) rationalises data down to a common structure and format no matter where the data originates, ensuring it is useable at a speed which enables financial services organisations to make fast, agile decisions.

Cloudera Machine Learning (CML) makes sense of the data so financial services organisations can predict and drive key, actionable business insights and solve mission critical ML challenges along the entire lifecycle with greater speed and agility. Data scientists get self-service access to any data anywhere, giving them more freedom, while improving the effectiveness of data to combat financial crime or assess customers' credit risk.

Cloudera Data Platform Patterns (CDP Patterns) provide tested cross-component integration to support operation objectives across the data life cycle, from data collection and ingestion to predictive analytics, and visualisations.
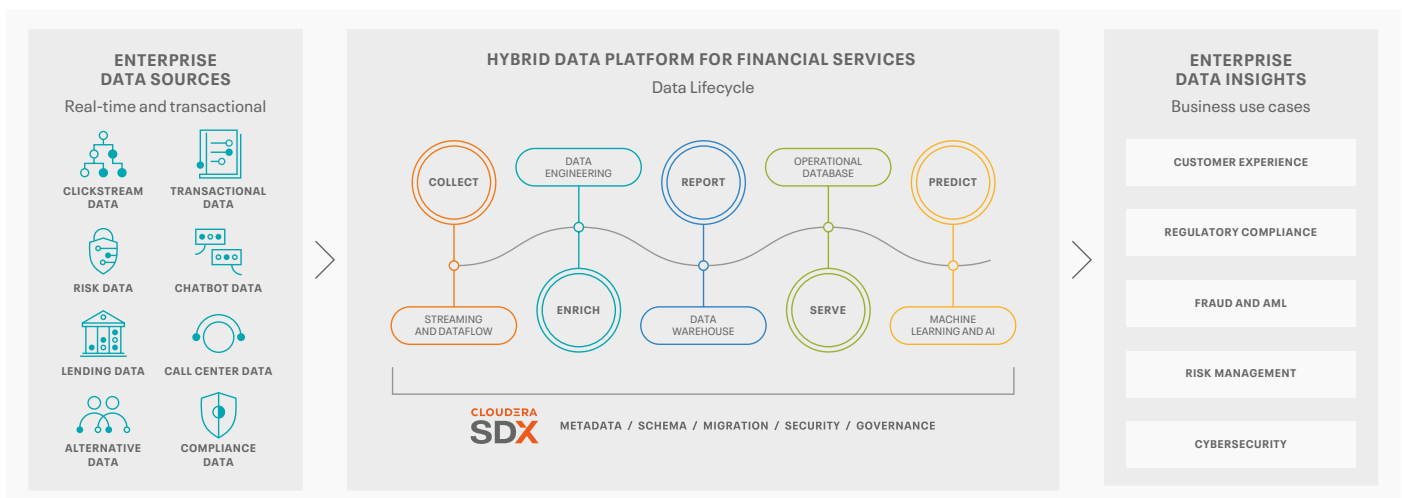
DATA ANYWHERE FOR FLEXIBILITY AND AGILITY

Whether this is done across a private or public cloud is very much dependent on the use case and organisation. Rather than helping financial services organisations join the 'race to the cloud', as a hybrid data company Cloudera supports the race to business efficiency and effectiveness, in the customer's platform of choice, so they can:

PIVOT to create greater customer engagement and experience

Anticipate and **RESPOND** to market demands with speed and agility

INNOVATE to tap into new market opportunities and drive revenue growth

PIVOT

There has been a massive shift in customer behaviour and digital expectations. This, together with the rise in self-service and the surge in multi-channel data, has increased the need to create more personalised, humanised customer experiences, wherever customers are.

THE HUMANISATION OF CUSTOMER EXPERIENCE

Financial services organisations need to PIVOT to harness this opportunity.

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CHALLENGES
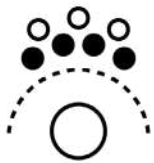
1. Managing flux

How do you offer customers the experiences they want and the experiences your competitors are giving them when things are constantly changing? Customer attention is difficult to capture and nurture at any time, and increasingly difficult to do so in a consistent and engaging way.
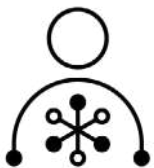
2. Real-time personalisation

How do you give customers relevant real-time personalised interactions and a broad variety of financial products to meet their individual requirements at the time they dictate? Personalisation in real-time is a big issue as data streams in from new and emerging sources including clickstream data, location data, social media streams, news feeds, chat bots, and more.

3. Financial governance

How do you empower customers to manage their own finances with the type of self-service capabilities they receive in other areas of their lives? Offering customers agency over their own financial future at the click of a button is paramount to building customer loyalty.

WHAT'S POSSIBLE?

With Cloudera financial services organisations can:

Accurately and quickly assess customer interests across a variety of business units or accounts.

Create comprehensive profiles of customers and expand existing business by applying advanced analytics and ML to the data, and prompting "next best conversations," such as product offers, into customer interaction workflows.

Deliver timely and relevant customer communications leading to deeper customer engagement and satisfaction, improving customer retention via increasingly personalised, frictionless experiences.

Acquire new customers by leveraging techniques such as segmentation and targeting to fine-tune outreach.

Receive incremental revenue and good will, brand loyalty, and increased lifetime value using analytics-driven customer engagement tools including digital assistants, customer surveys, and feedback analysis.

MAKE HUMANISED CUSTOMER EXPERIENCES POSSIBLE: THE CDP SOLUTION

Cloudera offers an end-to-end hybrid data platform that enables financial services organisations to access and utilise real-time and batch data from wherever it resides to deliver timely, personalised customer experiences and automated customer service solutions, such as AI driven chatbots and voicebots.

Cloudera Data Platform (CDP) facilitates the quick and effective building of business applications around the emerging, more fully realised customer profile. A unified data fabric centrally orchestrates disparate data sources intelligently and securely across the organisation's multiple clouds and on premise. New use cases can be developed to better engage with customers and prospects.

No matter the environment (private, public, multi-cloud, or hybrid cloud) or enormity of the data sets, CDP amplifies the capabilities and benefits of AI and ML, so with the breadth of any infrastructure, and the power of advanced analytics, financial services organisations can reach their goals.

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USE CASE AND CUSTOMER SUCCESS:
KNOW YOUR CUSTOMER

Customer insights enhance marketing and analytics performance by providing powerful, actionable, next-gen customer views at any scale. Financial services providers can uncover the true worth of existing relationships, target prospects and enable better customer experiences to:

1. Customise targeted marketing to prospects

OVO converted data from a variety of sources — including customer loyalty programs, payment ledgers, fraud detection initiatives, sales and credit applications, and multiple transaction points — to make more meaningful business decisions. The results were a sales funnel uplift eight times more effective than traditional mass marketing, 15 percent revenue growth within six months, and a 78 percent increased consumer interest in OVO's products.

OVO

Generated a 78% increase in consumer interest

2. Provide customer care through enhanced financial governance

BNI used Cloudera's Enterprise Data Platform to build an agile and reliable predictive augmented intelligent solution to serve the approximately 56 million Indonesians who do not have a bank account. The solution analyses customer transaction data and predicts the probability of customers defaulting on payments the following month. It also alerts BRI's loan officers to at-risk customers, prompting them to take the necessary action to reduce the likelihood of net profit loss. This led to a 40 percent reduction in fraud and an increase of 8 percent in credit scoring capabilities, as well as the development of a new, digital microfinancing product.

BNI
Melayani Negeri, Kebanggaan Bangsa

Developed a new, digital microfinancing product

3. Deliver customer service to new and existing customers

Santander UK had a number of legacy data warehouses spread across its many business units. To transform its business and create new value for their customers, it modernised its data platform with agile data warehouse and machine learning workflows. The bank identified 7,000 new corporate customer prospects and reduce capital expenditures by US$3.2 million.

Santander

Identified 7,000 new corporate customer prospects

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RESPOND

Financial services organisations face increasing pressure to address changing customer behaviour, banking operations, and digital adoption, all while maintaining appropriate risk profiles and managing compliance.

ANTICIPATE AND ACT WITH SPEED AND AGILITY

They need to anticipate customer demands and potential anomalies to proactively **RESPOND** with speed and agility.

CHALLENGES
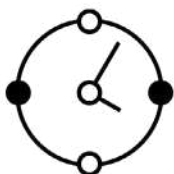
1. Time to market

How do you keep up with the pace of nimble competitors in the FinTech space? Legacy providers are typically much slower and risk getting left behind as new technology enables smaller businesses to reach their customers faster with mobile-first services.

2. Data silos and unusable data

How do you build a complete picture of a customer, products, and their needs when analytics, data sources, and databases exist without central coordination? When data resides in different business units, using different legacy systems, it prohibits a full customer profile, wastes resources, undermines customer satisfaction and poses security, and business risks.

3. Financial crime prevention

As digital accelerates, how do you keep pace with sophisticated techniques used by criminals to breach defenses? How do you tackle siloed data across anti-money laundering groups, fraud groups, cybersecurity groups, and surveillance groups? Financial services organisations need to break down traditional data silos and leverage the power of analytics and ML to effectively simulate, predict, detect and prevent crimes.

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WHAT'S POSSIBLE?

With Cloudera financial services organisations can:

Achieve faster time to market in response to increased competition, regulatory compliance, and increased customer demands.

Rapidly deploy applications without disrupting existing platforms/systems.

Benefit from improved business intelligence and make more effective use of IT budgets.

Perform a safe, staged transition and migration from legacy, and on-premise to a cloud environment (private or public).

Discover deeper insights, make predictions, and generate recommendations with advanced analytics.

Deliver faster, more flexible solutions to achieve necessary protections and avoid significant losses

More accurately monitor risk and respond quickly to any issues.

Prevent financial crime with a unified data and analytics platform providing an enterprise view of customer and financial crime related data

Maintain comprehensive audit trails for greater compliance — at scale — while making all data available for analysis.

MAKE SPEED AND AGILITY POSSIBLE: THE CDP SOLUTION

Cloudera enables financial services organisations to embrace the opportunities of real-time data and AI, to deliver new products and services. CDP delivers faster and easier data management and data analytics for data anywhere, with optimal performance, scalability, and security.

An open data lakehouse enables multi-function analytics on both streaming and stored data and a scalable data mesh helps eliminate data silos by distributing ownership to cross-functional teams while maintaining a common data infrastructure.

CDP automatically scales resources, ensuring optimal performance and cost efficiency. By eradicating the use of individual vendors for data streaming, data warehousing, and additional components, financial services organisations remove the additional integration cost layer and delays to market.

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USE CASE AND CUSTOMER SUCCESS:
OPERATIONAL EFFICIENCIES AND ADVANCED ANALYTICS

A unified, real-time data analytics platform enhances operational efficiencies and manages and models risk exposures. Advanced analytics uncover deeper insights, make predictions, and generate recommendations allowing financial services organisations to tackle:

1. Leverage data as a strategic asset

United Overseas Bank faced rising volumes of digital transactions, with data being collected at an unprecedented speed and volume from a growing regional customer base. Siloed data slowed the decision-making process, delaying the bank from taking prompt and targeted actions. The bank set up the "Enterprise Data Architecture and Governance" (EDAG) transformation program which, built on a data lake, provided a single big data source of truth that improved risk control and increased productivity by 20%.

Saw a 20% increase in productivity

2. Achieve operational excellence with improved customer service

DBS's traditional technology stack for supporting advanced analytics was expensive to scale and not flexible enough to support the drive to better predict customer needs across channels for a better customer experience. DBS built a central data team and enterprise data hub that enables staff to be on the forefront of innovation, resulting in an 80 percent reduction in operating costs through a wide range of customer service and operational improvements.

Achieved an 80% reduction in operating costs

3. Increase customer conversion and improve fraud detection

Using a machine learning platform powered by Cloudera for real-time customer marketing, fraud detection, and anti-money laundering (AML) activities, **Bank Danamon** experienced a 300 percent increase in customer conversion rate and a 30 percent reduction in the number of fraud incidents.

Experienced a 300% increase in customer conversion rate

INNOVATE

With rapidly evolving technology there are unlimited possibilities for financial services organisations to create new services, anticipate customer needs, and tap into previously untouched markets. By using a full data lifecycle solution, they can innovatively tackle credit scoring, compliance, and risk challenges, to forge new revenue streams, cut waste, and create opportunities for growth.

UNLOCK POSSIBILITIES FOR GROWTH

Financial services organisations need to INNOVATE to unlock these unlimited possibilities and reach their full potential in existing and new markets.

CHALLENGES

1. Risk management

How do you offer agile and reliable services that address the needs of the unbanked and underserved while lowering business risks? Financial services organisations must continuously monitor liquidity in volatile markets. Critical decisions require up-to-the-minute market information.
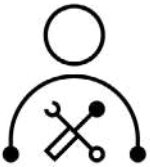
2. Customer acquisition and retention

How do you acquire new customers in new markets and offer existing customers products and services that are relevant, and differentiated? Confident decision making is powered by advanced analytics and greater data processing power, which in turn increases customer acquisition and retention.

3. Compliance and innovation

How do you boost the bottom line and reduce your budgets in order to feed more money back into product innovation? Compliance is a huge outlay for financial services organisations as they struggle to manage regulatory reporting and compliance requirements cost efficiently.

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WHAT'S POSSIBLE?

With Cloudera financial services organisations can:

Utilise confident decision making to enter new markets with improved business intelligence.

Develop new products for customers previously assumed too risky to serve.

Use real-time risk decisioning and compliance enhancements.

Increase customer acquisition with greater data processing power.

Make significant operational cost savings thanks to increased automation efficiencies.

Experience less fraud-related losses, a boost in the bottom line, and reallocated funds into innovation.

Maximise investment in current customers by analysing massive amounts of data using AI and ML to glean new insights and drive business decisions.

Predict payment defaults and reduce risk.

Become leaders in digital innovation.

MAKE INNOVATION AND GROWTH POSSIBLE: THE CDP SOLUTION

Cloudera works with financial services organisations to produce significant efficiencies, enabling them to better assess more credit data points and a greater volume of data for better returns, while prudently managing risk and compliance. With lower costs and greater data processing, financial services organisations can increase their customer acquisition and enter new markets with confidence.

CDP is a unified platform with portable, interoperable data analytics for the full data lifecycle and distributed data management running on private cloud, public clouds, and on-premises. Common security, governance, metadata, replication, and automation enable CDP to operate as an integrated system. This is precisely what industry analysts recommend as mandatory for data fabric, data lakehouse, data mesh and future data ecosystem architectures.

Companies know that secure, well-governed and accessible data, on-demand, fuels growth. CDP is able to deliver modern data architecture flexibility because it is a hybrid data platform built for the future.

USE CASE AND CUSTOMER SUCCESS:
DIGITAL TRANSFORMATION

The financial services organisations leading the way are stretching the limits of data to ensure they thrive in an ever-changing environment. With an end-to-end hybrid data platform, these businesses can access more, analyse more, build new models, and reach previously unreachable levels of success:

1. Offer seamless customer service and improve risk mitigation

When COVID-19 struck, the number of **Bank Mandiri's** customers having trouble repaying their loans increased. Cloudera supported Mandiri in mitigating risk by ramping up daily data processing to 10 million records per day, shortening time to process data from seven days to a few hours, reducing loan qualifications from five to one day, securing liquidity above the safety level, and delivering seamless customer service. This helped prevent potential transaction losses of around US$7.3 million per week at each of the bank's branches.

Prevent around US$7.3 million potential transaction losses per week

2. Cross and up-sell next best offers to existing customers

Kasikornbank (KBank) teamed up with Cloudera to implement a modern platform for ML and analytics to improve customer service and fraud detection and enable innovative services. For example, an automated lending service allows the bank to send a targeted loan offer to a customer's mobile app and for the customer to accept and receive funds within minutes. The organisation currently stores and analyses more than 12 years of transactions in its new platform and plans to increase that to include nearly 35 years of data with approximately two billion transactions added annually.

Enabled targeted loan offer and funds receipt for customers within minutes

3. Improve customer conversion with inventive solutions

YES BANK is continually exploring new ways to use data as a key driver to improve customer acquisition and overall customer experience. For example, the bank is building intelligent and proactive chatbots that know not only what clients need, but when they need it. YES BANK now develops bespoke and inventive solutions with quicker turn-around times for product launches and updates. Bringing a previously outsourced customer loyalty program in-house has saved the bank a quarter of a million US dollars every year.

Achieved US$250,000 savings each year

CONCLUSION:
LEAD THE INNOVATION RACE

The demands today on financial services organisations are huge but with help from Cloudera, financial services organisations can:

- Build customer loyalty through improved **customisation and personalisation**, and increase the lifetime value of customers.

- Improve **speed and agility** to anticipate and respond to customer expectations, regulatory changes, and financial crime.

- Harness existing market opportunities and achieve **growth** through innovation.

- Develop a robust, **future-proofed approach** to change — we can't predict what is going to happen, but we can enable flexibility that allows us to respond quickly.
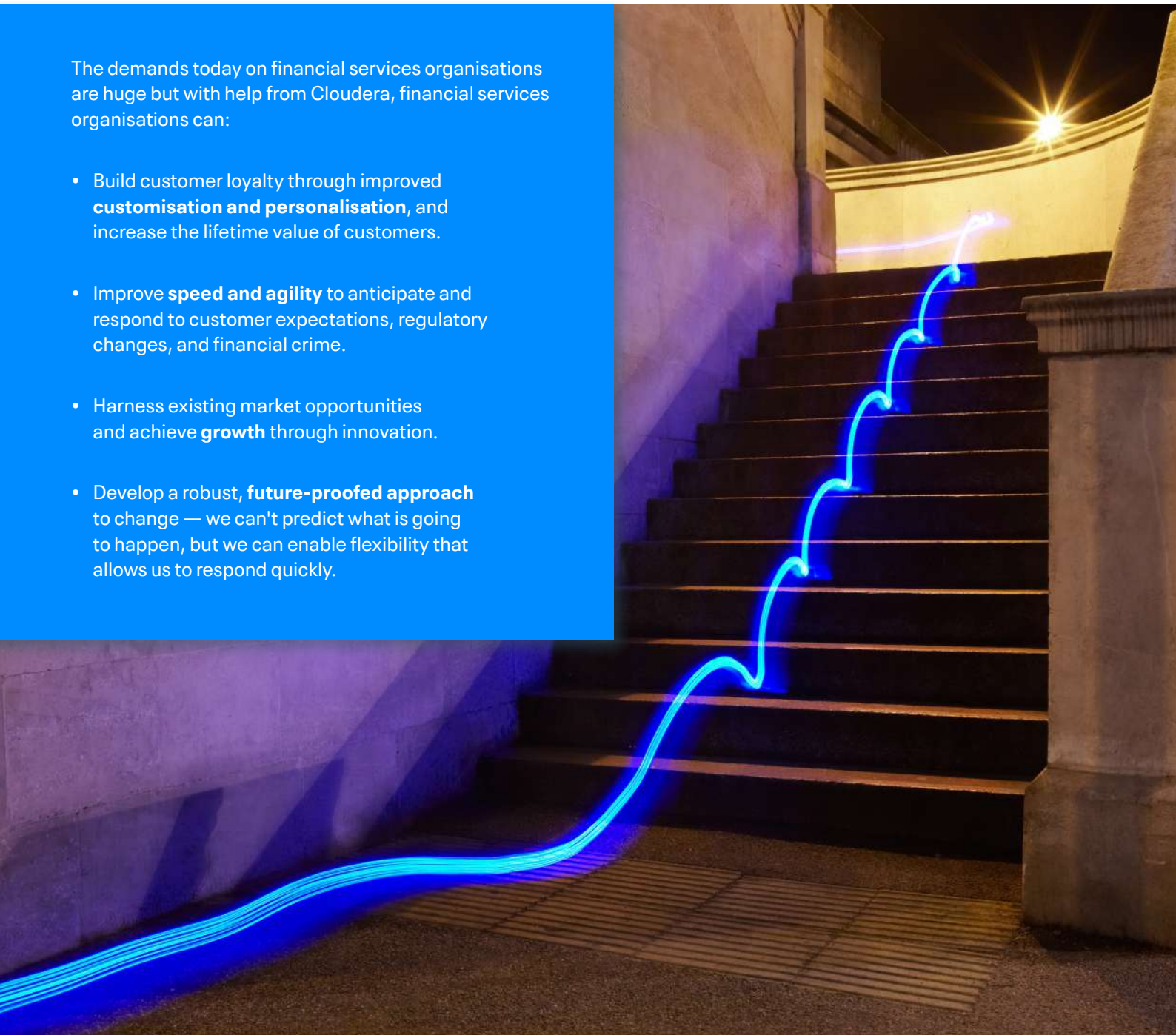
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TAKE THE LEAD

At Cloudera, we believe data can make what is impossible today, possible tomorrow. Cloudera taught the world the value of data, creating an industry and ecosystem powered by the relentless innovation of the open source community. We empower our customers, leaders in their industries, to quickly and easily transform complex data into clear and actionable insights. Through our hybrid data platform, organisations are able to build their data-driven future by getting data — no matter where it resides — into the hands of those that need it.

To find out more about how you can open the door to a world without limits visit us at **cloudera.com**, **contact us**, or speak to a sales representative in your **local office**.