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1 The narrative of Generative AI today usually focuses on execution or its application for decision making

Artificial intelligence (AI) technology is rapidly advancing, revolutionizing industries and positioning itself as a potential disrupter and essential enabler for businesses worldwide. Currently, one of the barriers to widespread AI deployment lies not in the technology itself but rather in a set of challenges that are ironically far more human: design, governance, and human values to supervision. Among challenges, we recognize AI ethics as the biggest challenge to continued AI progress and widespread deployment. As organizations embrace AI as an essential business capability, addressing associated ethical considerations becomes impossible to neglect.

Building trust in technology becomes easier when individuals gain a deeper understanding of it and can assess its safety and reliability. Many existing AI systems have operated as black boxes, where input goes in, and output comes out without transparency. However, to instill trust in algorithm-backed decisions, we need assurance that they are fair, reliable, accountable, and devoid of harm. We seek strong protection of the integrity of AI from being compromised and ensure the system is secure. Examining the inner workings of AI systems becomes essential—comprehending the rationale behind algorithmic outcomes and even posing questions to understand the decision-making process.

Trust issues abound in AI

- 23% Privacy concerns with the use of AI to mine customer insights
- 20% Lack of transparency of how AI/ML systems build models
- 21% Concern about unintended, potentially negative, and unethical outcomes
- 19% Lack of trust of AI-based systems among employees

Source: Build Stakeholder Trust In Artificial Intelligence Vision Report, Forrester Inc., 2022.

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Treating the output from AI models as definite without ongoing data investment may lead to limited success over a period of time. Unlike earlier rule-based systems that could be configured and left untouched for extended periods, AI requires continuous retraining whenever new data is available. But what if the data and/or its quality are questionable?

Sayantan Choudhury
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Figure 1: Three key blocks for Trusted AI

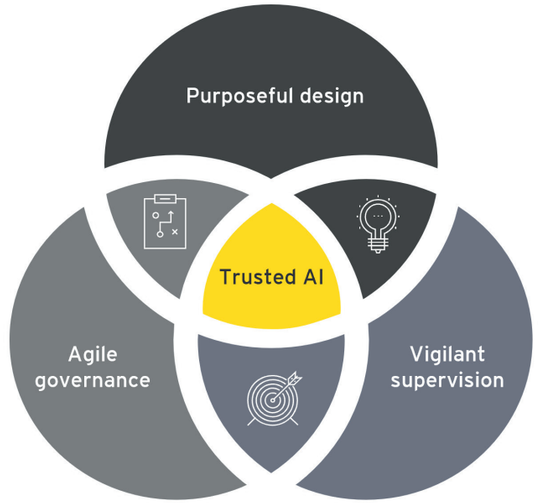


Figure 1[1] emphasizes the three key blocks required for Trusted AI: design, governance, and supervision. The milestone to achieve Trusted AI extends beyond this, covered in subsequent sections.

AI exhibits unique characteristics that differentiates it from other technologies, including learning capability, autonomy, pattern recognition, natural language processing, computer vision, scalability, adaptability, and emergent behavior.

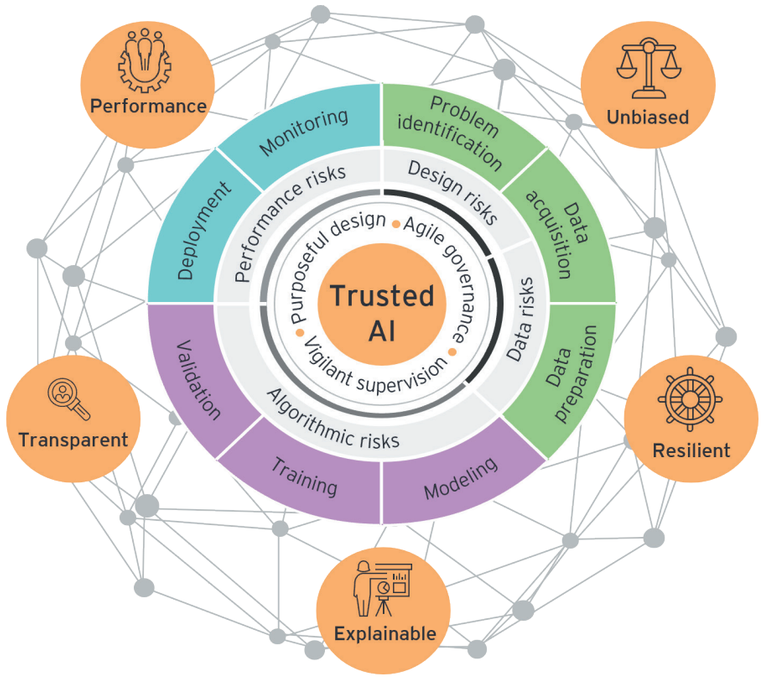
These features empower AI systems to learn from data, operate independently, identify patterns, process language, and visual information, scale efficiently, adapt to changing environments, and showcase complex and innovative behaviors. Hence, the underlying dependency ultimately narrows down to data. In most cases, acceptance of data quality has remained a question mark.

[1] “Trusted Artificial Intelligence Explained”, EY website, https://go.ey.com/2EXe245, accessed 6 July 2023

2 All key characteristics on which Trusted AI operates depend heavily on data

Trusted AI requires design, governance, and supervision, in which data plays a part. Data is vital across all five key characteristics of Trusted AI, as illustrated below in Figure 2[2].

Figure 2: Trusted AI Framework



Performance: Trusted Data supplies precise and consistent AI outcomes, aligning with stakeholder expectations.

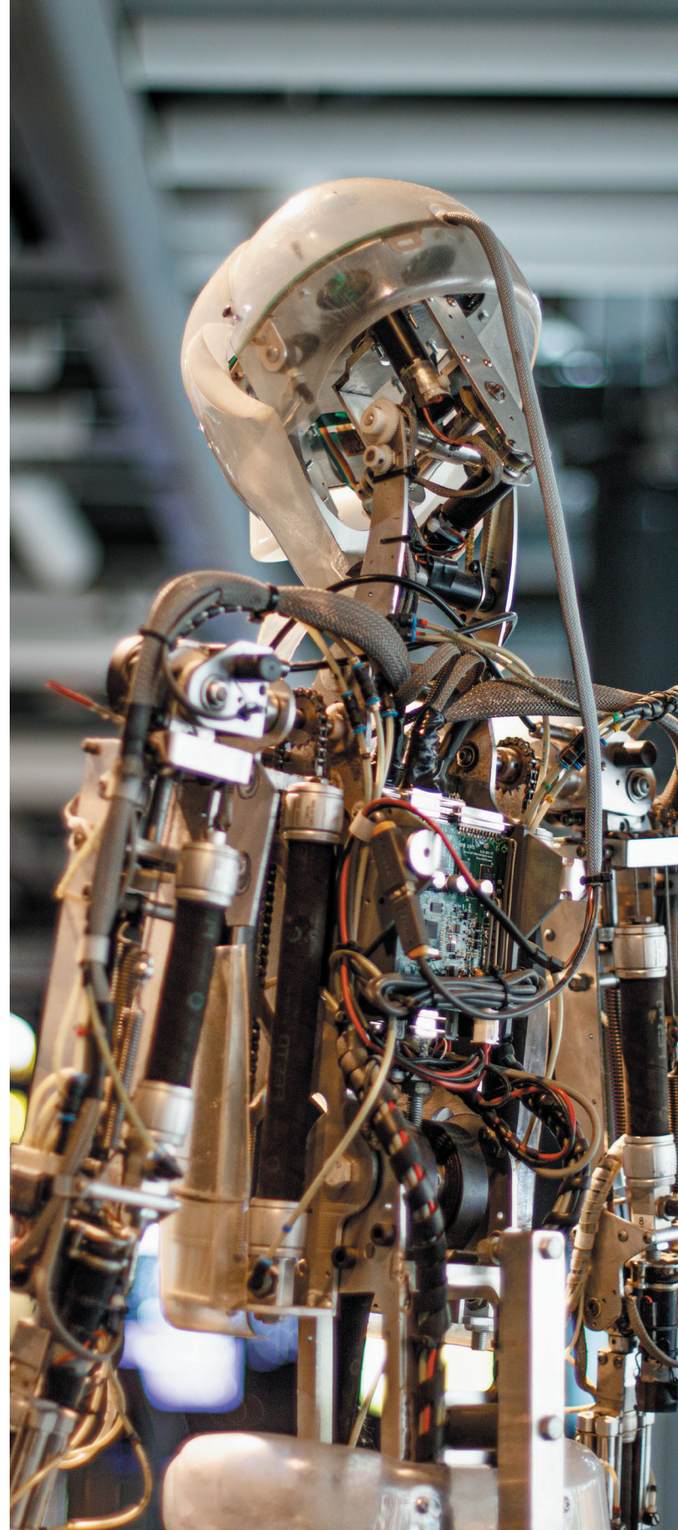
Transparent: Any data captured and used requires end-user consent to instill trust and comfort with AI.

Explainable: The data can be understood and adequately documented so the AI's training methods and decision criteria are readily available for human operator challenge and validation.

Resilient: The AI system components and algorithm data are secure from unauthorized access, corruption, and adversarial attack.

Unbiased: Data sources and training methods are vital in eliminating inherent biases. Guaranteeing these components ensures a refined AI system.

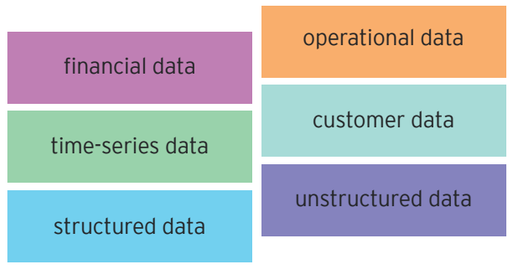
The key need is to have data widely accepted by the end consumers. During the acceptance process, the demand and the right investment are to have valid data ownership, monitored data quality, traceability, data management and identified use cases to build and execute Trusted AI.



[2] "Trusted Artificial Intelligence Explained", EY website, https://go.ey.com/2EXe245, accessed 6 July 2023

3 The key to Trusted AI is Trusted Data

We recognize the complexity and variety of data. Various data types are essential for leveraging AI to make informed decisions, optimize processes, and drive business growth. Key data types include financial, economic, operational, time-series, and customer data.



Data is crucial for enriching the value and effectiveness of AI systems in a business context. AI algorithms are trained on vast amounts of data to learn patterns and make predictions. Hence, the quality of the data used directly impacts the AI's performance, which means that Trusted Data is one of the core drivers of Trusted AI. Data is essential in every step of every AI process: training and validation, decision-making, and continuous model learning (Figure 3). Every aspect of data needs to be secure, accurate, and complete. It is only then that the data can be trusted. But how can we ensure that the Data is Trusted Data?

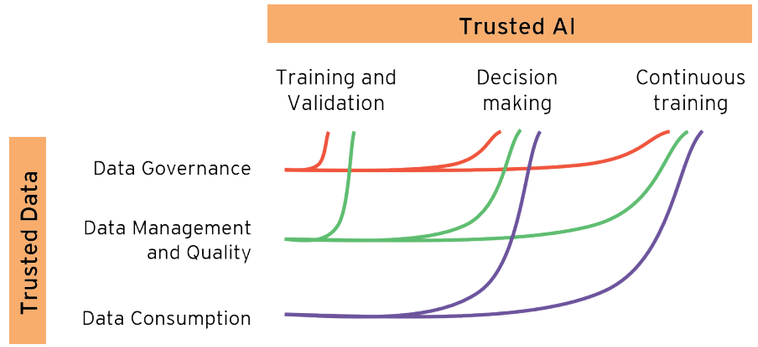
Figure 3: Examples of how data is being harnessed

Training & Validation: High-quality data is required to train AI algorithms and develop accurate models. The quality and diversity of the data used during training significantly impact AI performance, ensuring they generalize well to real-world situations and deliver accurate results.

Informed decision-making: Data helps businesses make better decisions by providing insights derived from AI-driven analytics. By analyzing historical and real-time data, AI systems can identify patterns, trends, and correlations, enabling businesses to make data-driven decisions that improve efficiency, reduce costs, and increase profitability.

Continuous model learning: AI systems often require ongoing access to data to adapt and improve over time. Trusted Data ensures these systems continue to learn and evolve effectively.

Figure 4: Interconnections between Trusted AI and Trusted Data



The answer lies in focusing on the fundamental aspects – Effective Data Governance and Management. Data Governance outlines appropriate processes and data handlers, while Data Management and Quality ensure consistency and security to guarantee optimized Data Consumption. Figure 4 illustrates how Trusted Data lays the foundation for Trusted AI.

By **harnessing the power of Trusted Data**, businesses can leverage AI technologies to drive growth and enhance efficiency, enabling executives to identify trends, forecast future performance, make **data-driven decisions**, enhance customer experiences, and improve overall **business performance**.

Trusted Data is accurate, complete, and reliable data collected, stored, and managed according to industry best practices and ethical standards. Three primary benefits of Trusted Data to AI are:

Accuracy

Trusted Data ensures that AI algorithms make correct predictions and sound decisions, increasing the effectiveness and credibility of the AI system.

Bias mitigation

Using diverse and representative data during model training helps prevent the introduction of unfair biases into AI systems.

Compliance

Trusted Data meets legal and regulatory requirements, minimizing non-compliance risk.

In addition to these benefits, Trusted Data can help organizations build trust in their internal and external AI systems. Organizations can foster trust among employees, customers, and regulators by demonstrating a commitment to data quality and ethical practices.

Illustrating the ill effects of flawed processes for Robotic process automation (RPA) and the similar impact on data-centric AI models

RPA regularly streamlines procedures and boosts productivity by automating repetitive tasks. RPA applied to inappropriate or incorrectly designed processes results in low productivity.

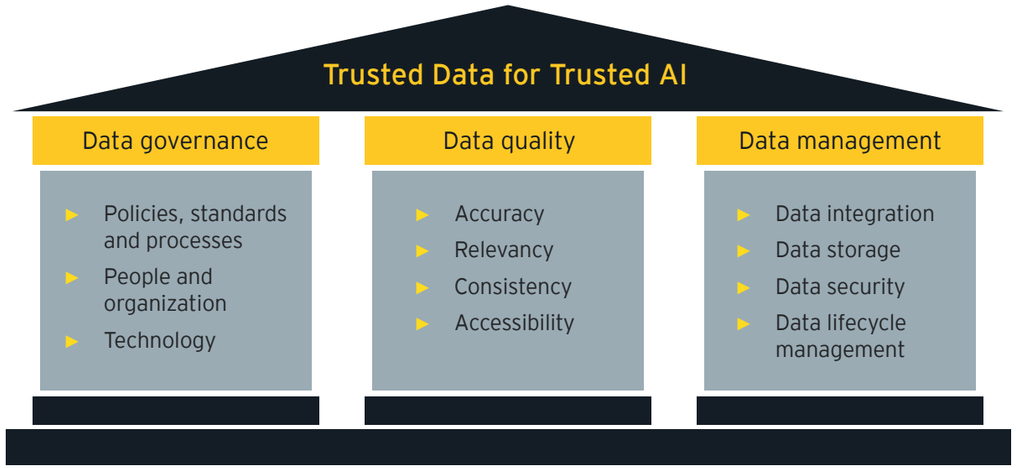
Consider a firm that automates its system for processing invoices with RPA to demonstrate the issue. Automating a poor process would only lead to a problem in the future. As a result, the company can incur higher operational costs, unhappy clients, and a tarnished brand. The same applies to AI systems: they may produce inaccurate or biased results if fed with flawed data, carry quality issues due to wrong or insufficient data sampling, or hold the wrong frequency defined at the time when the model expects it.

Like business process re-engineering is required, high-quality data is essential in enabling AI.

4 What makes data trusted?

We can only unlock the absolute potential of data through effective data management, which helps businesses make wise decisions and gain a competitive edge in today's data-driven world. Figure 5 highlights the three core pillars of to make data Trusted: vital data governance, managed data quality, and cutting-edge data management technology must work together to ensure that enterprises utilize trustworthy and reliable data, allowing them to accomplish their business goals more accurately.

Figure 5: Core pillars of Trusted Data



Organizations that want to enhance their data management capabilities must consider changing working practices in addition to the core pillars.

Prerequisite elements for the organization besides the core pillars

1

Firm-wide data-centric culture

Develop a data-centric culture emphasizing the importance of data quality, governance, and management.

2

An ecosystem of products and services

With permission data as its foundation, devise a trusted ecosystem of reliable-data-powered products and persuasive

3

Collaboration

Encourage collaboration between data, IT, and other departments to ensure data management best practices across the organization.

4

Continuous improvement

Regularly assess data management processes and policies to identify areas for improvement and implement necessary changes.

Ensuring Trusted Data requires cooperating between all aspects of data handling: **strong data governance, controlled data quality, and modern data management technologies.** As these aspects cover processes, policies, and people interacting with data, securing these aspects guarantees the critical foundation for Trusted AI.

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We have witnessed the rapid development of technology in our times in which the application of AI is inevitable. To push the effectiveness of AI, besides Trusted Data, we need experienced data scientists, smart artificial policy and process and an intelligent roadmap.

Among many important things to make data trusted, there are two principal matters on which we have spent a lot of efforts to build: first, data governance which includes metadata management to ensure a unified data insight in the Bank, data quality management (data cleaning and enrichment); and second, trained and skilled data users.

We understand the importance of Trusted Data in banking operations. We have been one of the pioneer banks in Vietnam to establish an organization focused on data governance. The focus of this team is to build the policy framework, develop a data driven culture and adopt data management tools and solutions in order to ensure the usage of Trusted Data in every bank activity. Simultaneously, we are embarking on AI/ML initiatives to dip into our massive, rich and well-invested data warehouse for the entire banking operations. Our focus on Data Governance helps to get the required Trusted Data which drives our AI/ML algorithms.

Hence, we are very cognizant of the fact that we cannot have Trusted AI without Trusted Data.

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5 To make data trusted: Focus on data fundamentals

EY teams recommend that organizations leverage the use-case-driven approach to deliver quick wins for fast value realization and a progression where technology blocks can be built layer by layer. In this journey, organizations must prioritize devising a data foundation early, which will help develop other advanced data analytics capabilities, including AI development. Among those activities, some can follow the traditional approach; others may require an iterative approach to ensure the success of meeting desired goals.

The following areas need keen focus:

- **Implementing data governance frameworks:** Establish clear policies, procedures, and standards for data collection, storage, and management.
- **Investing in data quality:** Dedicate resources to identify and rectify data errors and inconsistencies, ensuring the data used for AI is accurate and reliable.
- **Emphasizing data security:** Implement robust data security measures (e.g., access controls, encryption) to protect data from unauthorized access and breaches.
- **Adopting data management technologies:** Leverage modern data management tools and technologies to streamline data integration, storage, and maintenance.

Having a strong foundation would cover key aspects where the vision and goals of the organizations are aligned with the strategy to execute it. The **Fundamentals** would enable organizations to move to **Advanced** execution by having trusted data and along with strong foundational pillars.

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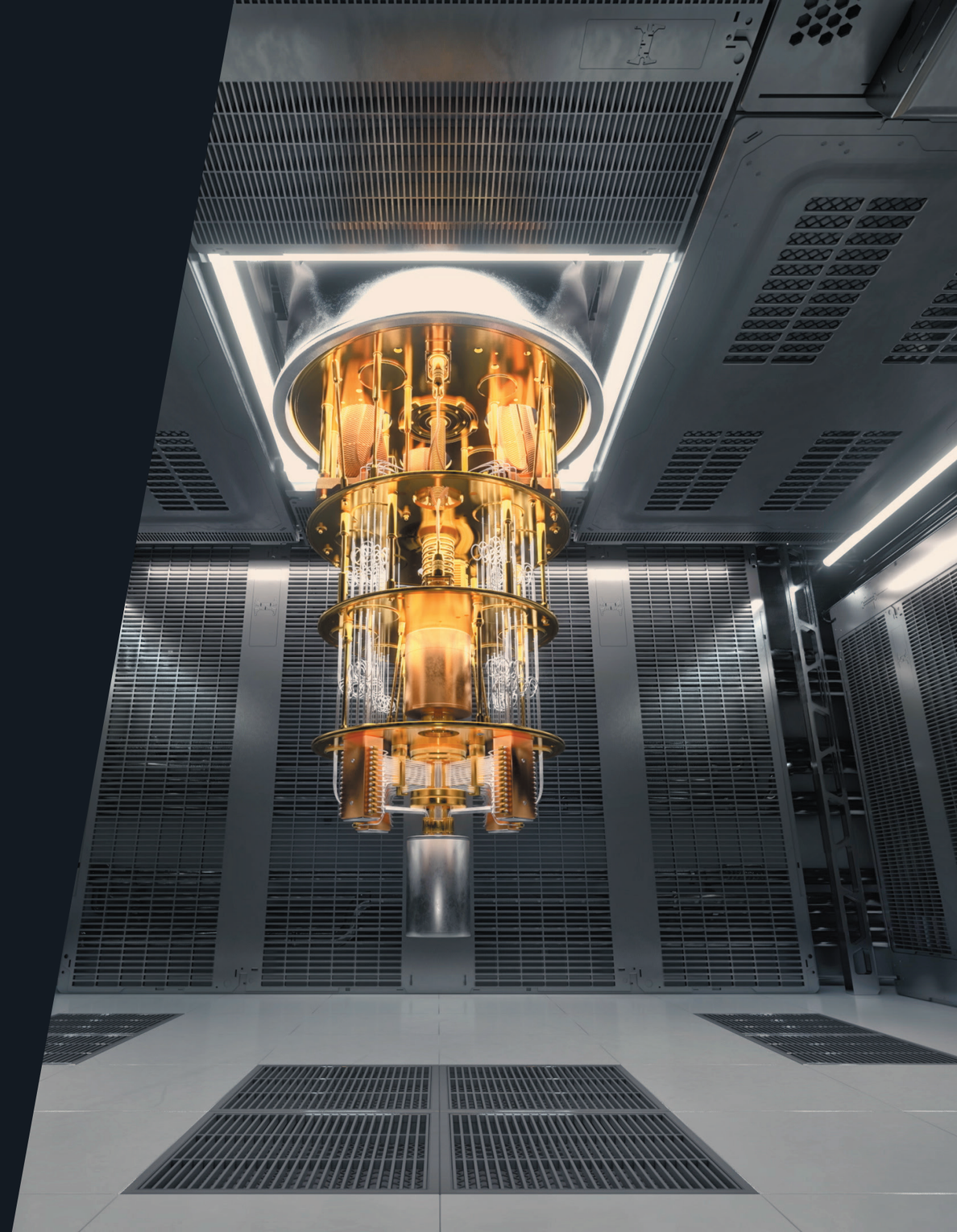
Today’s world is fast-paced and filled with uncertainties, it is critical for enterprises to use data to make informed and data driven decisions to better serve customers, to run business more efficiently, and to create competitive differentiations. That means organizations need to ensure data is accurate, consistent, and trustworthy. They need a process to govern data, manage the availability, usability, integrity, and security of data. In the context of financial industry, this is even more critical due to the nature of data involved. Financial institutions such as banks handle large amount of personal data whose processing is increasingly regulated by regulations such as GDPR (or in Vietnam Decree 13) in addition to existing regulations that governs the industry.

As Vietnam’s largest bank and one of the top 100 banks with largest market cap, Vietcombank commits to use data responsibly, to keep the data secure and protect customers’ data from being misused while maximizing the value of data, embracing the world where AI/ML continues to shape the industry for years to come. We consider Data Governance as the core foundation of what we do in data, we employ the most advanced Data Technology to automate the process, to minimize human error while ensuring the right data gets to the right people at the right time. As Vietcombank past and present employees have been building trust with our customers in the last 60 years, we are fully committed to maintaining that trust in the AI era.

Huy Quang Nguyen
Chief Data Officer, Data and Analytics Center
Joint Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank)



How EY teams can help
in your Data and AI journey

To effectively solve business problems, organizations must understand and leverage their data assets, data management, and data transformation methods. Alongside technology, the next step is to build proper data infrastructure to move on to data analytics.

Throughout the entire journey, as depicted in the five areas below, EY teams can help build a Trusted Data fabric that establishes standardized practices, facilitates data reuse, and helps enable scalable data and data models. The power of data analytics can generate valuable business insights and enhance decision-making. EY teams can provide the support to build the trustworthiness of the data and help embark on the path to Trusted AI.

A. Broad data and AI strategy & governance

- Data and AI vision and strategy
- Data architecture modernization
- Data monetization
- Data governance, talent, organization
- Operating model design

B. Data platform design (Cloud data fabric/mesh)

- Use case portfolio and KPIs
- Data platform architecture
- Enterprise data management
- Next gen data services
- Trusted Data
- Cloud Data migration
- 3rd party data platform integration
- Data Office Operating framework

C. Advanced analytics and AI

- AI Strategy
- Trusted AI and governance
- AI Architecture and operations: MLOps, modelling, vendor platform ecosystem
- AI driven experiences
- AI Business applications
- Generative AI use cases
- Financial Forecasting
- Hyper Personalization
- Computer vision (including document intel)
- Contact Centre Transformation
- AI education and training

D. Intelligent automation and virtual assistants

- Enterprise automation Strategy
- Use case portfolio identification
- Solution architecture
- Automation design, build and deploy
- Process reengineering
- Process mining
- Virtual agent services
- IT/User training /support, etc.

E. Data and analytics as a service offering

Service that provides analytics software and operations through web-delivered

Source: EY Internal Information of Service Offerings on Data, Advanced Analytics, and AI, EY Website, https://sites.ey.com/sites/ds_consulting/DA/Pages/Home.aspx, accessed 6 July 2023.

Appendix

Trends in the Vietnam banking market

In recent years, the Vietnam government and banks have been encouraging and investing in data management, advanced analytics applications, and AI. By consistently incorporating these technologies into operating models, the Vietnam market is seeing advancements, shown through statistics, use cases, and legislation.

Highlights for Vietnam banking market

- Banks in Vietnam are pursuing transformation in both ends of data journeys (foundational data management to advanced analytics and AI), putting them on the right path to operations excellence and enhanced customer experience.
- With the effectiveness of Decree 13 on data protection, banks need to update the approach regarding customer data, technology landscape to safeguard personal data effectively.
- Given the current low-to-medium maturity, there is a large potential for improvement that banks and partners can work together to have modern data infrastructure.

On fundamental data management

In the last decade, banks in Vietnam have highlighted AI and data analytics imperative, which consequently brought investments in data technologies, advanced analytics and data management.

Banks total asset > USD42 million

75%

Having dedicated data analytics team

Banks total asset > USD8 million

20%

Having dedicated data analytics team (*)

(*) the rest has data roles under other teams/divisions

of banks have implemented Data Warehouse

of banks have implemented Data Lake

Source: EY Internal Market Research, EY, 2022.

On advanced analytics and AI

> **According to the 2022 Government AI Readiness Index, Vietnam ranked 55th globally and 6th out of ASEAN countries. Vietnam's average score reached 53.96, exceeding the global average of 44.61.**

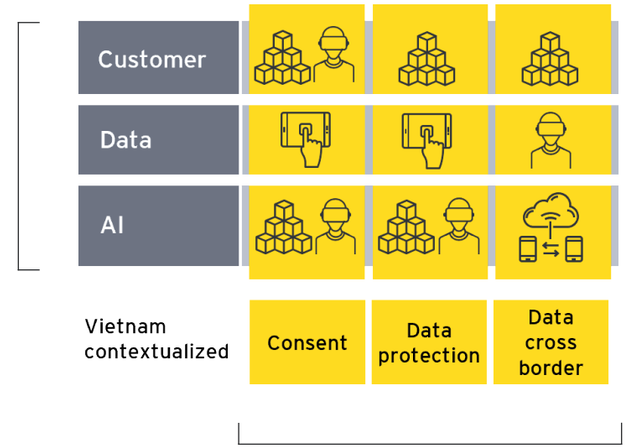
Source: "Vietnam's Government AI Readiness Index higher than global average," Vietnam Plus, https://link.gov.vn/rEc9v3k0, accessed 17 July 2023.

Key trends observed

- **E-KYC:** biometrics technology, eSignature, and AI
- **Virtual interactions:** AI's Virtual Call Agent for customer engagement
- **Back-end process digitization:** automate data processing and enhance data security
- **Cloud computing:** store more, store fast, store cheaper

Source: "Banking Market Overview - Vietnam," EY website, https://discovercontent.ey.net/knd23072lnlp5m7m, accessed 17 July 2023.

Mapping of sample analytics and AI use cases to aspects of data protection



On data protection

On 17 April 2023, the Vietnam government issued Decree 13/2023/ND-CP on personal data protection (Decree 13), set to take effect on 1 July 2023.

- Decree 13 outlines the responsibilities for personal data protection and clearly states its application to local and offshore entities directly involved in or related to personal data processing activities in Vietnam.
- Under Decree 13, personal data is categorized into two types: basic and sensitive. Customer information held by financial organizations is classified as sensitive personal data, resulting in stricter regulations and higher compliance requirements for the processing of such information.

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