

Corporate Digital Responsibility and Artificial Intelligence in Banking Sector

Yamina NOUICHI

Traditional Industries Laboratory (Algeria) / University of Algiers 3
nouichi.yamina@univ-alger3.dz

Redouane AINOUS¹

MECAS Laboratory (Algeria) / University of Algiers 3
ainous.redouan@univ-alger3.dz

Received date : 28.09.2024 & Accepted date : 18.11.2024 & Publication date:14.12.2024

Abstract:

The integration of AI into the banking sector has created unprecedented opportunities in risk assessment, customer service and fraud detection, but the rapid adoption of AI technology raises important ethical and legal challenges related to digital corporate responsibility. This study aims to clarify the opportunities and threats of artificial intelligence, and to know the ethical challenges of artificial intelligence with a focus on ensuring transparency and accountability and increasing awareness of digital corporate responsibility as a cooperative mechanism that limits these threats. It also aims to highlight the role played by digital corporate responsibility in reducing the risks of artificial intelligence in the banking sector. In this study, we have relied on the practices of some global banks for principles of responsibility in guiding responsible AI. The study found that CDR principles are of paramount importance in ensuring that AI is used safely and ethically in the banking sector.

Keywords: Artificial Intelligence; Corporate Digital Responsibility, Transparency, Ethical AI, Banks.

Jel Classification Codes: G21, O33

Introduction:

Artificial intelligence is witnessing tremendous growth, which has added to its effects on the business environment in general and on the banking sector in particular, given the great and promising opportunities it offers in its ability to learn from machines and its high predictive efficiency. Uses that many banking institutions have noticed, which prompted them to work to benefit from their advantages as much as possible, such as credit assessment, fraud detection, and others. This growing use of artificial intelligence parallels the increasing doubts

¹ Corresponding Author.

about the ability of this technology to protect personal data, given the constant need for artificial intelligence algorithms to have continuous inputs of data and to feed, update and train constantly. These algorithms feed on a huge amount of information and experimental data based on real life derived from human experiences, awareness and interaction with this modern technology, which means that they are exposed to people's personal data and their own data in order to process and analyze them. The improper use of artificial intelligence technology and the lack of observance of its principles and ethics generate a lack of confidence in visual and audio content, which will constitute great concern for the pioneers, users of that technology and those responsible for its policies. Therefore, raising the concept of digital corporate responsibility has become necessary to protect individuals, banking institutions and societies from the risks that may result from this technology.

CSR has emerged as a vital framework for organizations working to address the complexities of digital transformation and its associated ethical implications. As banks become increasingly reliant on digital technologies, it has become imperative to adopt responsible practices in their development, deployment, and management. The concept of digital corporate responsibility is based on a set of common values and standards that guide institutions in their operations related to digital technology and data, while addressing the ethical challenges posed by accelerating technological developments. Accordingly, the main research problem is centered on the following question:

What is the impact of digital responsibility on artificial intelligence in the banking sector?

This main question is divided into the following sub-questions:

- What is artificial intelligence and what are its advantages in the banking sector?
- What are the risks and challenges of AI in the banking sector?
- What is digital corporate responsibility and what are its principles?

Objectives of the study:

This topic aims to clarify the concepts of artificial intelligence and digital corporate responsibility, highlighting the ethical and legal challenges posed by the use of artificial intelligence in the banking sector. We will also cover global best practices in digital responsibility and artificial intelligence.

Importance of the study:

The study derives its importance from the importance of keeping financial and banking institutions abreast of digital and technological transformations. The study highlights the importance of digital responsibility in light of the increasing use of artificial intelligence in the banking sector, with the importance of developing a clear ethical and legal framework to regulate its use

1- Artificial Intelligence in the Banking Sector :

1-1- The Concept of Artificial Intelligence :

The concept of artificial intelligence (AI) refers to the way in which the capabilities of human intelligence are simulated. It is part of computer science that deals with the process of designing intelligent systems that show a set of characteristics that are linked to intelligence related to many human behaviors. It is also (Badaro, Ibanez,

& Aguero, 2013) known as a mechanical simulation system that is based on collecting knowledge and information related to various sectors in the world and working to process and disseminate them to benefit from them in the form of practical intelligence. It is also (Ocana-Fernandez, Valenzuela- Fernandez, & Garro-Aburto, 2019) defined as an aspect of computer science that provides a variety of methods, techniques and tools to create models and solutions to problems by simulating the behavior of individuals.

He refers (Kaplan, Haenlein, & Tan, 2019) to AI as a concept that is defined as the ability of a system to interpret data correctly, learn from this data and use this data to achieve specific goals and tasks through flexible adaptation.

Artificial intelligence is classified into two types, the first type is weak artificial intelligence, which focuses on a set of specific and narrow tasks such as the self-driving car, and the other type is strong artificial intelligence, which is known as artificial general intelligence, and after this type is able to perform most of the cognitive functions that a human may possess, in addition to applying intelligence to more than one problem. (Ma & Siau, 2018)

Artificial intelligence is a set of technologies and systems that aim to enable computers to perform tasks that require human thinking. This includes machine learning, data analysis, model recognition, and decision making. It aims to develop systems capable of thinking, learning, and adapting that are similar to the capabilities of the human mind, allowing complex problems to be solved and performance to be improved in a variety of areas.

1.2 Advantages of Artificial Intelligence in the Banking Sector :

Among the main benefits of applying artificial intelligence in the banking sector are the following:

1-2-1 Reducing costs : This is done by shifting tasks from humans to artificial intelligence, accelerating response time, keeping individuals informed of the latest organizational changes, and saving time by preparing reports. Bank of New York Mellon has developed and deployed hundreds of automated computer programs. These robots were created to carry out repetitive tasks ranging from automated programs to responding to data requests from external auditors to systems that correct errors in format and data (Fintech News Singapore, 2018).

1-2-2 Improving bank performance: Artificial intelligence increases revenue, improves employee effectiveness and improves customer experience through targeted emails and other offers, and uses voice analytics to quickly identify cases in need of human attention by allowing employees to focus on higher value testing and increasing salespeople productivity (Fintech News Singapore, 2018).

1-2-3 Regulatory Compliance Assistance : Banking is one of the most regulated sectors in the economy in various countries of the world. Governments use their regulatory authorities to ensure that bank customers do not use banks to commit financial crimes such as fraud and money laundering. As such, banks must comply with the myriad regulations that require them to know their customers, prevent money laundering, support customer privacy, monitor bank transfers, and comply with a set of additional regulations. Banking supervisory compliance is a significant cost and a higher responsibility if not followed. As a result, banks look

to smart virtual assistants and monitors to monitor transactions, monitor customer behaviors, and review and record transactions for various compliance systems.

1-2-4 Communication outside banking hours : Artificial intelligence in banks is one of the most influential applications of artificial intelligence through the use of chat assistants or chat, customer engagement 24/7, as customers have become increasingly comfortable through chat that deals with many things, even private conversations related to banking transactions, banking services and other tasks that do not necessarily require human intervention. In addition to sending customer service inquiries and conversations about individual transactions, banks have found good results in using Chatbots to educate their customers about additional services and offers.

1-2-5 Investment Assistance : Some banks use artificial intelligence in their smart systems to help make investment decisions and support their investment banking research. Artificial intelligence systems detect additional opportunities through models and exploration. In addition, many financial services companies offer Robo Advisers who can help their clients better manage their money. Through customization, chat and client models, robots can provide high-quality guidance on investment decisions, and they are available whenever the client needs their help.

1-2-6 Risk Mitigation: Financial risks are reduced by improving the granting of loans using machine learning, improving financial crime risks using advanced fraud detection, improving compliance and controls, and reducing operational risks by improving accuracy in copying and document production. Citibank is a bank that uses machine learning and big data to prevent criminal activities and monitor potential threats to customers in commerce (Fintech News Singapore, 2018).

1-3- Risks and challenges of artificial intelligence in the banking sector:

The risks associated with the use of AI are compounded by the rapid development of the field. In addition to the benefits that the banking sector derives from the use of AI, banks must take into account the following risks and challenges:

1-3-1 Bias and Discrimination Risks: Artificial intelligence bias is one of the biggest risks associated with its use in the banking sector. This is due to how AI models of decision-making are developed, that is, by humans who carry their own biases and assumptions to machine learning model training. These biases can be amplified when the model is published, sometimes leading to worrying results. This definition of machine learning bias illustrates the different types of bias that can inadvertently affect algorithms and the steps companies must take to eliminate them. After the model is trained, it should be continuously updated to accommodate new factors (such as COVID-19) and to address “model skew” (Schmelzer & Tucci, 2023).

1-3-2 Interpretability and Ethics : Financial institutions operate under the umbrella of regulations that require them to issue interpretations of their credit issuance decisions to potential customers. This makes it difficult to implement tools built on deep learning neural networks, which work by deriving precise relationships between thousands of variables that are usually incomprehensible to the human mind (Schmelzer & Tucci, 2023).

1-3-3 Data privacy and security risks : The application of artificial intelligence in banking services raises fundamental issues related to data privacy and security.

Data privacy is a major challenge in the adoption of AI technologies within banking services. Customers are increasingly concerned about how their personal information will be handled, and any breach can lead to a loss of trust and damage to the reputation of financial institutions. This concern is compounded by the fact that AI systems often require huge amounts of data to operate effectively, which could inadvertently lead to sensitive information being exposed if not managed properly (Duan, 2023).

In addition, the rapid development of AI poses regulatory challenges. There is a significant gap between the speed of AI innovation and the creation of a regulatory framework to govern its uses in the financial sector. This regulatory delay can lead to a situation where malicious AI applications are deployed without adequate censorship, leading to economic harm and a negative reaction from consumers. The need for a proactive regulatory approach is essential to mitigate these risks and ensure that AI technologies are used responsibly within the banking sector.

2- Corporate Digital Responsibility :

2-1-The concept of corporate Digital Responsibility :

The rapid development of technology imposes certain responsibilities when applied in the field of business, which led to the emergence of digital corporate responsibility, which is a relatively new term but has gained increasing attention in recent years.

The emerging concept of digital responsibility overlaps with the established concept of corporate social responsibility in terms of common goals and addressing social and environmental issues. The concept of digital corporate responsibility focuses on the threats and idiosyncrasies that characterize the digital world and the corporate responsibilities imposed by digital technologies (Lobschat, et al., 2021).

In 2017, he proposed a (Driesens, Oakeley, & Schneevoigt , 2017) definition of corporate digital responsibility, stating that “Corporate Digital Responsibility is a voluntary commitment. It start with a need to comply with legal requirements and standards – to process customer data, confidential information, intellectual property, etc. – but it also extends to broader ethical considerations and the core values with which the organization operates. ”

As for the definition he proposed, it (Lobschat, et al., 2021) is one of the most widespread in the current literature, as corporate digital responsibility is a set of principles and values that guide the practices of organizations in the field of digital technology and data, including their creation and operation.”

(Elliott, et al., 2021) As for the corporate digital responsibility, it represents a voluntary framework adopted by organizations with the aim of guiding their digital practices towards sustainability. This responsibility seeks to achieve a balance between business objectives and societal interests, by adopting principles and values that contribute to addressing the social, economic and environmental impacts resulting from digital activities.

He sees (Muller, 2022) that the concept of digital corporate responsibility is related to computer ethics and business ethics. From the perspective of computer ethics, digital corporate responsibility is related to information ethics, machines or robots, cyber ethics, cyber ethics, AI ethics, etc.

Corporate digital responsibility can be defined as the commitment of companies to process digital data and information systems ethically and responsibly, taking into account the social and environmental implications of their digital activities, including a set of principles, ranging from the protection of users' personal data to the use of technology in sustainable ways.

2-2- Importance of digital corporate responsibility :

Corporate digital responsibility addresses new responsibilities that arise from the use of consumer data, the deployment of artificial intelligence, and the management of digital goods. Companies are increasingly taking responsibility for their digital practices, and failure to adhere to responsible standards can damage legal reputations (Cardinali & De Giovanni, 2022). The concept of responsible digital transformation focuses on the need for companies to align their digital strategies with ethical considerations, ensuring that technological progress does not compromise social values or environmental sustainability (Cardinali & De Giovanni, 2022).

CDR plays a pivotal role in fostering trust between organizations and their stakeholders. As consumers become increasingly aware of data gaps and ethical concerns surrounding digital technologies, companies that prioritize digital corporate responsibility are likely to gain a competitive advantage (van der Merwe & Al Achkar, 2022). With an approach focused on digital corporate responsibility, organizations can effectively manage data gaps and enhance their corporate image, thereby attracting and retaining customers (van der Merwe & Al Achkar, 2022). This reduces risk and puts companies in a leadership position in the field of ethical digital practices.

Interest in corporate digital responsibility is growing with a growing awareness of the ethical risks associated with digital technologies. Organizations are urged to implement policies that promote responsible digital practices, which are an integral part of their CSR initiatives (Herden, et al., 2021). This has a positive impact on employee performance.

The dynamic nature of digital technology requires an ongoing reassessment of corporate responsibilities, especially in areas such as data privacy, security, and the ethical use of AI (Herden, et al., 2021).

2-3- Principles of Digital Corporate Responsibility :

The evolving concept of digital corporate responsibility addresses the ethical, social and governance challenges posed by digital technologies. It includes a set of principles that organizations must adopt to ensure the responsible use of digital tools and data. The principles of digital corporate responsibility can be summarized in several key areas: ethical use of data, transparency, accountability, sustainability, digital access, and stakeholder engagement.

2-3-1 Ethical use of data : It is one of the basic principles of corporate digital responsibility. Organizations are required to implement policies that ensure responsible data collection, storage, and use. This includes protecting personal information from violations and ensuring transparency in how data is used. This includes not only complying with legal regulations, but also adhering to ethical standards that protect user information from misuse and exploitation (Wynn & Jones, 2023). Organizations can also minimize the ethical risks associated with digital

technologies by adopting comprehensive policies that promote responsible practices in data management and technology use. This principle is indispensable, especially in light of growing concerns about data privacy and security in the digital age (Muller, 2022).

2-3-2 Transparency : Companies should be open and clear about their digital practices related to user data, including how they collect, use and share data. This transparency fosters trust among stakeholders and ensures that institutional business is aligned with changing social values (Wirtz, Kunz, Hartley, & Tarbit, 2022).

2-3-3 Accountability : Accountability mechanisms must be activated to ensure that companies are subject to continuous monitoring of their digital practices, whether through internal governance structures or external control. These mechanisms include evaluating applicable ethical standards. To achieve this (Cheng & Zhang, 2023), companies must integrate social responsibility objectives into their digital strategies, which enhances accountability in their operations (Cheng & Zhang, 2023).

2-3-4 Sustainability : This principle urges companies to consider the environmental impacts resulting from the use of their digital technologies. It also aims to integrate environmental considerations into the strategies of digital companies, in order to ensure that technological development contributes to sustainable development (Cardinali & De Giovanni, 2022).

Integrating sustainability into the digital innovation process encourages a balance between economic performance and environmental conservation. This approach calls for companies to adopt innovative environmentally responsible practices, ensuring that technological advances in data management are aligned with the SDGs (Herden, et al., 2021).

The continuous evolution of digital technologies requires a dynamic approach to digital corporate responsibility. Organizations must be flexible in adapting their digital responsibility strategies to counter the effects of technological developments such as artificial intelligence and big data analytics (Elliott, et al., 2021). This resilience is essential to fostering a responsible digital ecosystem that protects societal interests.

2-3-5 Digital access : It is also a basic principle of digital corporate responsibility. Organizations have a responsibility to ensure that their digital services are accessible to all users, including persons with disabilities. This includes designing comprehensive technologies and platforms that allow diverse groups of the population to deal with digital content effectively. Providing available digital services not only meets ethical obligations, but also expands the scope of the market and enhances customer satisfaction. Companies can enhance their social responsibility and expand the scope of their market by adopting the principles of inclusive design and ensuring the usability of digital platforms for all (Kärpänen, 2022).

2-3-6 Stakeholder participation : It is another vital aspect of digital corporate responsibility. Organizations should involve different stakeholders (including customers, employees, and society at large) in their digital strategies. This engagement helps organizations understand the societal impacts of their digital initiatives and align their practices with stakeholder expectations (Wirtz, Kunz, Hartley, & Tarbit, 2022).

3- International Regulatory Frameworks for the Ethics of Artificial Intelligence in the Banking Sector :

The regulatory framework surrounding AI ethics and bias in the banking industry is evolving rapidly to keep pace with technical advances in Artificial Intelligence (AI). The regulatory framework represents ethical considerations and potential biases in AI and data-driven decision-making in banks, with a primary focus on fairness, transparency, and accountability.

3-1 General Data Protection Regulation (GDPR) :

The GDPR remains the most advanced and stringent legal system in the protection of personal data, and imposes financial fines for any use of people's data without their permission. (General Data Protection Regulation (GDPR), 2016)

3-2 Fair Credit Reporting Act (FCRA) Fair Credit Reporting Act :

The FCRA stresses the need for fairness, accuracy and protection of consumers' rights by protecting their privacy and imposing procedures to deal with their information, as well as informing them of their credit information. Banking institutions are required to implement policies and procedures that promote fairness and accountability in credit reporting and lending practices. (Fair Credit Reporting Act (FCRA), 2023)

3.3 Equal Credit Opportunity Act (ECOA) :

The U.S. Equal Credit Opportunity Act (ECOA) aims to ensure that all applicants for credit are treated fairly and without discrimination. The law prohibits discrimination in credit based on demographic factors such as race, color, religion, sex, marital status, and age. ECOA promotes an ethical commitment to fairness and non-discrimination in lending and credit decisions, while advocating for equitable access to financial services. (Equal Credit Opportunity Act (ECOA), 2022)

4- Strategies to reduce the risks of artificial intelligence in the banking sector :

These strategies help to deploy responsible AI in the banking industry. Banks mitigate AI risks by: (Mirchelle, 2024)

- Conduct a thorough evaluation of the training data used for AI models, identifying and correcting data biases, and ensuring that the data used is representative of all categories and free from discriminatory patterns.
- Adopt strong data encryption and access control.
- Provide training to staff on emerging AI risks and response strategies.
- Ensure diversity in AI systems and vendors to avoid individual points of failure.
- Use equity-conscious machine learning algorithms that incorporate equity constraints to ensure AI models do not produce biased results.

5- Global banking institutions and digital responsibility practices towards artificial intelligence :

5.1 Barclays Bank :

Barclays is a global bank based in London, UK, operating in more than 40 countries with around 85,000 employees. The bank emphasized the benefits of AI for financial services, by improving efficiency, reducing costs and enhancing customer experiences with the need to develop ethical guidelines and frameworks.

Barclays Bank is one of the leading financial institutions that recognizes the importance of digital responsibility in the use of artificial intelligence, as it seeks to apply it across the bank's various operations, including:

Data Sharing Frameworks: Secure data sharing frameworks, such as open banking, can create economic value and promote competition. (Barclays, s.d.)

Data Privacy:

The Bank places the protection of customer data among its priorities, ensures the use of artificial intelligence in a safe and responsible manner, and complies with all regulations and legislation related to data protection. (Barclays, s.d.)

Barclays is among the leading global financial institutions in data privacy initiatives. The bank has implemented stringent data security measures to protect customer data from unauthorized access and breaches. Barclays has also focused on the transparency of its data collection and use practices, providing customers with clear information on how their data is being used. (Barclays, s.d.) In addition, Barclays has invested in AI-powered fraud detection systems to protect customer accounts from fraudulent activities. (Barclays, 2020)

Partnership and cooperation :

Barclays is collaborating with Microsoft to use Microsoft's security solutions to strengthen its security strategy and boost confidence in its digital capabilities. With the advent of artificial intelligence (AI) technologies that present both opportunities and risks, this partnership will wipe out for Barclays the expansion of its security detection systems. It aims to leverage this partnership to ensure the safety and security of its employees, customers and clients. (Channel life, 2024)

5.2 HSBC Bank :

HSBC is one of the world's leading international banks, with a network spanning 64 countries, and a global financial institution that understands the importance of incorporating ethical AI into its operations. The bank strives to strike a balance between leveraging AI capabilities to improve services and increase efficiency while ensuring its ethical obligations to its customers, employees, and the community.

In 2018, HSBC faced a major data breach that put customer information at risk, leading the bank to take enhanced security measures including advanced encryption technologies.

HSBC has published its 'Principles for Responsible Artificial Intelligence', which focus on the core and ethical values of : (hsbc principles for the ethical use of data and ai, s.d.)

Focus on transparency and interpretability: By providing clear explanations of how the bank's AI systems work, both for customers and employees. Avoid using “black boxes” whose decisions cannot be easily explained.

Ensure fairness and justice: By designing and training AI models in a way that prevents discrimination or bias against any category of customers, and applying bias detection and mitigation techniques in the AI systems used while ensuring that all customers receive fair and transparent treatment, regardless of their background or circumstances.

Data Protection and Customer Privacy: The Bank adheres to the highest standards of data protection and customer privacy, including compliance with relevant

regulations and laws. It also applies strict MN procedures to protect customer data from unauthorized access or breaches.

Promoting awareness and education: By providing trainings to bank staff on the use of ethical AI, so that they can understand the principles and guidance related to it, and participate in dialogues and discussions on ethical AI with various stakeholders.

Collaborate with stakeholders: Collaborate with AI ethics experts to develop robust standards and guidelines. Communicate with regulators and relevant authorities to ensure compliance with laws and regulations.

HSBC seeks to integrate AI in a responsible and ethical manner, by establishing a clear framework, ensuring transparency, focusing on fairness, protecting data, promoting awareness, and collaborating with stakeholders. This approach underscores the bank's commitment to providing safe and fair financial services to its customers while respecting ethical and societal values.

5.3 JP Morgan Chase :

It is an American multinational bank for financial and banking services, and is the largest bank in the United States of America with a total assets of \$2.6 trillion, operating in more than 100 countries, with more than 240,000 employees. Founded in 1799, headquartered in New York, in 2000 it merged with Chase Manhattan Bank and was named JPMorgan Chase.

The Bank has a leading position in the global financial sector, where it has adopted artificial intelligence as an essential tool for its operations, with great attention to addressing the ethical and legal aspects associated with it. It recognizes that artificial intelligence has the potential to improve the financial services industry, but it is important to use artificial intelligence responsibly to ensure its benefits for all stakeholders. A key aspect of JPMorgan Chase's approach to ethical AI is:

Ethical Principles: The Bank has established ethical principles for the development and deployment of AI, with a focus on fairness, transparency and accountability. These principles help ensure that AI systems are used in a responsible and ethical manner.

Mitigating bias: JPMorgan Chase uses technologies to identify and mitigate biases in AI algorithms, which will invest heavily in AI, with a variety of tools and products.

JPMorgan recognizes the risks of AI-based lending instruments bias, as bias in AI models can lead to regulatory issues and reputational damage, highlighting the importance of proactively addressing these biases.

JPMorgan Chase has filed a patent application for a bias assessment system in its risk assessment and tracking models, ensuring it operates ethically and fairly. The system analyzes the model's predictions, compares them with demographic data, and verifies compliance with ethical standards. (The Daily Upside, 2024)

Explainable AI: The bank is developing AI systems that can explain its decision-making processes, ensuring that AI decisions are understood and can be challenged if necessary. (JP Morgan CHASE, 2024)

The Bank engages experts to oversee AI-led decisions to ensure ethical considerations are met. This helps prevent AI from making decisions that could have negative consequences.

JPMorgan Chase is researching responsible AI to develop new technologies and tools to ensure the ethical use of AI, helping to develop the field of AI and ensure its responsible use.

Conclusion :

The banking sector is extremely dependent on technology, and artificial intelligence is the most recent development. The development of its technologies has made it the main driver in the banking sector, at the same time posing important ethical and legal challenges. Banking institutions and regulators have a shared responsibility to ensure that AI is used in a responsible and ethical manner. By adopting a holistic approach that focuses on transparency, accountability, and security, AI's potential can be maximized while protecting customers' rights and interests.

Results:

- Digital corporate responsibility is an imperative, which banks must embrace and act on as they address the ethical implications of digital technologies and promote transparency and consumer trust.
- There is a great deal of similarity in the principles guiding the responsibility of selected banks towards AI, these principles included : data privacy and security, fairness and inclusion, interpretability, accountability, and avoiding unfair bias.
- Despite the apparent emphasis on the benefits of AI in the banking sector, there was a clear awareness of the potential challenges and concerns raised by the increasing deployment of AI, which was a common element in selected banks' approach to their responsibilities towards AI.
- Selected banks seek to keep abreast of artificial intelligence developments, and each of these banks is aware that the increasingly complex development of artificial intelligence requires flexibility in liability policies.

Recommendations:

- The need to develop specific legislation and regulatory laws regulating the use of artificial intelligence in the banking sector, with a focus on accountability, transparency and data protection.
- Encourage research and development in the development of bias-free AI algorithms, with a focus on ensuring fairness and integrity of decisions.
- Promote a culture of AI ethics awareness among those working in the banking sector, and integrate it into education and training programs.
- Enhance transparency in the use of AI technologies by revealing how these technologies work to customers.
- Develop effective AI risk monitoring and management mechanisms, including bias, privacy, and cybersecurity risks.

References and Referrals:

- Badaro, S., Ibanez, L. J., & Aguero, M. J. (2013). Badaro, Sebastian., Ibanez, Lionardo Javier. & Aguero, MSistemas expertos : Fundamentos, Metodologias y Aplicaciones. *Ciencia y Tecnologia*, 349-364.
- Barclays. (s.d.). Consulté le Aout 30, 2024, sur The Economic Value of Data: <https://home.barclays/content/dam/home-barclays/documents/citizenship/our-reporting-and-policy-positions/public-policy/Economic-Value-of-Data-Barclays-Perspective.pdf>
- Barclays. (s.d.). Consulté le Aout 14, 2024, sur Website Privacy Notice – How, when and why we collect and process personal data: <https://www.ib.barclays/disclosures/personal-information-use.html>
- Barclays. (2020, Février 24). Consulté le Aout 14, 2024, sur Insights: “Fraudsters are getting smarter – but so are we”: <https://home.barclays/news/2020/02/insights---fraudsters-are-getting-smarter---but-so-are-we-/#:~:text=So%2C%20empowering%20our%20most%20valuable,fraudsters%20and%20ensure%20customer%20>
- Channel life. (2024). Consulté le Aout 28, 2024, sur <https://channellife.co.uk/story/barclays-partners-with-microsoft-to-enhance-digital-security>
- Equal Credit Opportunity Act (ECOA). (2022). *Regulation B (12 CFR Part 1002)*. Récupéré sur https://files.consumerfinance.gov/f/documents/cfpb_revoking-terms-of-existing-credit-arrangement_advisory-opinion_2022-05.pdf
- Fair Credit Reporting Act (FCRA). (2023, Mai). Récupéré sur <https://www.ftc.gov/legal-library/browse/statutes/fair-credit-reporting-act>
- Fintech News Singapore. (2018, Décembre 13). *The Potential of AI in Banking*. Consulté le Aout 04, 2024, sur <https://fintechnews.sg/27160/ai/the-potential-of-ai-in-banking-report/>
- hsbc principles for the ethical use of data and ai. (s.d.). Récupéré sur <https://www.hsbc.com/-/files/hsbc/our-approach/risk-and-responsibility/pdfs/220308-hsbc-principles-for-the-ethical-use-of-data-and-ai.pdf?download=1>
- JP Morgan CHASE. (2024). Consulté le Septembre 22, 2024, sur <https://www.jpmorgan.com/technology/artificial-intelligence/initiatives/explainable-ai-center-of-excellence>
- Kärpänen, T. (2022). Corporate Digital Responsibility and accessibility in digital services. *Laurea*, 92-98.
- Mirchelle, M. (2024, Juin 08). *Banking AI Risk Mitigation Strategies & Reducing Big Tech Dependence*. Consulté le Septembre 12, 2024, sur <https://www.linkedin.com/pulse/banking-ai-risk-mitigation-strategies-reducing-big-tech-mckoy-8bfec>
- Muller, B. (2022). Corporate digital responsibility. *Bus Inf Syst Eng* 64(5), 689–700.
- Schmelzer, R., & Tucci, L. (2023, Décembre 21). *The Top 5 Benefits Of AI In Banking*. Consulté le AOUT 14, 2024, sur <https://www.techtarget.com/searchenterpriseai/feature/AI-in-banking-industry-brings-operational-improvements>
- The Daily Upside. (2024). *JPMorgan Chase Patent Highlights Risk of AI Bias in Banking*. Consulté le Septembre 22, 2024, sur <https://www.thedailyupside.com/technology/artificial-intelligence/jpmorgan-chase-patent-highlights-risk-of-ai-bias-in-banking/#:~:text=The%20financial%20institution%20filed%20a,tech%20tracks%20when%20risk%20assessment>