

The Final Module Essay Proposal
Launching into Computer Science
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Word count: 522

A working title:

AI in Financial Fraud Detection: Danske Bank Case Study.

A brief outline:

Danske Bank (DB) is a financial institution that has been in operation for 152 years and offers a wide range of financial services (Forbes, N.D.). The bank has a presence in 16 countries across Europe, including the Nordic region, Baltic states, and Ireland, and also operates in North America and India.

In 2017, the DB money laundering scandal revealed a significant illegal financial movement within the bank's Estonian branch from 2007 to 2015 (United States Department of Justice, 2022). Non-resident accounts received over two billion euros with limited Anti-Money Laundering (AML) controls, which were used to launder funds mostly from Russia and the post-Soviet states. The bank faced legal consequences and underwent heightened regulatory scrutiny because of the scandal. It revealed weaknesses in the bank's governance and wider discussions on improving AML frameworks in the banking industry. Simultaneously, this fallout highlighted the importance of technological advancements, especially in artificial intelligence (AI), to reinforce fraud detection mechanisms. The DB scandal is a good example of why proper regulation, good risk management, and advanced technologies are essential for protecting the finance industry's integrity (Elucidate, 2023). At the same time, DB has become a centre of attention on how AI can be used to improve financial fraud detection.

A discussion of the issues:

AI has revolutionised banking operations by increasing efficiency and improving client experiences. However along with the advantages come challenges, and one crucial area is fraud detection and prevention. The essay to be written is going to consider the new developments in machine learning, pattern recognition, and big data analytics in fighting fraud based on the DB case by covering the following structure:

- **Literature review:**

The paper will start with a literature review that will summarize the current state of AI implementation in the banking sector for fraud prevention. It will entail examining artificial intelligence systems such as machine learning algorithms, anomaly detection systems, and natural language processing techniques. Also, examine existing case studies to see the best applications and weaknesses of AI in fraud detection.

- **DB Case Overview:**

In this section, the DB money laundering scandal will be discussed in detail, with a specific focus on the use of advanced technologies for fraud prevention. The study will examine the events leading to the scandal and analyze the specific challenges DB faced, especially concerning the fraudulent activities and their consequences. Also aimed to find out how AI technologies started to be utilized or failed in fraud detection.

- **AI Solutions in Fraud Prevention:**

This part will explore AI solutions to examine preventive measures in place and those that could have been implemented at the DB. It will be discussed how machine learning models can be used to analyze transaction patterns, find

anomalies, and signal red flags indicating fraudulent activity. Additionally, it will examine the role of AI in improving customer identity verification and authentication procedures.

In conclusion, this study examines AI fraud detection in the banking sector, specifically using the DB case study. Analyzing the latest advancements in machine learning algorithms, pattern recognition methods, and big data analysis can help identify the trajectory that technology is taking in securing financial systems against fraudulent practices.

Reference list

Elucidate (2023) What the Danske Bank scandal can teach US about financial crime risk management in correspondent banking. *Elucidate*. Available at: <https://www.elucidate.co/blog/what-the-danske-bank-scandal-can-teach-us-about-financial-crime-risk-management-in-correspondent-banking#:~:text=The%20money%20laundering%20scheme%2C%20which,various%20accounts%20around%20the%20world.> [Accessed 10 December 2023].

Forbes (N.D.) Danske Bank | Company Overview & News. *Forbes*. Available at: <https://www.forbes.com/companies/danske-bank/> [Accessed 8 December 2023].

United States Department of Justice (2022) Danske Bank Pleads Guilty to Fraud on U.S. Banks in Multi-Billion Dollar Scheme to Access the U.S. Financial. Available at: <https://www.justice.gov/opa/pr/danske-bank-pleads-guilty-fraud-us-banks-multi-billion-dollar-scheme-access-us-financial> [Accessed 7 December 2023].