

Strategizing Digital Disruption

A Transformation Roadmap for Global FinTech Corp.

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Module 5 Assignment

Data Governance and Compliance

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Background

Global FinTech Corp (GFC) is a multinational financial services provider with a diversified business model that caters to individual consumers, small to medium businesses, and large corporations. The company has been a leader in traditional banking services for over a century, but in recent years, it has also made substantial strides in the field of digital finance.

Headquartered in London, UK, GFC operates in over 50 countries, employing more than 100,000 people worldwide. It manages assets exceeding \$2 trillion and serves over 20 million customers globally. As one of the largest global banks, it offers a wide range of services, including retail banking, corporate banking, investment banking, asset management, and insurance.

Despite the company's success, the past decade has seen an industry-wide shift in the financial sector. The advent of financial technology or "fintech" has started to disrupt traditional banking practices, leading to a shift in consumer expectations. Consumers increasingly demand seamless, round-the-clock digital experiences. This change is driven by a younger, more tech-savvy generation of consumers, but it has also been accelerated by the global shift towards digital services resulting from the COVID-19 pandemic.

In response to these changes, GFC has undertaken a digital transformation journey to remain competitive and deliver on evolving consumer demands. The company has already made significant progress in this regard, with over 60% of its transactions now being conducted digitally.

However, GFC recognizes that to remain at the forefront of the industry, it must go beyond simply digitizing existing services. The company must also harness the power of data and emerging technologies to deliver innovative financial products and services that

anticipate and meet its customers' needs. Therefore, GFC is seeking to leverage technologies such as artificial intelligence, machine learning, natural language processing, and blockchain in its operations.

Moreover, GFC also understands that to fully realize its digital ambitions, it must reimagine its internal processes and structures. This includes adopting agile methodologies, fostering a culture of innovation, upskilling its workforce, and integrating technology into every facet of its operations. These efforts are being led by a dedicated digital transformation team that reports directly to the company's executive leadership.

GFC's strategic vision is to become a global leader in digital financial services. This ambition is underpinned by a mission to deliver personalized, seamless, and secure financial services that empower its customers and drive inclusive growth. The company's executive leadership is fully supportive of this vision and is committed to investing the necessary resources to achieve it.

As part of this transformation journey, GFC has posted a large project for bid. It aims to hire an analytical consultancy to design a Digital Transformation Roadmap that focuses on several key areas such as digital personal assistants/chatbots, fraud detection, credit scoring, NLP for customer contracts, portfolio management, high frequency trading, algorithmic trading, investment predictions, process automation, consumer marketing and cross-selling, trade settlements, and an automated wealth advisor. The successful consultancy will play a critical role in shaping the company's future and cementing its position as a global leader in digital finance.

Transformation Areas

In today's rapidly evolving digital landscape, financial institutions must leverage emerging technologies to stay competitive and meet the evolving needs of their customers.

For GFC, this means exploring a range of transformation opportunities that could fundamentally enhance its operations and customer experience. From deploying AI-powered digital assistants to harnessing machine learning for superior fraud detection and credit scoring, the potential for digital disruption is immense. Similarly, applying Natural Language Processing (NLP) for customer contracts can revolutionize contract management, while improved portfolio management, high-frequency trading, and algorithmic trading can bring unprecedented efficiency and profitability. Investment predictions, powered by sophisticated analytics, can significantly enhance financial outcomes for GFC's clients. Process automation can dramatically reduce costs and improve service delivery. Targeted consumer marketing and cross-selling, powered by data analytics, can enhance customer acquisition and retention. Enhancements in trade settlements can streamline trading operations, and an Automated Wealth Advisor, or 'Wealth Bot,' can democratize wealth management services, reaching a wider customer base. Let's explore these transformation opportunities in more detail.

1. **Digital Personal Assistants/Chatbots:** The integration of AI-powered chatbots will revolutionize customer service within GFC. In the initial stages, these chatbots will handle simple customer queries, significantly reducing response times and enhancing the customer experience. As these AI tools learn from interactions, they will be able to tackle more complex questions, reducing the load on human agents, thereby cutting costs. Additionally, integrating chatbots with product recommendation systems can create personalized up-selling and cross-selling opportunities, driving further revenue.
2. **Fraud Detection:** A progressive AI-based fraud detection system will drastically minimize GFC's exposure to fraudulent transactions and associated financial losses. Initially, these systems would identify basic patterns of fraudulent activities. As they learn over time, they could predict sophisticated fraud patterns in real-time, securing customer accounts and boosting overall customer confidence in the platform. This

will also help maintain the company's reputation and foster stronger customer relationships, thereby indirectly driving customer retention and acquisition.

3. **Credit Scoring:** The deployment of AI and machine learning for credit scoring will enable GFC to make more precise credit decisions. The firm will evolve from using traditional credit scoring methods to advanced models that leverage alternative data sources. The system will improve over time, allowing the company to extend services to a broader customer segment previously viewed as high-risk or credit-invisible, resulting in increased revenues and market share.
4. **NLP for Customer Contracts:** Implementation of Natural Language Processing (NLP) for customer contract analysis will boost operational efficiency. The primary step will involve using NLP for automatic extraction and categorization of key contractual obligations, which will significantly reduce manual effort and related errors. As the system matures, it can handle more sophisticated analyses like identifying anomalies in contractual terms or predicting disputes, providing an additional layer of risk management.
5. **Portfolio Management:** AI-enabled portfolio management will transform GFC's approach to investment advice. Initially, personalized portfolio strategies based on the customer's risk profile and financial goals will be provided. As the models mature, they can consider more nuanced factors like market sentiment analysis, improving the quality of advice and potentially leading to higher returns for customers, thereby enhancing customer satisfaction and loyalty.
6. **High Frequency Trading and Algorithmic Trading:** These automated trading strategies can provide GFC a competitive edge in the market. Initially, these systems will execute trades more quickly and efficiently, improving profitability. As they evolve, they can adapt in real-time to market dynamics, providing even better trading

performance. This could attract more active traders to GFC, boosting its trading volumes and revenues.

7. **Investment Predictions:** AI-driven investment predictions can become a significant differentiator for GFC. Initially, these systems will provide forecasts based on historical data and market trends. Over time, they will incorporate more complex data like real-time news, social media sentiment, etc., to make more precise predictions, which could lead to higher returns for customers and boost the company's reputation as a sophisticated investment platform.
8. **Process Automation:** Automating routine processes can lead to cost savings and improved accuracy. Initially, automation will be applied to simple, repetitive tasks. As the technology and implementation improve, more complex tasks can be automated, leading to substantial operational efficiencies and cost reduction, which can be reflected in competitive pricing for customers, thereby enhancing customer acquisition and retention.
9. **Consumer Marketing and Cross-Selling:** Advanced analytics can enable GFC to create highly targeted marketing campaigns and identify cross-selling opportunities. In the initial stages, personalized offers based on customer's past behavior will be provided. As the analytics mature, they can predict future customer needs based on their life events, behavior patterns, and other factors, leading to even more effective marketing and cross-selling, enhancing customer lifetime value.
10. **Trade Settlements:** Automation in trade settlements will reduce the trade processing time, decrease errors, and improve customer satisfaction. Initially, basic automation will reduce manual effort. Over time, sophisticated technologies like blockchain could be incorporated for real-time, decentralized settlements, further enhancing efficiency and reducing counterparty risk.

11. Automated Wealth Advisor (Wealth Bot): An automated wealth advisor can democratize wealth management services. Initially, the bot will provide basic advice on portfolio allocation. As the bot learns and improves, it will provide more sophisticated advice, considering factors like tax implications, estate planning, etc., leading to a more comprehensive wealth management service. This can attract a larger customer base, boosting assets under management and revenues.

Data Governance and Compliance

The ongoing digital transformation in the financial services sector has opened up numerous opportunities for innovation and growth. One critical aspect underpinning these transformations is data governance and compliance management. In the era of big data, managing different aspects of data governance has become a complex task, and its complexity varies across different transformation opportunities. To evaluate the ease of managing data governance and compliance considerations across various fintech areas, we've assigned ratings on a scale of 1 to 5, where 1 signifies a complex/hard to manage situation, and 5 signifies a less complex/easier to manage situation.

Our evaluation spans across nine crucial facets of data governance: Master Data Management, Reference Data Management, Metadata Management, Big Data Management, Data Quality Management, Data Architecture, Data Retention/Archiving, Privacy/Security, and Ethical Data Management. Each of these elements carries specific importance in different transformation areas.

In general, the ratings indicate that data governance and compliance management can be particularly challenging in areas that handle vast and diverse data types, require advanced analytics, and deal with sensitive information. Examples include High-Frequency Trading and Algorithmic Trading, Credit Scoring, and Automated Wealth Advisors. Meanwhile, areas

such as Process Automation and Metadata Management in marketing and cross-selling may present less complexity, mainly when dealing with well-structured and well-defined data.

The given ratings provide an overview of the potential challenges and considerations in managing data governance across various fintech areas. They are indicative and could vary depending on the specific context and practices of individual financial institutions.

Nonetheless, they provide a guiding framework for understanding the relative complexity of data governance and compliance management across different fintech opportunities.

Ratings

1. Digital Personal Assistants/Chatbots

- Master Data Management: Rated 4. Chatbots predominantly utilize customer interaction data, such as queries and responses, which is fairly standard and straightforward to manage. The challenge lies in ensuring the chatbot has access to the most current and relevant customer data for personalizing interactions, but given the maturity of MDM tools, it's feasible.
- Reference Data Management: Rated 4. Chatbots frequently utilize a standardized set of responses, creating a fairly static reference data set. This makes management simpler as the reference data doesn't frequently change, unless the chatbot's capabilities are expanded.
- Metadata Management: Rated 4. Chatbot interactions typically generate straightforward metadata like timestamps, customer identifiers, and interaction categorizations. This data doesn't require complex relationships or mapping, making management relatively simpler.
- Big Data Management: Rated 3. The volume of data generated by chatbots can be significant, particularly for larger financial institutions. This data can be

challenging to handle in real-time and may require advanced data management and storage solutions, hence the moderate rating.

- **Data Quality Management:** Rated 4. Data quality is easier to maintain with chatbots as the sources of data are usually consistent - customer inquiries and system responses. Implementing validation checks and quality controls within the chatbot system can ensure data accuracy and consistency.
- **Data Architecture:** Rated 4. Chatbot applications typically follow a well-established, scalable, and simple data architecture. They integrate with existing databases and systems with relative ease, making data architecture less of a concern.
- **Data Retention/Archiving:** Rated 4. The interaction data from chatbots, while voluminous, is straightforward to archive due to its structured nature. Established data retention and archiving strategies can be implemented effectively.
- **Privacy/Security:** Rated 3. Chatbots, by their very nature, can capture and store sensitive customer information, making privacy and security a crucial concern. Ensuring data encryption, secure access controls, and compliance with privacy laws is imperative, hence a slightly lower rating.
- **Ethical Data Management:** Rated 4. In terms of ethics, it's essential to ensure chatbots don't misuse or misinterpret information, and that all interactions comply with established ethical guidelines. While these considerations are important, they can be managed through the thoughtful design of chatbot interactions and ongoing monitoring.

2. Fraud Detection

- **Master Data Management:** Rated 3. Fraud detection systems ingest data from a variety of sources - customer profiles, transaction logs, device information, and

more. Consolidating and unifying this data for a comprehensive view can be a challenging process, hence the moderate rating.

- **Reference Data Management:** Rated 4. Fraud detection utilizes extensive reference data such as known fraud patterns, risk scores, and blacklisted entities. This data is generally well-structured, updated periodically, and easy to manage, which justifies the high rating.
- **Metadata Management:** Rated 3. Metadata in fraud detection can be complex, encompassing customer identifiers, transaction timestamps, device metadata, and classification tags. Managing this metadata to enable effective fraud detection can be challenging but feasible.
- **Big Data Management:** Rated 2. Fraud detection systems must process vast volumes of real-time transaction data, making this a complex area of management. It requires robust big data infrastructure capable of processing and analyzing data at high speeds, hence the lower rating.
- **Data Quality Management:** Rated 3. Ensuring accuracy and completeness of transaction data for fraud detection is essential but can be challenging. Incorrect or incomplete data can lead to false positives or negatives, affecting the system's accuracy.
- **Data Architecture:** Rated 3. Effective fraud detection often necessitates advanced data architectures capable of real-time processing, machine learning capabilities, and integration with various data sources, leading to a moderate rating.
- **Data Retention/Archiving:** Rated 3. Fraud detection data often needs to be retained for extended periods due to regulatory requirements. Storing this data securely while ensuring its availability can be complex.

- **Privacy/Security:** Rated 2. Fraud detection deals with sensitive personal and financial data. Ensuring this data is stored securely and used in compliance with data privacy regulations is a significant challenge, hence the low rating.
- **Ethical Data Management:** Rated 3. The use of customer data in fraud detection requires careful ethical considerations, particularly around data minimization, fairness, and transparency. This is a sensitive area and requires stringent oversight and management.

3. Credit Scoring

- **Master Data Management:** Rated 3. Master data management for credit scoring involves coordinating and integrating multiple, diverse data sources. This might include personal details, credit histories, income statements, and other relevant financial information. Ensuring accuracy and consistency across these datasets can be a complex undertaking.
- **Reference Data Management:** Rated 4. The reference data used in credit scoring, such as risk categories, credit score scales, and loan classification data, are usually well-structured and standardized, making their management relatively straightforward.
- **Metadata Management:** Rated 3. Metadata in credit scoring can be multifaceted, including loan identifiers, customer demographics, and transaction dates. Managing and maintaining this metadata in a usable, consistent format can be moderately challenging.
- **Big Data Management:** Rated 3. Credit scoring models may require the processing of large volumes of data from various borrowers, demanding efficient big data management capabilities. The need for real-time updates and calculations can add to the complexity.

- **Data Quality Management:** Rated 3. The quality of borrower data directly impacts the reliability of credit scores. As such, ensuring the accuracy, completeness, and timeliness of this data is critical, but can be challenging given the diversity of sources.
- **Data Architecture:** Rated 3. Modern credit scoring often utilizes advanced analytics and machine learning, which may necessitate a more complex data architecture that can handle these operations.
- **Data Retention/Archiving:** Rated 3. Credit scoring often requires historical data, both for scoring purposes and regulatory compliance. Balancing the need for accessibility of this data with the requirements for secure storage and data lifecycle management can be moderately complex.
- **Privacy/Security:** Rated 2. Credit scoring involves the handling of sensitive personal and financial data. Ensuring privacy and security, particularly in line with stringent data protection regulations, is a critical and challenging aspect of this transformation opportunity.
- **Ethical Data Management:** Rated 2. Ensuring ethical, fair, and unbiased credit scoring is a significant concern. This involves the ethical handling of data to avoid discrimination or bias, which can be a challenging and sensitive area to manage.

4. NLP for Customer Contracts

- **Master Data Management:** Rated 2. The diverse and complex nature of contract information makes master data management quite challenging. Contracts often contain various forms of structured and unstructured data, each with its unique semantic and contextual dependencies, which require meticulous organization and cross-referencing.

- **Reference Data Management:** Rated 3. Reference data, such as contract types, terms, or standard clauses, are generally well-defined and easier to manage. However, the variability of contracts across different industries, regions, or organizational functions can introduce complexities.
- **Metadata Management:** Rated 3. Contracts often carry extensive metadata, including contract parties, effective dates, or jurisdictional information. Given their legal and operational significance, this metadata requires meticulous management and consistency checks.
- **Big Data Management:** Rated 2. Depending on the scale of the organization and the volume of contracts, managing, processing, and analyzing these contracts may necessitate the adoption of big data strategies, especially when contracts are to be analyzed at scale.
- **Data Quality Management:** Rated 3. Ensuring the accuracy, completeness, and timeliness of contract data is crucial for reliable analyses and operations. This could involve processes for data cleaning, anomaly detection, and error correction, particularly for manual or OCR-derived contract data.
- **Data Architecture:** Rated 2. Deploying NLP for customer contracts may require a more complex data architecture, accommodating for unstructured text data, NLP pipelines, and semantic analysis tools. Such systems need to handle a range of tasks from text extraction to concept mapping and relationship identification.
- **Data Retention/Archiving:** Rated 2. Legal and compliance requirements often dictate long-term retention and availability of contracts. Effective strategies are needed for secure storage, efficient retrieval, and controlled disposal of contract data in line with these obligations.

- **Privacy/Security:** Rated 2. Customer contracts often contain sensitive and confidential information. Thus, robust measures for data privacy and security are a must. This may involve access controls, encryption, anonymization, and secure data transfer protocols.
- **Ethical Data Management:** Rated 3. Ethical considerations arise around the appropriate use of contract data, including respecting confidentiality and privacy, avoiding biased interpretation, and ensuring transparency in how contract data are analyzed and used.

5. Portfolio Management

- **Master Data Management:** Rated 3. The complexity of master data management in portfolio management arises from the wide range of investment types, such as equities, bonds, funds, derivatives, each with their unique data requirements. Harmonizing and unifying these diverse data sources is a significant challenge and essential for an accurate portfolio overview.
- **Reference Data Management:** Rated 4. Reference data, such as asset categories, risk ratings, and investment classifications, are typically well-structured and relatively stable, making them easier to manage. However, maintaining up-to-date reference data, especially with evolving market products, is crucial.
- **Metadata Management:** Rated 3. The metadata associated with portfolio management, such as time of transactions, investment categorizations, or risk ratings, can add complexity. Properly managing these data helps provide context and ensure correct interpretation of the portfolio's composition and performance.
- **Big Data Management:** Rated 3. Portfolio management often involves handling a substantial volume of data, including real-time market data and historical

performance data of various investments. This can demand advanced big data solutions for efficient processing and analysis.

- **Data Quality Management:** Rated 3. The accuracy and timeliness of data are critical in portfolio management. Any inaccuracies in price, performance, or risk data could significantly impact investment decisions, hence the need for robust data quality management processes.
- **Data Architecture:** Rated 3. Portfolio management can require sophisticated data architectures, especially for real-time decision making, scenario analysis, or risk modelling. These architectures need to support large data volumes, fast processing, and advanced analytics.
- **Data Retention/Archiving:** Rated 3. For performance tracking and regulatory compliance, portfolios often need to be monitored over extended periods. This necessitates effective data retention and archiving strategies, balancing between data availability, storage cost, and legal requirements.
- **Privacy/Security:** Rated 2. Portfolio data is sensitive, often revealing detailed insights about investors' wealth, risk appetite, and investment strategy. Ensuring robust privacy and security measures, such as data encryption, secure access, and regulatory compliance, is critical.
- **Ethical Data Management:** Rated 3. Ethical considerations in portfolio management can include ensuring fair access to investment opportunities, respecting data privacy, and maintaining transparency in investment strategies and decisions. Proper guidelines and controls should be in place to meet these ethical obligations.

6. High Frequency Trading and Algorithmic Trading

- **Master Data Management:** Rated 2. The primary challenge in HFT/AT is managing continuous, real-time data streams from various sources like stock exchanges, news feeds, social media, and more. The velocity, volume, and variety of data make master data management a complex task.
- **Reference Data Management:** Rated 4. Reference data, such as instrument codes, exchange identifiers, or trading venue information, are typically well-structured, stable, and easier to handle. However, their management requires precise synchronization with real-time market data for accurate trading execution.
- **Metadata Management:** Rated 3. Metadata in HFT/AT helps understand the context of data and supports decision-making algorithms. This can be complex, given the speed at which trading decisions are made and the intricacy of trading strategies.
- **Big Data Management:** Rated 2. The sheer volume and velocity of data in HFT/AT pose significant big data challenges. This requires state-of-the-art big data solutions capable of processing and analysing data streams in real-time for instantaneous trading decisions.
- **Data Quality Management:** Rated 2. Data quality is paramount in HFT/AT as any data inaccuracies can lead to flawed trading decisions with potentially significant financial consequences. Ensuring data accuracy, timeliness, and completeness in such high-speed environments is a major challenge.
- **Data Architecture:** Rated 2. The need for low-latency data processing and high-speed trading execution demands a complex and robust data architecture. This architecture must support real-time data streams, quick data storage and retrieval, and the integration of advanced analytics and AI models.

- **Data Retention/Archiving:** Rated 3. Despite the transient nature of trading data, regulations and the need for back testing trading strategies often necessitate longer data retention periods. This balance between retaining historical data for analysis and complying with data privacy regulations adds complexity to data governance.
- **Privacy/Security:** Rated 4. While data security is always a concern, most data in HFT/AT is market-related and not personal, making privacy concerns less pronounced. Nonetheless, safeguarding proprietary trading algorithms and ensuring the integrity of trading systems remains a key security consideration.
- **Ethical Data Management:** Rated 3. Ethical issues in HFT/AT can involve ensuring fair trading practices, avoiding market manipulation, and addressing algorithmic biases. The management of these ethical considerations requires robust compliance programs and continuous oversight.

7. Investment Predictions

- **Master Data Management:** Rated 3. Various types of data, such as historical prices, economic data, and company financials, need to be collected, cleaned, and standardized. As the data can come from multiple sources and in various formats, managing the master data can be quite challenging.
- **Reference Data Management:** Rated 4. The reference data used in investment predictions, such as asset identifiers or historical market data, are generally stable and well-structured. Hence, managing this data is less challenging.
- **Metadata Management:** Rated 3. Metadata helps in understanding the context and characteristics of the data used in investment predictions. Given the complexity of investment models and the variety of data sources, managing this metadata can be a bit complex.

- **Big Data Management:** Rated 3. Investment predictions can often involve substantial volumes of data. Therefore, robust big data solutions are required to handle this data effectively, especially if real-time analysis is needed.
- **Data Quality Management:** Rated 3. The accuracy of investment predictions is highly dependent on the quality of input data. Ensuring this data is accurate, complete, and timely can be a challenging task, especially when it comes from various sources.
- **Data Architecture:** Rated 3. The use of advanced analytics and machine learning models in investment predictions often requires a more complex data architecture. This architecture needs to support high-speed data processing and model training/testing, adding to the management complexity.
- **Data Retention/Archiving:** Rated 3. Historical data forms a crucial part of the inputs for predictive models. Therefore, longer retention periods may be needed, which makes the management of data retention and archiving more complex.
- **Privacy/Security:** Rated 4. As most data used in investment predictions is market-related and not personal, privacy concerns are less pronounced. However, maintaining the confidentiality of proprietary models and ensuring the security of investment data is still important.
- **Ethical Data Management:** Rated 3. Ethical considerations in investment predictions could involve avoiding biases in predictive models or ensuring that sensitive information is not used as input to these models. Managing these considerations requires careful oversight and strong ethical guidelines.

8. Process Automation

- **Master Data Management:** 4. The data used in process automation is typically well-defined, making master data management simpler.

- Reference Data Management: 4. Reference data, such as process definitions, are usually well-structured and easier to manage.
- Metadata Management: 4. Metadata about processes are typically well-defined, simplifying management.
- Big Data Management: 3. Depending on the scale of the processes being automated, substantial data may need to be managed.
- Data Quality Management: 4. The quality of process data is usually easier to control.
- Data Architecture: 4. The data architecture for process automation is typically less complex than for advanced analytics applications.
- Data Retention/Archiving: 3. Process data needs to be retained for audit and improvement purposes, requiring effective management.
- Privacy/Security: 4. As process automation mainly deals with non-personal data, privacy and security considerations are typically less complex.
- Ethical Data Management: 4. Ethical considerations are generally less complex in process automation.

9. Consumer Marketing and Cross-Selling

- Master Data Management: 3. Given the need to consolidate customer data across different channels and services, managing master data could be challenging.
- Reference Data Management: 4. Reference data, like product or service categories, are typically well-defined and relatively easier to manage.
- Metadata Management: 4. Most marketing metadata are well-defined, which eases management.
- Big Data Management: 3. Considering the volume of customer data across different touchpoints, effective big data management solutions are essential.

- Data Quality Management: 3. Ensuring the accuracy and completeness of customer data can be challenging, but it is crucial for effective marketing and cross-selling.
- Data Architecture: 3. Given the need for customer segmentation, recommendation systems, etc., a more sophisticated data architecture might be required.
- Data Retention/Archiving: 3. Compliance with data retention policies and regulations, especially for customer data, could be complex.
- Privacy/Security: 2. Given the sensitivity of customer data, robust privacy and security measures are crucial.
- Ethical Data Management: 3. There are ethical considerations related to respectful and non-invasive marketing practices.

10. Trade Settlements

- Master Data Management: 3. Trade settlements involve various types of data from different sources, which can be challenging to manage.
- Reference Data Management: 4. Reference data is typically well-structured and easy to manage.
- Metadata Management: 4. Trade settlements generally involve well-defined metadata.
- Big Data Management: 3. While not as demanding as HFT, trade settlements still involve a substantial volume of data.
- Data Quality Management: 3. Ensuring the accuracy of transaction data can be a challenge.
- Data Architecture: 3. The need for fast, reliable processing can make data architecture more complex.

- Data Retention/Archiving: 3. Regulatory requirements may require longer retention periods.
- Privacy/Security: 3. Trade settlements involve sensitive financial data, necessitating robust privacy and security measures.
- Ethical Data Management: 4. Ethical considerations are generally less complex in trade settlements.

11. Automated Wealth Advisor (Wealth Bot)

- Master Data Management: 3. Wealth bots need to manage diverse customer data and market information, which can make master data management challenging.
- Reference Data Management: 4. Reference data, such as investment categories, are typically well-defined and easier to manage.
- Metadata Management: 3. Metadata related to investment advice can be complex.
- Big Data Management: 3. Considering the volume of customer and market data, efficient big data management solutions are required.
- Data Quality Management: 3. The quality of the data is crucial for providing accurate and reliable advice.
- Data Architecture: 3. Advanced analytics and AI used in wealth bots may require a complex data architecture.
- Data Retention/Archiving: 3. Due to the need for historical data for advice and compliance, managing data retention and archiving could be complex.
- Privacy/Security: 2. Given the sensitive nature of customer financial data, stringent privacy and security measures are needed.
- Ethical Data Management: 3. Ethical considerations arise in ensuring fair and unbiased advice.

Summary – Data Governance and Compliance Matrix

Use Case	Master Data Management	Reference Data Management	Metadata Management	Big Data Management	Data Quality Management	Data Architecture	Data Retention/ Archiving	Privacy/ Security	Ethical Data Management	Average Scores
Chatbots	4	4	4	3	4	4	4	3	4	3.778
Process Automation	4	4	4	3	4	4	3	4	4	3.778
Trade Settlements	3	4	4	3	3	3	3	3	4	3.333
Investment Predictions	3	4	3	3	3	3	3	4	3	3.222
Consumer Marketing and Cross-Selling	3	4	4	3	3	3	3	2	3	3.111
Portfolio Management	3	4	3	3	3	3	3	2	3	3.000
Wealth Bot	3	4	3	3	3	3	3	2	3	3.000
Fraud Detection	3	4	3	2	3	3	3	2	3	2.889
Credit Scoring	3	4	3	3	3	3	3	2	2	2.889
HFT and Algorithmic Trading	2	4	3	2	2	2	3	4	3	2.778
NLP for Customer Contracts	2	3	3	2	3	2	2	2	3	2.444

Synopsis – Data Source Assessment Ratings

In the context of Global FinTech Corp. exploration into various use cases for AI in the financial services industry, the evaluation of each use case's data management complexity has been considered across several dimensions, including Master Data Management, Reference Data Management, Metadata Management, Big Data Management, Data Quality Management, Data Architecture, Data Retention/Archiving, Privacy/Security, and Ethical Data Management.

The use cases of Digital Personal Assistants/Chatbots and Process Automation rank highest in terms of ease of data management, each with an average score of 3.778 out of 5. These areas involve a significant amount of customer interaction data and straightforward reference data, making it easier to manage. However, the high volume of data in these cases could pose challenges in Big Data Management.

Trade Settlements and Investment Predictions follow with average scores of 3.333 and 3.222, respectively. For these, the diversity of data sources and the need for real-time data processing are factors that contribute to their complexity.

Consumer Marketing and Cross-Selling, Portfolio Management, and Automated Wealth Advisor (Wealth Bot) have similar scores, reflecting the balance between the complexities of handling diverse data sources and the benefits of relatively straightforward reference data.

Fraud Detection and Credit Scoring score lower, at 2.889, due to the critical need for high data quality, data privacy, and security, coupled with the complex data architecture necessary for real-time processing.

High Frequency Trading and Algorithmic Trading (HFT and Algorithmic Trading) score lower at 2.778 because of the complexity in managing real-time, high-volume data, and ensuring high data quality.

Natural Language Processing (NLP) for Customer Contracts has the lowest average score at 2.444. This area involves handling diverse and complex data, long retention periods due to the nature of contracts, and managing the privacy and security of sensitive information within contracts.

In summary, while all these use cases present unique opportunities for AI transformation in the financial services industry, they also pose varying levels of challenges in data governance and data compliance considerations.

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