

AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region

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Abstract

The foreign exchange (FX) market moves over USD 7.5 trillion every day, yet many small and medium-sized enterprises (SMEs) in the Middle East and North Africa (MENA) still depend on outdated banking systems that slow transactions and raise costs. This exploratory study focuses on SMEs in the United Arab Emirates (UAE) to see whether a 24/5 AI-powered FX platform could make currency exchanges faster, clearer, and more reliable. The analysis draws on six interviews with FX professionals and SME managers supported by secondary data. The findings show that SMEs want quicker execution and real-time visibility but remain cautious about trusting automated systems. While based on a small UAE sample, the study offers early evidence of how such a platform could reduce timing risks and support better FX decisions, with insights that may guide future research across the MENA region.

Keywords: artificial intelligence (AI), foreign exchange (FX), small and medium-sized enterprises (SMEs), cross-border payments, currency conversion, exchange rate optimization, regulatory compliance, Middle East and North Africa (MENA), digital banking

1. Introduction

Every day, over USD 7.5 trillion changes hands in the global foreign exchange (FX) market, yet the systems that power these transactions for small and medium-sized enterprises (SMEs) and retail customers often lag decades behind those used by major financial institutions (Bank for International Settlements, 2022). While multinational corporations can trade in milliseconds using algorithmic platforms, SMEs importing raw materials or expatriates sending remittances back home frequently wait hours, or even days, for rates to be confirmed. In the Middle East and North Africa (MENA) region, where remittance inflows reached USD 56 billion in 2022 and SMEs represent 80–90% of private-sector businesses (World Bank, 2023; Wilson Center, 2024), these delays translate into lost revenue, reduced competitiveness, and missed opportunities.

Current FX processes in many regional banks remain restricted to business hours (9–5) and depend heavily on the availability of treasury dealers (The Global Treasurer, 2023). When a dealer is in a meeting, on leave, or otherwise unavailable, clients are forced to wait, sometimes missing optimal market rates entirely. In smaller banks, the challenge is compounded by fewer dealers handling disproportionately high transaction volumes. For SMEs with narrow profit margins, even minor delays or suboptimal rates can disrupt cash flows and erode profitability (Goldman Sachs, 2022).

The shortcomings are not only operational but also informational. Most SME-oriented FX platforms focus narrowly on price execution, offering static charts with limited context. Few provide insight into the drivers of currency movements or guidance on the optimal time to transact (Forbes, 2023). This is where innovations like rate optimisation, meaning getting the best possible exchange rate without unnecessary delays; compliance automation, which refers to automatically completing required checks such as Know Your Customer (KYC) and Anti-Money Laundering (AML); and predictive analytics, which use past and current data to forecast likely currency shifts, become crucial (IMF, 2019).

This study addresses these gaps by asking: **To what extent can an AI-powered, 24/5 FX trading platform improve transaction efficiency, rate competitiveness, and decision-making for SMEs and in the MENA region?** Based on a small, exploratory sample of six semi-structured interviews with FX professionals and SME decision-makers in the United Arab Emirates (UAE), supported by secondary market data, this paper frames its findings as indicative rather than generalizable.

The **hypothesis** proposes that integrating real-time market data, predictive analytics, and personalized trade recommendations into a digital FX platform will enhance decision-making for SMEs while potentially increasing transaction volumes for banks.

The **value proposition** is twofold: potential economic development for banks through increased FX transaction volumes, and financial empowerment for consumers through faster, fairer, and more informed currency exchanges. By operating 24 hours a day, five days a week, the AI-powered platform would merge competitive rate execution with integrated market news, currency-specific updates, and tailored trading signals based on a user's transaction history, cash flow patterns, and preferred currency pairs. Over time, the platform's learning algorithms would refine their recommendations, creating a feedback loop that benefits both SMEs and their banking partners.

This paper presents an exploratory qualitative study conducted in the United Arab Emirates (UAE), where the financial services sector provides an early indicator of how AI may shape SME foreign exchange practices in the wider MENA region. Given its small, UAE-based sample, the study offers indicative insights that could guide future multi-country research and platform development.

To investigate this, the study evaluates the viability and market demand for such a platform, situating it within the existing competitive landscape and highlighting both opportunities and concerns raised by participants. While based on a UAE sample, the research may also offer indicative insights into challenges faced by SMEs across the wider MENA region.

2. Methodology

2.1. Procedure

This study employed a 2-pronged approach, combining qualitative primary research through semi-structured expert interviews with quantitative and qualitative secondary data analysis. The aim is to evaluate the impact of AI-powered FX



trading platforms on the performance of SMEs in the MENA region. The primary data collection focused on eliciting firsthand perspectives from industry experts and frequent FX users to identify perceived operational, financial, and strategic benefits and the risks of AI integration in FX trading. The secondary data collection complemented this by examining real-world market performance metrics, adoption trends, and macroeconomic indicators from reliable databases, industry reports, and consultancy publications (McKinsey, 2024; PwC, 2024). This study adopts an exploratory, pilot design, focusing on six UAE-based participants to provide early qualitative insight into SME FX behaviour and perceptions of AI tools.

Five of the interviews were conducted virtually via Zoom, while one was conducted face-to-face in a formal business setting. All participants were briefed on the study’s purpose and scope before the interview. They were also provided with the questions beforehand in order to be fully prepared before the interview and therefore give the best, most thought-out answers. All interviews lasted between 30 to 40 minutes, depending on the participant’s role complexity and the depth of their responses. Scheduling around peak FX market hours was challenging; however, holding meetings in the morning or after 6:00 PM GST, combined with flexibility and assurances of anonymity, proved most effective in maximizing participation.

In terms of structure, interviews were broken into two sections. First, every interview began with a set of seven core open-ended questions (Table 1) on FX market volatility, SME banking challenges, and AI platform integration, including issues of trust, transparency, and efficiency. These questions were deliberately phrased to be broad enough for participants from different industries to answer meaningfully, while still addressing the central problem under investigation. This ensured comparability across responses while also preventing insights from being skewed toward a single professional context and keeping the data relevant to the research hypothesis.

Table 1: Core Interview Questions and Purpose.

Core Question	Purpose / Link to Research Objective
How do you currently manage foreign exchange transactions, and what challenges do you face?	To identify baseline operational processes and existing pain points that AI might address.
What is your awareness and understanding of AI-powered FX platforms?	To assess current market knowledge and identify information gaps.
How would faster transaction execution or predictive currency modelling affect your operations or decision-making?	To explore perceived efficiency gains and their strategic implications.
What level of trust would you place in AI-driven decision-making for high-value transactions?	To investigate adoption barriers related to trust and control.
How important are compliance, security, and regulatory	To determine the weight of non-performance factors in

alignment in your choice of FX platform?	adoption decisions.
If cost savings could be demonstrated, would that influence your decision to adopt AI-powered FX solutions?	To measure the importance of cost-effectiveness as a driver for adoption.
How would integration with existing banking systems and workflows affect your willingness to adopt such platforms?	To assess the impact of compatibility and integration on adoption likelihood.

Note: Questions were created by the author of this paper.

The second section of each interview contained a customized question tailored to the participant's professional background, designed to capture sector-specific nuances that generic questions might overlook. Table 2 presents these customized questions, showing how each participant's sector informed the additional inquiry and ensured meaningful cross-industry comparison while also probing for unique challenges and opportunities.

Table 2: Customized Interview Questions by Participant Field.

Participant Code	Participant Sector	Custom Question	Purpose
P1	SME Owner (E-commerce)	How could automated FX hedging protect your business from sudden currency volatility during peak sales periods?	To link the proposed platform's hedging features to retail transaction protection and assess SME owners' willingness to adopt.
P2	Corporate Finance Manager	What impact would automated liquidity tracking have on your treasury operations?	To evaluate how the platform could improve efficiency in treasury operations and gauge preference for automation in corporate finance
P3	Fintech Consultant	How could predictive analytics in FX help your clients scale cross-border operations?	To identify adoption strategies driven by consultants and determine interest in recommending the platform to clients.
P4	Compliance Officer	How would embedded regulatory reporting tools change your compliance workflows?	To understand how the platform could reduce legal risks and capture compliance

			officers' preferences for automated reporting
P5	Retail Trader	How might AI-generated trade signals change your daily decision-making?	To explore how the platform's trade signals enhance individual trading strategies and assess trader openness to AI guidance
P6	Import/Export Manager	How could AI-based FX forecasting improve your supplier payment schedules?	To assess how the platform stabilizes global supply chains and determine managers' preferences for integrated forecasting tools.

Note: Questions were created by the author of this paper.

2.2. Participants

Participants were selected using a combination of purposive sampling and expert sampling, both of which are non-probability sampling techniques chosen to ensure direct relevance to the research objectives. Compared to probability-based methods such as random sampling, which aim for representativeness across a population, purposive and expert sampling prioritize specialized insight from a smaller, highly qualified group, making them particularly effective for exploratory research in the FX industry, where domain-specific knowledge is essential (Gentles et al., 2015).

Purposive sampling was applied to deliberately select individuals with direct, professional exposure to FX transactions, treasury operations, or high-volume cross-border finance, which naturally concentrated the sample in finance- and commodity-linked sectors to ensure that only participants with the most relevant backgrounds were included (Palinkas et al., 2015). In parallel, expert sampling was employed to specifically target individuals with a proven track record in making high-value FX-related decisions likely to be influenced by AI-driven platforms (Etikan et al., 2016).

The criteria for the interviewees focused on individuals with professional involvement in FX transactions, treasury operations, commodity trading, or corporate financial strategy, as well as familiarity with either the operational or user end of FX trading platforms in the MENA region. These participants were identified and recruited through professional networks, introductions within the industry, cold emails, and targeted outreach to individuals known for their involvement in strategic currency exchange decisions.

The final sample comprised five male participants and one female participant aged between 37 and 54 years, all residing in the UAE, reflecting the conditions and practices of SMEs operating in the MENA region. Their roles spanned from executive leadership in multinational corporations to senior management in banking and treasury operations, as well as high-value retail FX users. Table 3 provides an overview of the participant profile.



Table 3: Participant Profiles.

Participant Code	Age	Sex	Professional Role	Industry Sector	FX Transaction Context
P1	42	Male	Chief Investment Officer (CIO) for a Private Investment Firm	Asset Management	High-value portfolio hedging and diversification
P2	54	Male	Chief Executive Officer (CEO) of an Oil and Gas Company	Commodities & Exports	Hedging against commodity-linked currency exposure
P3	49	Male	Managing Director of a Jewellery Group	Precious Metals	Gold-linked FX hedging for raw material imports
P4	45	Male	Managing Director of a Trading & Arbitrage House	International Trade	Multi-currency arbitrage and liquidity management
P5	37	Female	Senior Professional and Remittance User	Personal & Mortgage Payments	Regular monthly cross-border remittances
P6	43	Male	Head of Treasury Sales in a Bank	Banking & Financial Services	Corporate FX product structuring and client advisory

Note: Created by researcher (the author of the paper).

2.3. Measures

The interview questions were designed to map directly to the analytical constructs relevant to the study's hypothesis. Timing risk, which is the chance of missing a favourable exchange rate because a transaction cannot be executed at the right moment, captures how AI might help SMEs reduce exposure to sudden currency movements; platform trust reflects

the willingness to rely on AI for high-value transactions; and perceived efficiency gains describe expectations for faster execution, reduced costs, and improved accuracy.

Responses were thematically analyzed using Braun and Clarke's reflexive method (2006), a widely used approach for identifying and interpreting recurring patterns in qualitative data. This method was chosen because it supports both inductive coding, where themes emerge directly from participants' responses, and deductive coding, where analysis is guided by the study's objectives (Braun & Clarke, 2012). Codes were first generated from the transcripts and then grouped into broader themes to ensure consistency and transparency in the analysis. All coding was conducted by a single researcher to maintain coherence across the dataset; however, this introduces potential interpretive bias, which was mitigated by maintaining detailed notes and conducting a secondary review of all coded segments. To maintain transparency, a simple audit trail was kept by recording coding decisions and reviewing them in a second pass to confirm consistency. Key themes included difficulties such as delays in confirming exchange rates, lack of access to dealers at critical times, concerns about the transparency of AI decision-making, and the overall pressure of high FX transaction costs.

2.4. Sentiment Analysis

Following the transcription, all interview responses were classified into positive, neutral, and negative categories using a manual sentiment classification process (Miles et al., 2014). This approach was chosen because it is the most efficient way to record participant opinions, while focusing on depth and nuance rather than statistical generalization, making it optimal for a small-scale study of this kind.

Positive statements like "significantly reducing execution times" (P6, Head of Treasury Sales) and "providing better predictive analytics for currency movements" (P1, CIO, Private Investment Firm) were classified as supportive because they showed clear enthusiasm and optimism toward adoption. Neutral statements like "AI models can definitely be efficient, but they depend on how high the quality of the input data is" (P1, CIO) were coded as mixed responses that neither strongly supported nor opposed adoption. Negative statements such as "banks can lose clients' trust if AI decisions cannot be explained" (P6, Head of Treasury Sales) were classified as critical because they expressed distrust, concerns about opacity, or fears of over-reliance on automation.

In cases where a statement contained both neutral and negative elements, such as one participant noting that "AI models can be efficient, but it really depends on the quality of the input data, and if that's wrong the system could completely mislead decision-makers," (P1, CIO) the broader interview context and emphasis were used to decide the dominant sentiment, which in this case led to classification as negative.

After classification, all transcripts were rechecked to confirm consistency and refine borderline cases. The number of statements in each category was then tallied to show the distribution of sentiments across the dataset, which is visually presented in the Results section. The coding was done by a single researcher, which helped keep the interpretation consistent across interviews, but also means there was no second coder to compare results with. This was partly addressed by reviewing all transcripts twice and keeping detailed notes on how each sentiment was classified, so the process stayed as transparent and repeatable as possible. This approach allowed the Results to build on a clear and traceable classification process.

2.5. Ethics and Data Management

Participants received a digital consent form outlining the study's objectives, their right to withdraw at any time, and



anonymity. All interviews were anonymized and coded (P1–P6) to remove identifying details. The interviews were also audio recorded with the interviewees' permission, then transcribed for further thematic and sentiment analysis. The sequence of the study began with participant recruitment, followed by structured scheduling, execution of interviews, transcription, sentiment analysis, and subsequent integration with secondary data findings.

2.6. Secondary Data Collection and Market Analysis

The secondary data research was conducted to triangulate the qualitative findings from the primary interviews with quantitative evidence from global and regional FX market studies, SME banking performance metrics, and AI adoption trends. The overarching goal was to address three core questions: How large is the potential market for AI-powered FX solutions? Which market segments are most likely to adopt these tools? And what are the projected growth patterns for this sector over the next five years?

Quantitative data collection focused on metrics such as global and regional FX transaction volumes, industry revenue growth rates, and market share distribution between incumbent banks and fintech entrants. Consultancy reports and open-access datasets were used to capture AI adoption trajectories. Qualitative data was sourced from consultancy insights, white papers, and fintech case studies, including reports from Accenture, Capgemini, BCG, and Deloitte. These sources consistently highlighted that platform trust, regulatory compliance, and operational efficiency are decisive adoption factors, closely aligning with the constructs explored in the primary research.

Challenges in conducting the secondary research included inconsistencies in reporting standards across regions and limited public access to proprietary adoption metrics. Nevertheless, by integrating high-quality consultancy reports with open-access financial datasets, this phase provided a reliable macro-level foundation for validating and contextualising the qualitative insights from the interviews. This section is presented as supporting context, ensuring that secondary data informs rather than overshadows the primary research findings.

3. Results

3.1. Primary Data Analysis – Interview Findings and Sentiment Patterns

Across the six interviews, a total of 95 coded statements were identified: 42 positive (44%), 30 neutral (32%), and 23 negative (24%). As shown in Figure 1, positive responses were the most common, followed by neutral and negative. This distribution suggests broad openness to an AI-powered FX platform, but only if it was transparent, reliable, and used responsibly.

Positive perspectives highlighted efficiency gains. P3 (Managing Director, Jewellery Group) explained that predictive alerts could help “pull the trigger at the right window,” reducing the delays that often cause firms to miss out on favourable exchange rates. Missing such opportunities due to waiting for dealer confirmation was repeatedly described by participants as “timing risk.” While this efficiency was welcomed, it also raised questions about whether automation could reduce the need for human dealers, a concern linked to job displacement.

Neutral views reflected conditional acceptance. P1 (Chief Investment Officer, Asset Management) recognized the value of predictive analytics but stressed the need for human oversight, warning that accountability could not rest entirely with a model. This showed how concerns about biased or incomplete data directly shaped participants' trust in AI recommendations.

Negative responses focused on risks of over-reliance and instability. P2 (CEO, Oil & Gas) argued that during volatile market



events, leaving hedging decisions to a model could amplify losses across portfolios instead of reducing them. This reflects a wider fear that automation, while useful in stable conditions, could actually increase volatility in moments of crisis.

Overall, participants expressed cautious optimism. They valued faster execution and smarter insights but consistently tied adoption to safeguards around explainability, compliance, and accountability. At the same time, several unresolved risks emerged. For instance, P1 and P6 warned that if models could not justify their recommendations, clients would resist, echoing wider concerns about algorithmic bias and opaque systems. P2 also noted that in volatile markets, relying on automated hedging might amplify losses rather than reduce them, showing how AI trained on stable conditions may fail in crises. Participants also questioned whether automation could reduce the role of human dealers, raising fears of job displacement. Together, these concerns suggest that adoption will depend not just on technical performance, but on whether safeguards around transparency, accountability, and human oversight are built in. Their views mirror broader debates in finance: AI has the potential to transform access and efficiency, but it also carries risks of bias, displacement, and instability. These findings set the stage for the secondary data analysis in the next section.

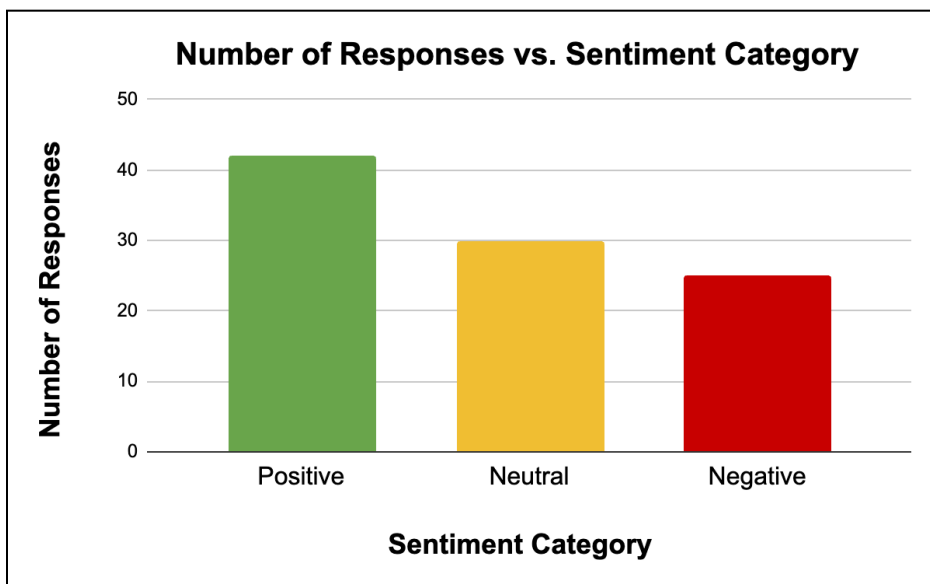


Figure 1: Distribution of Sentiments in Interview Responses.

Note: Created by the researcher using interview responses (Appendix A-F).

3.2. Secondary Data Analysis – Market Size, Growth, and Adoption

The wider market highlights the shifting context in which SMEs are operating. The Bank for International Settlements reported daily foreign exchange trading of USD 7.5 trillion in April 2022, underscoring the enormous scale of global FX activity where even small timing differences can alter outcomes (BIS, 2022). Traditionally, large banks dominated this space, but by 2024, non-bank providers were already handling up to 65% of personal cross-border transfers in some regions. McKinsey attributes this growth to simpler platforms, sharper pricing, and a better user experience (McKinsey, 2025). For banks in MENA, this signals intensifying competitive pressure: unless they innovate, their SME clients may look elsewhere for transparency and convenience.

Regional trends reveal a similar trajectory. PwC estimates that artificial intelligence could add USD 320 billion to MENA’s GDP by 2030, with financial services expected to capture a significant share (PwC, 2023). Remittances remain a vital driver, with flows reaching USD 55 billion in 2023. Policy changes directly shape these numbers: Egypt, for instance, saw inflows rise after exchange rate unification in March 2024 (World Bank, 2024). At the same time, the Financial Stability Board reported that over 90% of SWIFT wholesale payments in 2024 were settled within an hour, showing that regional infrastructure is already capable of handling the real-time processes an AI system would require. These developments are summarized in Figure 2.

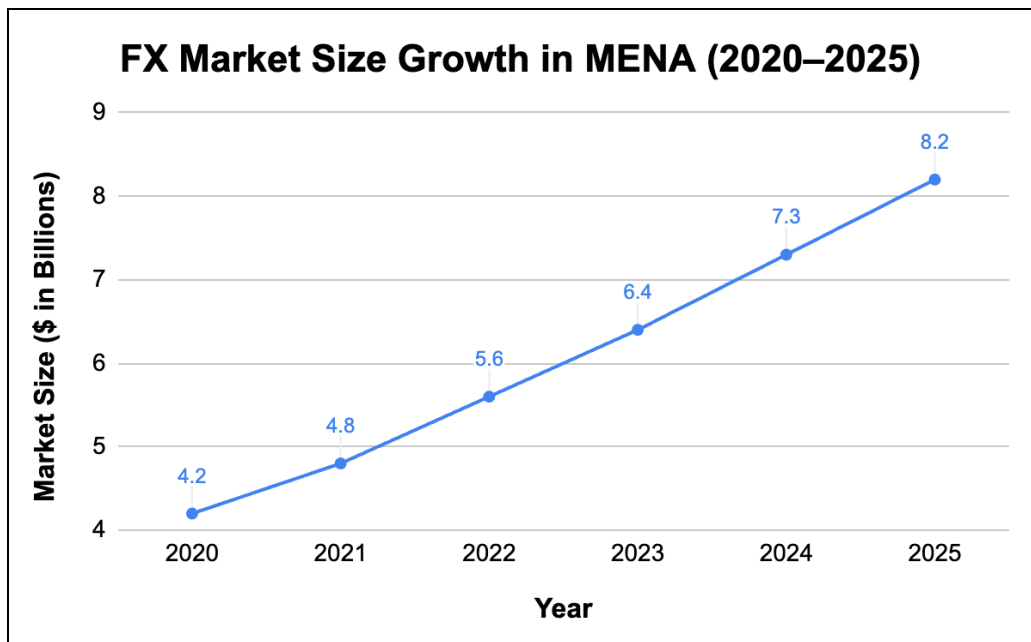


Figure 2: FX Market Efficiency and Regional Remittance Trends in MENA (2023–2024).

Note: Created by the researcher using secondary data from BIS (2022), FSB (2024), and World Bank (2024).

The global market further illustrates how technology is disrupting established practices. McKinsey (2024) projects that AI-enabled trading platforms will expand at a compound annual growth rate (CAGR, or average yearly pace of growth) of 11% through 2028. BIS (2023) data shows algorithmic and AI-assisted trades already make up about 28% of total FX transactions. Even the SME cross-border payments submarket, valued at USD 2.1 trillion annually, is forecast to grow by 18% in just five years if AI integration continues (Statista, 2024). These figures reflect not only a growing reliance on automation but also an accelerating shift in how FX decisions are being made.

Within MENA, the same dynamics are evident at a smaller but still significant scale. Statista (2024) valued the region’s FX market at USD 48.7 billion in 2023, with SME transfers making up 19% of that total. The SME banking sector itself has grown steadily at an annualized rate of 6.8% since 2020, with PwC projecting that AI-powered FX penetration could reach 35% by 2027. EY (2024) adds that banks already offering AI-enhanced FX retain SMEs at rates roughly 22% higher than competitors using traditional systems, reinforcing the idea that predictive insights and transparent recommendations are

becoming differentiators rather than optional extras.

The competitive picture shows that while global banks lead innovation, fintech challengers are rapidly capturing SME segments by promising faster settlement, predictive tools, and integrated compliance (Accenture, 2024). Adoption patterns differ across regions: Asia-Pacific has been growing at an annual rate of 32%, while MENA is close behind at 26%. Compared to the overall FX market’s steady 7% expansion, AI adoption is rising much faster. As Figure 3 shows, AI-enabled providers are projected to nearly double their market share by 2027, suggesting a fundamental reshaping of SME-focused FX services.

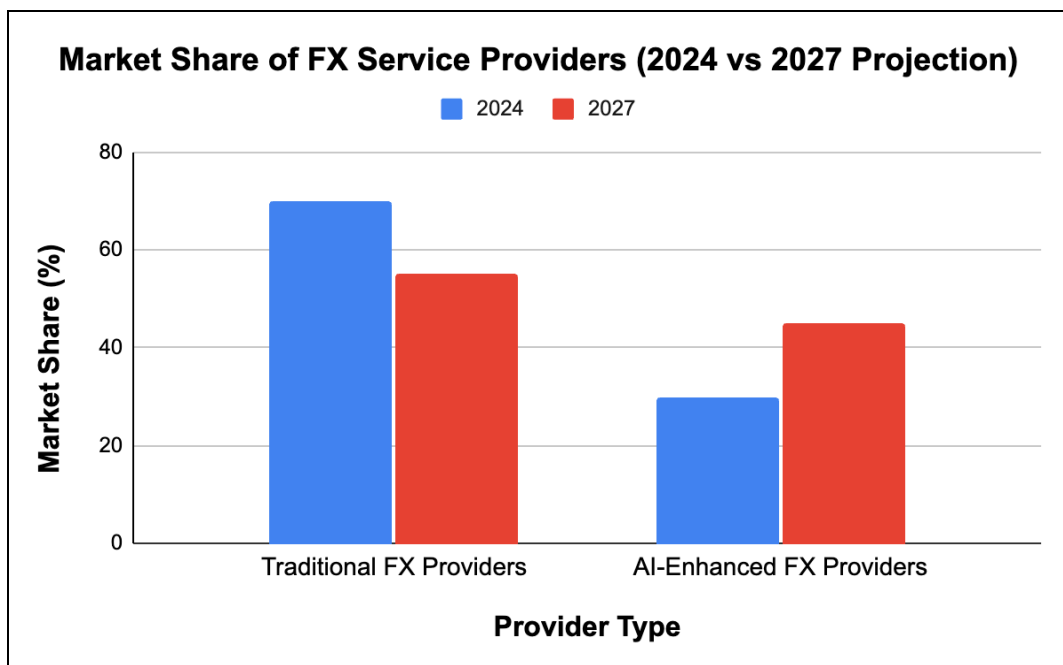


Figure 3: Market Share of FX Service Providers (2024 vs. 2027 Projection).

Note: Created by researcher using data from McKinsey (2024), PwC (2024), and Accenture (2024).

Taken together, these figures highlight both the scale of the opportunity and the competitive pressure facing banks and fintechs, setting the stage for the case study analysis in the next section.

3.3. Competitive Case Studies and Strategic Market Placement

To provide context for the interview findings, a short competitive analysis was carried out using the 5Ps of Marketing framework, comparing the proposed AI-powered FX platform with two existing market players: HSBC AI Markets and Emirates NBD businessONLINE. These platforms were chosen because they both operate in the FX space but serve different audiences, offering useful contrasts for how SMEs might be positioned.

HSBC AI Markets is a global leader offering advanced predictive analytics and integration features, but its services are designed mainly for large institutional clients, making them less accessible to SMEs. Emirates NBD businessONLINE, by contrast, is a regional platform that supports corporates and SMEs in the MENA region with convenient banking integration, though it lacks the depth of predictive analytics found in HSBC's offering.

The proposed platform seeks to position itself between these two competitors. Like HSBC, it would deliver predictive AI insights, but unlike HSBC, it would explain signals in plain terms (for example, linking an alert to a news event or data release) to avoid the "black box" problem raised by interview participants. Similar to Emirates NBD, it would be SME-focused and accessible, but it would offer more advanced analytics than most regional platforms. Costs would remain lower than institutional-level services, but more transparent than bundled banking packages.

Table 4 summarizes the comparison, showing where the proposed platform could provide an advantage and where it would face challenges in its early stages. The analysis is not presented as a definitive "result" of the study but rather as background context to situate the interview findings within the existing FX landscape.

Table 4: Competitive Analysis Using the 5 Ps of Marketing.

5 Ps	HSBC AI Markets	Emirates NBD businessONLINE	Proposed Platform
Product	HSBC AI Markets delivers advanced AI-driven FX analytics with global integration, offering high functionality and predictive capabilities that appeal to large corporations. However, its focus on institutional clients creates a barrier for SMEs, which often cannot access the same depth of AI tools.	Emirates NBD businessONLINE provides a comprehensive digital banking platform with FX services tailored to the MENA region, backed by strong brand trust, but lacks the predictive AI analytics of HSBC.	The proposed platform combines predictive AI timing advice tailored for SMEs with transparent, explainable insights, but as a new entrant, it will initially have a smaller product range compared to HSBC and fewer integrated banking services than Emirates NBD.
People	HSBC benefits from a vast global network of analysts, developers, and institutional client managers, giving it a significant human resource advantage, though this scale can make it less flexible for smaller clients.	Emirates NBD relies on experienced local relationship managers who understand regional business needs, but may have limited exposure to cutting-edge AI integration.	The proposed platform's strength lies in a specialized AI team working directly with SME relationship managers, ensuring personalized service, although the team will be smaller than those of established competitors.
Place	HSBC's services are accessible globally through the HSBC Evolve	Emirates NBD offers strong physical and digital coverage	The proposed platform will launch with targeted MENA

	platform, ensuring unparalleled geographic coverage, but its global focus means SMEs in MENA may not receive region-specific attention.	across the MENA region, but lacks reach beyond it.	coverage, offering tailored regional solutions, and will be built with scalable infrastructure for eventual global expansion. Initially, however, it will have a narrower footprint than HSBC.
Promotion	HSBC promotes its services through enterprise-focused marketing and research-based branding, which reinforces its reputation among large corporations but may not resonate with SMEs.	Emirates NBD uses regional marketing campaigns and partnerships that strengthen local visibility but offer limited international recognition.	The proposed platform will adopt a results-driven marketing approach, using SME case studies and measurable cost savings to build trust, though it will initially have lower brand recognition compared to established players.
Price	HSBC's premium pricing is designed for large corporations and delivers strong perceived value for institutional clients, but it creates a high entry threshold for SMEs.	Emirates NBD's FX services are bundled into broader corporate banking packages, which can be cost-effective for existing clients but less transparent for new customers.	The proposed platform will adopt competitive, transparent pricing focused on delivering measurable cost savings through optimal FX timing, but as a premium SME-focused service, it may still be priced higher than basic banking FX offerings.

Note: Created by the researcher based on company reports (HSBC, 2023; Emirates NBD, n.d.) and secondary market analysis.

4. Discussion

4.1. Interpretation of Key Findings

Findings from both primary and secondary research indicate that an AI-powered FX platform for SMEs in the MENA region could address persistent inefficiencies in rate transparency, trade timing, and execution. Interview participants, including treasury and trading executives, consistently highlighted difficulties in securing competitive FX rates, executing transactions at the right moment, and interpreting market drivers, challenges often compounded by manual processes or outdated tools (Interview Data, 2025). Secondary data reinforced these observations, pointing to growing SME demand for real-time



analytics, automated execution, and user-friendly platforms alongside broader AI adoption in financial services (McKinsey, 2024; PwC, 2024). Competitor analysis suggested a gap between institutional-grade AI solutions and SME-focused banking interfaces, where advanced capabilities and accessibility could converge. These findings align with research showing that SME digital transformation depends heavily on leadership readiness, perceived trust, and access to training (Akpan et al., 2022; Marques & Ferreira, 2020). At the same time, concerns highlighted in the literature, such as algorithmic bias, the displacement of human traders, and the potential for automated systems to amplify volatility during crises, remain unresolved and underscore the importance of explainable model logic and stress-period testing under volatile conditions in future work. Together, these insights suggest that the real test for AI adoption will lie not just in technical accuracy, but in whether SMEs can clearly understand, question, and trust the systems that guide their decisions.

4.2. Theoretical and Practical Implications

From a theoretical standpoint, the findings appear consistent with extensions of the Technology Acceptance Model (TAM), which emphasize that adoption in financial technologies depends not only on perceived usefulness and ease of use, but also on trust and transparency (Marques & Ferreira, 2020; Al-Okaily et al., 2022). Prior research on SME digital transformation further confirms that readiness, leadership commitment, and workforce capability strongly shape whether new technologies are embraced (Akpan et al., 2022). This reflects what several participants described as the “AI readiness gap,” where SMEs recognize the potential of AI but lack the confidence or internal skills to deploy it effectively. While these findings come from a small UAE-based sample, they offer an early look at how established adoption frameworks like TAM may play out in regional SME settings.

In practical terms, the interviews revealed that SMEs are most likely to adopt AI-powered FX platforms when the systems are transparent, well-integrated, and clearly beneficial to daily operations. As P6, a Head of Treasury Sales, noted, adoption will depend on the visibility of efficiency gains and the clarity of AI-driven recommendations, not on the technology’s complexity. Practically, the platform could help SMEs automate basic hedging strategies, receive AI-generated trade signals linked to market events, and complete cross-currency transactions with fewer delays if tested and validated in wider contexts. Yet readiness remains uneven: only 12% of SMEs have invested in AI training, while 52% cite a lack of internal skills and 29% identify insufficient training as barriers. Although 51% view AI as critical to competitiveness, just 27% feel capable of implementing it (TechRadar, 2024). These findings reinforce that for technology to deliver value, human understanding and trust must evolve alongside it.

4.3. Business Model Implications

Findings from both the interviews and secondary data highlight that SMEs tend to prioritize faster execution, transparent pricing, and predictable costs. If developed further, a B2B SaaS (Business-to-Business Software-as-a-Service) model could provide a suitable framework to meet these needs, allowing SMEs to subscribe to use the platform rather than purchasing it outright. Pricing could be tiered based on transaction volumes, with additional income from small margins on currency exchanges, known as FX spreads, or the small difference between buy and sell prices that banks charge. The aim is simple: give SMEs the tools to act quickly and confidently in currency markets, while making their transactions smoother and less risky. This reflects what P6, a Head of Treasury Sales, noted, that adoption would depend less on flashy technology and more on whether clients see efficiency gains and clear, transparent recommendations. The business model demonstrates how the interview findings and secondary data can be applied in practice, showing that SMEs’ concerns can translate into a workable platform design that addresses the gaps identified in the research. To move from concept to practice, the model also depends on the right partners who can provide the infrastructure and safeguards that SMEs expect.



Partnerships would be central to the platform’s success. Regional banks would provide **liquidity**, meaning they would supply the actual foreign currency needed for transactions so that SMEs can buy or sell without delays or large swings in price. Specialist providers would handle regulatory checks such as *Know Your Customer (KYC)* rules, which verify client identity, and *Anti-Money Laundering (AML)* requirements, which prevent illegal financial activity. Reliable data providers would keep the predictions accurate, and integration with existing banking systems would ensure transactions fit seamlessly into SME workflows. This links to P2, a CEO in the oil and gas sector, who emphasized that accountability during volatile periods must remain with management, highlighting why compliance and trust are so important and cannot be optional.

The platform’s main activities would focus on providing accurate exchange rate predictions, generating trading signals, and automating compliance tasks. These features would be reinforced by data security, regular updates, and clear explanations of recommendations. P5, a frequent remittance user, added that reliability in transfer speed and predictability are just as important as advanced analytics when deciding whether to trust a new platform.

To reach SMEs, the platform would combine direct sales with partnerships through banks and SME trade associations, as well as digital campaigns aimed at business users. Costs would primarily come from developing the AI models, maintaining security, and meeting regulatory requirements. Income would be generated not only from subscriptions and small currency margins, but also from optional services such as customized analytics for larger clients. This matches P3, a jewellery group director, who underlined that adoption would depend on transparent pricing and clear cost savings, rather than hidden fees.

To present the business model clearly, the elements have been grouped into two tables. Table 5 summarizes the front-facing aspects such as partners, activities, value proposition, customer relationships, and target users. Table 6 outlines the supporting resources, distribution channels, costs, and revenue sources.

Table 5: Business Model Canvas Front-End.

Key Partners	Regional banks for liquidity, compliance providers for KYC/AML checks, data suppliers for accurate forecasts, and payment providers for smooth transactions.
Key Activities	Real-time FX predictions, trade signal generation, compliance automation, platform maintenance, and user support.
Value Proposition	Faster and more transparent currency exchanges, with explainable AI insights and measurable savings for SMEs.
Customer Relationships	Dedicated support for high-volume SMEs, onboarding and training, regular performance reports, and self-service tools.
Customer Segments	SMEs in the MENA region that rely on cross-border payments but lack access to advanced treasury systems..

Note: Created by the researcher.



Table 6: Business Model Canvas Back-End.

Key Resources	Channels
AI engine, secure banking integrations, skilled teams in data and compliance, a multilingual interface, and a cloud infrastructure.	Direct sales, bank partnerships, SME trade associations, and targeted digital outreach via LinkedIn and industry-specific online portals.
Cost Structure	Revenue Streams
AI development, compliance and licensing, infrastructure hosting, and customer acquisition.	Subscription fees, small FX spread margins, integration/customisation fees for enterprise clients, and optional premium analytics.

Note: Created by the researcher.

By integrating these elements, the model ties directly to both the interviews and the secondary data. It recognizes the strong SME demand for speed and transparency while addressing systemic risks such as compliance burdens, uneven readiness, and the dangers of relying too heavily on automation. Positioned between global institutional platforms and basic regional services, this model offers a more transparent and accessible alternative for SMEs in the MENA region.

4.4. Limitations of the Research

This study's scope was constrained by a small participant pool of six interviewees, all based in the UAE, which limits how far the findings can be generalized to the wider MENA market. The sample also leaned heavily toward service-oriented SMEs and included five male and one female participant, creating gaps in gender balance and sector diversity. Reliance on self-reported interview data introduces potential response bias, as participants may have overstated challenges or understated satisfaction with existing systems. In addition, the absence of prototype testing meant that claims about usability and adoption remained hypothetical rather than validated in practice. Finally, gaps in SME-specific FX behaviour data in MENA required reliance on global fintech adoption trends, which may not fully capture regional dynamics. Overall, the findings offer an early view of emerging patterns rather than firm, generalisable conclusions.

Table 7: Limitations of the Research and Potential Sources of Bias.

Category	Potential Bias / Limitation	Impact on Findings	Mitigation / Future Action
Methodological Bias	Reliance on self-reported interview data	Participants may overstate challenges or underplay	Conduct prototype usability tests to observe real behaviours



		satisfaction with existing systems	
Sample Size & Composition	Only 6 participants, all based in the UAE	Limits how far the findings can be generalized to the wider MENA region	Expand the sample across more countries, industries, and transaction volumes
Gender Representation	5 male participants, 1 female	Underrepresents women-led SMEs, which may differ in risk tolerance or tech adoption	Ensure more balanced gender participation in future studies
Geographic Focus	All participants from the UAE	May not reflect SME challenges in other MENA markets with different banking and FX infrastructures	Include SMEs from Saudi Arabia, Egypt, and other high-trade MENA markets
Sector Representation	Overrepresentation of service-sector SMEs	Findings may miss the unique FX needs of manufacturing/export-heavy businesses	Target manufacturing and logistics SMEs in the next research phase
Self-Reporting Bias	Reliance on interview data	Responses may overstate challenges or understate satisfaction.	Combine interviews with prototype usability testing.
Time Constraints	No prototype testing within the study period	Usability and adoption claims remain hypothetical rather than tested	Build a pilot version (MVP) for testing with early adopters
Secondary Data Gaps	Limited SME-specific FX market behaviour data in MENA	Risk of over-relying on global fintech adoption trends	Commission local market reports or collaborate with regional trade bodies

Analytical Bias	Using a single-coder analysis may introduce interpretive bias in coding and theme generation.	Some themes may reflect the researcher's perspective more strongly than intended.	Use multiple coders or cross-validation in future studies to enhance reliability.
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Note: Created by the researcher.

4.5. Strategic Recommendations

To encourage adoption, the platform should first target frequent SME importers and exporters and offer short free trials. For example, an SME in Dubai importing machinery from Germany might normally wait two days for bank approval to confirm the euro-dirham rate. By the time the payment goes through, the euro may have strengthened, increasing costs. With the AI-powered platform, the SME could receive a predictive alert, lock in the rate instantly, and save thousands on a single transaction.

A phased rollout could begin in the UAE before expanding into other high-trade MENA markets. Because the interviews revealed uneven readiness, early marketing should highlight straightforward examples of cost savings and reliability rather than technical models, making the value easy to grasp. To keep acquisition costs low, campaigns could be run through SME-bank partnerships and supported with ROI-focused examples. Explainable AI would remain a core feature, reducing skepticism and addressing participant concerns about “black box” systems. Features such as multilingual support, mobile-first design, and integration with common SME accounting tools should be prioritized in future development. To test these ideas more rigorously, future research should include pilot prototypes and market studies in Saudi Arabia, Egypt, and other major trade hubs.

4.6. Alignment of Findings with the Hypothesis

As this is an exploratory study based on a limited UAE sample, the findings should be interpreted as early-stage indicators rather than region-wide conclusions. The findings partially support and illustrate elements of the hypothesis, indicating that an AI-powered FX platform has the potential to improve transaction efficiency, decision-making, and trust for SMEs, though these patterns remain preliminary. Interview participants emphasized faster execution, transparent pricing, and clearer guidance as key needs, all of which the proposed model is designed to address. These outcomes point toward a possible way to close gaps in how SMEs currently manage foreign exchange.

At the same time, the evidence is limited to six participants based in the UAE, and adoption readiness varied across sectors. This means the conclusions apply most directly to the UAE context rather than the wider MENA region. While the characteristics of high-trade emerging markets such as Saudi Arabia, Egypt, or even countries outside the region (e.g., India or Nigeria) suggest they could face similar SME challenges, such comparisons remain speculative without further research. Future studies should therefore expand the sample geographically and sectorally, and test early-stage prototypes, to validate whether the patterns observed in this study extend beyond the UAE. Overall, the study should be viewed as an exploratory pilot within the UAE context, offering early evidence that can guide larger regional research on AI-driven FX adoption.

5. Conclusion

While this research provides early evidence that AI could enhance FX accessibility and efficiency for SMEs, it should be seen as a starting point for further study rather than a definitive conclusion. This research examined inefficiencies in foreign



exchange (FX) services for SMEs in the MENA region, identifying a clear gap for a 24/5 AI-powered FX trading platform. Based on six interviews with SME managers and FX professionals in the UAE, the findings indicate that such a model has the potential to address common pain points of delays, limited transparency, and the lack of real-time insights that constrain SMEs today. By combining competitive rate execution, market intelligence, and explainable recommendations in a compliance-ready system, the platform has the potential to make cross-border transactions faster, clearer, and more accessible.

While findings cannot yet be generalized across MENA, they offer a foundation for testing how AI-driven FX tools might support SMEs under different regulatory and market conditions. The study also highlights how current offerings in the region leave SMEs underserved. Existing bank platforms provide basic execution but lack predictive insights or personalized guidance, while fintech tools often overlook compliance and integration needs. The interviews reinforced this gap: participants emphasized efficiency, reliability, and transparent recommendations as adoption drivers, but also expressed caution toward opaque systems. These findings illustrate that the hypothesis is supported in principle; the proposed model addresses unmet SME needs, but adoption will ultimately depend on trust, education, and integration with existing banking systems.

At the same time, the research was constrained by its small, UAE-based sample and service-sector bias. The lack of prototype testing and reliance on global fintech reports also limit how far the conclusions can be extended across the wider MENA region. While the modular design and compliance framework suggest adaptability, these characteristics remain untested. Future research should expand the sample geographically and sectorally, and evaluate prototype performance in markets such as Saudi Arabia and Egypt to validate whether the trends observed in this study hold more widely.

The contribution of this study lies in linking SME experiences to a practical framework that shows how AI could be positioned to make FX more inclusive. By reframing tools normally reserved for institutional players into services SMEs can use, the research highlights both commercial opportunities and developmental priorities. The platform is not presented as a proven solution but as an informed concept, one that, with continued development and validation, could enhance SME competitiveness and financial inclusion across the region.

6. Glossary

Term	Definition
AI-powered FX platform	A digital system that uses machine learning to help users time trades, check compliance, and execute currency transactions more quickly and clearly.
Foreign exchange (FX)	The global market where currencies are exchanged (e.g., AED⇌USD). Rates change constantly, creating both risk and opportunity.
SME (Small and Medium-Sized Enterprise)	A smaller business that often lacks in-house treasury systems and depends more on banks or platforms for FX services.

Timing risk	The risk of missing a good exchange rate because a trade could not be made in time (e.g., waiting for dealer approval).
Spread (FX spread)	The small difference between buying and selling prices in FX. Platforms often earn revenue from spreads.
Slippage	When a trade is executed at a slightly worse price than intended because of delays or fast market moves.
Hedging	Protecting against currency risk by locking in a rate ahead of time (e.g., fixing the USD rate for a future payment).
Spot trade	A currency exchange is settled at the current market rate, usually within two business days.
Forward contract	An agreement to exchange currencies at a set rate in the future, commonly used by SMEs to manage costs.
Swap	A financial tool for exchanging currencies across time, mainly used by large institutions to manage liquidity.
Liquidity	How easily a currency can be traded without moving its price. Major pairs are highly liquid; smaller ones are less so.
Volatility	How much and how quickly do exchange rates change? High volatility creates both risks and opportunities.
Predictive analytics	Using past and real-time data to forecast near-term currency moves, usually given as advisory signals.
Sentiment analysis	Measuring market “mood” from data, news, or prices to guide FX decisions.
Explainable AI	AI that provides clear reasons for its recommendations (e.g., linking a rate move to a news event). A “black box” gives outputs with no explanation.
KYC/AML (Know Your Customer / Anti-Money Laundering)	Compliance checks to verify identity and prevent financial crime.

Compliance	Following financial rules and regulations. Platforms in this study need to be “compliance-ready” to build trust.
B2B SaaS (Business-to-Business Software as a Service)	Subscription-based software is sold to businesses. The proposed platform uses this model with tiered pricing and transaction-linked revenue.
Onboarding	The process of setting up new clients, including KYC checks, account creation, and training.

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8. Appendices

Appendix A. P1: Chief Investment Officer (CIO) for a Private Investment Firm

Interviewer: Thank you so much for taking the time to speak with me today. Before we begin, did you get a chance to look at the questions I shared beforehand?

Participant: Yeah, I did. It was helpful to glance through them in advance, so thanks for sending those over.

Interviewer: Perfect. Just a reminder, everything you share will remain anonymous, and this is only for academic research. Is that alright?

Participant: Sure, that's fine.

Interviewer: Great. To begin, how do you currently manage foreign exchange transactions, and what challenges do you face?

Participant: Well, just to give you a bit of background, FX is tied into almost everything we do. We run pretty diversified portfolios, equities, bonds, some alternatives, and a lot of those are in different currencies. So we're always exposed to FX risk. Typically, we use forwards and options to hedge. For example, if we've got a big euro bond position, we'll lock in the forward rate so we're not caught out by a weaker euro. Sometimes we use swaps if it fits liquidity needs.

The challenges are... quite a few, honestly. **Timing is probably the biggest one. Even half an hour's delay can make a noticeable difference to returns when markets are moving. We often call this "timing risk" because missing the right window adds up quickly.** Liquidity is another headache. In big pairs like USD/EUR, it's fine, spreads are tight. But the moment you get into emerging markets, liquidity just disappears and spreads balloon, which eats into performance. And then costs... banks and brokers tack on margins. Individually, they don't seem like much, but across billions in trades, a few basis points here and there really matter. So, yeah, it's a mix of delays, liquidity gaps, and costs. Even small inefficiencies can really drag performance.

Interviewer: Right, I see. And what's your awareness or understanding of AI-powered FX platforms?

Participant: I've read about them and had a few fintechs pitch us. The usual sales pitch is predictive analytics, AI modelling likely moves in FX, plus faster, even automated, execution. Some also talk about compliance checks built in. So yeah, awareness is there, interest is there... but adoption lags. People like me want proof. Show me years of audited data, show



me how it works during a crisis, and then I might take it seriously. Until then, it's more like an advisory add-on than something we'd fully rely on.

Interviewer: That makes sense. How would faster execution or predictive modelling affect your operations?

Participant: Faster execution would definitely cut slippage. **Slippage is the silent killer in FX. You think you're getting one rate, and by the time it goes through, you're off by a few pips. Over thousands of trades, that's huge. So yeah, better predictive analytics for currency movements could add value, if it's proven reliable.**

Predictive modelling itself is really intriguing. If an AI system could actually flag short-term moves before they happen, we could position portfolios ahead of time instead of reacting after the fact. Say it spots sterling weakening before a central bank announcement, that could mean real alpha. The issue is, these models tend to look good in normal conditions and then collapse in crises. And that's exactly when you need them most. **Plus, they're only as good as the data they're trained on. If the data is patchy or biased, the system can send you completely the wrong way.** That's a real risk.

Interviewer: And in terms of trust, how much would you place in AI-driven decision-making?

Participant: At this stage? Not much. I'd use it as a support tool. Maybe for smaller trades, or just to double-check what we're already thinking. Over time, if it proves itself, then maybe we'd trust it more. But accountability is a big issue. If a human trader makes a bad call, you can go back, see what they were thinking, and learn from it. If an AI makes a bad call and you don't know why, it's much harder. **That's the explainability issue. If it feels like a black box, people won't buy into it.**

Interviewer: I see. And how important are compliance and security in your choice of platform?

Participant: Non-negotiable. We're in a heavily regulated space. If a system can't handle AML, KYC, reporting, it's a no-go. And security is just as critical. We're talking about sensitive trade data here. If that's compromised, the reputational hit would be massive. So yeah, no matter how flashy the AI is, if it's not watertight on compliance and security, it won't get past the first meeting.

Interviewer: And if cost savings were demonstrated?

Participant: Cost savings are nice, of course. If spreads are tighter and fees are lower, people will pay attention. But in our world, risk trumps savings. I'd rather pay more and know it's solid than chase a cheaper option that could blow up on me.

Interviewer: Lastly, how would integration with your systems affect adoption?

Participant: That's huge. We've got established order management systems, portfolio tools, and reporting workflows. If a new platform doesn't integrate seamlessly, it just creates operational risk. We can't have traders juggling two systems in the middle of execution. It needs to feel like part of the setup, not something extra bolted on.

Interviewer: Thank you. One last question specific to your role: how could automated FX hedging protect portfolios during high volatility?

Participant: In theory, it could really help. Humans can't react instantly; an AI system could. During COVID or the 2022 rate shocks, instant execution could've saved us meaningful sums. **But again, it has to prove itself in those stress conditions. If it only works in calm markets, that's not good enough. Trust won't build unless it passes the tough tests.**



Interviewer: That's very insightful, thank you so much for your time.

Participant: Happy to help.

Appendix B. P2: Chief Executive Officer (CEO) of an Oil and Gas Company

Interviewer: Thank you for joining me today. I really appreciate your time. Did you get a chance to look over the questions I sent in advance?

Participant: Yes, I did. That was helpful.

Interviewer: Great. Just to confirm, everything you share will be kept anonymous and is only for academic research. Is that okay?

Participant: Absolutely, that's fine.

Interviewer: Perfect. So, how do you currently manage FX transactions, and what challenges do you face?

Participant: In oil and gas, FX is always there in the background. We sell crude and refined products mostly in USD, but our cost base, contractors, equipment, materials, is global. So we end up paying in euros, yen, rupees, dirhams, you name it. We hedge mostly with forwards and swaps. If we know a payment is coming in three months, we'll lock in the rate to avoid nasty surprises.

The challenges are twofold. Volatility is obvious; a small move in the dollar can mean millions lost or gained per shipment. But operationally, the bigger headache is settlement delays. Payments that sit in the banking system for days can completely stall supply chains. If suppliers don't see funds, they won't load cargo. That can idle ships, and the costs stack up fast.

Interviewer: Right, that makes sense. Now, would you say the bigger issue is the volatility or the process delays?

Participant: Honestly, both. Volatility hits margins directly, but delays disrupt the whole rhythm of business. If a \$100 million cargo is sitting in port because payment hasn't cleared, daily demurrage costs alone can be brutal.

Interviewer: Understood. What's your awareness of AI-powered FX platforms?

Participant: I've seen a few pitches. The idea of predictive modelling is appealing; if you can forecast moves, you can hedge smarter. But I'm skeptical. Most of the platforms I've come across seem built for generic corporates or retail users. Energy is more complex; it reacts to geopolitics, OPEC decisions, and even weather. Unless the AI is trained on that, I doubt the accuracy.

Interviewer: Could you think of an example where predictive analytics might have helped?

Participant: Sure. Last year, when the euro dropped sharply against the dollar, we were shipping crude to Europe. If an AI platform had flagged that earlier, we could have hedged more aggressively. Instead, we took the hit. So yes, there's potential, but only if the predictions are robust and sector-aware.

Interviewer: How would faster execution or predictive modelling affect your operations?



Participant: Faster execution reduces settlement risk. The sooner payments are processed, the less disruption to cargo schedules. Predictive modelling, if reliable, could change how we time payments or even negotiate contracts. If we knew the dollar was likely to strengthen, for example, we might push for earlier settlements. That could save millions over a year.

Interviewer: What level of trust would you place in AI-driven decision-making for high-value trades?

Participant: Look, in our industry, **accountability for high-value hedging must remain with management during volatile periods**. Maybe the AI can guide us, highlight trends, but it can't make the call. If something goes wrong, "the model said so" isn't an excuse. That's not how it works in oil and gas.

Interviewer: And compliance and security?

Participant: Non-negotiable. Oil and gas is heavily scrutinized. A compliance slip-up would be a disaster. Any platform we use has to be fully aligned with global standards.

Interviewer: Would cost savings influence your decision?

Participant: Savings are attractive. If you can shave 1% off, that's millions a year. But again, reliability and compliance come first. I wouldn't sacrifice those for cheaper transactions.

Interviewer: Lastly, specific to your business, how could AI-based FX forecasting improve supplier payment schedules?

Participant: It could definitely add value. If the platform predicted, say, the rupee strengthening, we could time payments to Indian contractors better. Across dozens of contracts, that would add up. It could also give us more confidence in negotiations.

Interviewer: That's very valuable insight. Thank you.

Participant: Glad to contribute, good luck with your paper.

Appendix C. P3: Managing Director of a Jewellery Group

Interviewer: Thank you so much for speaking with me today. Did you get a chance to review the questions I sent you beforehand?

Participant: Yes, I did. I went through them, which was helpful, so thank you.

Interviewer: Perfect. Just to confirm, everything you share will be treated as anonymous and used only for academic research. Is that alright with you?

Participant: Yes, of course.

Interviewer: Wonderful. So, to start us off, how do you currently manage foreign exchange transactions, and what challenges do you face?

Participant: Well, being in the jewellery business, particularly at scale, FX transactions are really at the heart of everything we do. Gold is priced in dollars, but we sell in local and regional currencies. So on one side, we're constantly buying raw



gold in USD, and on the other, we're selling finished pieces in dirhams, rupees, and euros, depending on the market.

We typically use spot contracts when we need immediate execution, like paying a supplier, and forward contracts when we know we've got a large shipment of gold coming up. The challenge is that we're exposed on two fronts: the volatility of gold prices themselves and the volatility of exchange rates. Sometimes you hedge one risk, and then the other side moves against you, so you feel like you can never fully win.

Timing is another challenge. We've had cases where approvals took too long, and we missed a favorable rate by just a few hours. When you're dealing with shipments worth tens of millions, that difference really hurts. So yes, volatility, timing, and hedging complexity are the biggest challenges.

Interviewer: Right, I see. And what's your awareness of AI-powered FX platforms?

Participant: I've come across the concept at industry forums and in a few conversations with banks. The idea that an AI could simultaneously track gold price volatility and FX movements is very appealing. If you could combine those two sets of data and generate hedging recommendations, that would be powerful.

But trust is the big issue. Margins in our industry are thinner than people assume, and a wrong prediction could wipe out profits for an entire quarter. So while the idea is exciting, we'd need to see long-term performance data before putting real money behind it.

Interviewer: That makes sense. How would faster execution or predictive modelling affect your operations?

Participant: Faster execution would help us capture opportunities. Right now, by the time everything is approved, sometimes the rate has already shifted unfavorably. If an AI-powered platform could cut down that delay, we'd be able to lock in better rates.

Predictive modelling could be useful for planning. For example, if the system showed us that there's a high probability of the dollar strengthening against the rupee over the next few weeks, we might accelerate payments to Indian suppliers. That kind of insight could make our hedging strategies more proactive rather than reactive.

Interviewer: And how much trust would you place in AI-driven decision-making?

Participant: Initially, moderate at best. I'd view it as an advisory layer, something that suggests actions but still requires human judgment before execution. Over time, if the AI proved reliable, that trust might grow. But I don't think we'd ever give it full control, especially not with high-value trades.

Interviewer: Understood. And how important are compliance and security to your decision-making?

Participant: Absolutely critical. Jewellery, gold especially, is heavily regulated. A single compliance misstep could damage not just finances but our reputation. Security is equally important because if client or transaction data were compromised, the reputational fallout would be severe. So any platform we considered would need to demonstrate airtight compliance and security.

Interviewer: If cost savings could be demonstrated, would that influence your decision to adopt?

Participant: Yes, certainly. In this industry, margins are everything. Even saving half a percent on FX transactions, when multiplied across our volumes, would add up to millions annually. So yes, cost savings are compelling, but again, they can't

come at the expense of compliance or reliability.

Interviewer: Finally, one question specific to your work: how could AI-based FX forecasting improve your gold hedging?

Participant: If AI could model the interaction between FX movements and gold prices, it would allow us to hedge more holistically. Right now, we hedge them separately, and sometimes those hedges conflict. An integrated model could reduce that friction and lower our overall exposure. That would be very, very valuable.

Interviewer: That's a very clear explanation, thank you so much.

Participant: Sure.

Appendix D. P4: Managing Director of a Trading & Arbitrage House

Interviewer: Thank you for your time today. I really appreciate it. Did you have a chance to review the questions I shared beforehand?

Participant: Yep.

Interviewer: Great. Just to confirm, everything you share will remain anonymous and is only for academic research. Is that okay?

Participant: Absolutely, that's fine.

Interviewer: Perfect. To begin, how do you currently manage foreign exchange transactions, and what challenges do you face?

Participant: In trading and arbitrage, FX is central to everything we do. We're in the market constantly, often dozens or even hundreds of trades per day, depending on the opportunities. We work with spot and forward contracts primarily, but also use swaps and structured products when we need to.

The key challenge is speed. Arbitrage opportunities are fleeting. A price discrepancy might exist for seconds, sometimes even less, before it's closed. So execution latency, the time between spotting the opportunity and actually executing the trade, is critical. Even a few milliseconds can determine whether a trade is profitable. Liquidity is another big challenge. In major pairs like USD/EUR, there's deep liquidity, so arbitrage is feasible. But in less liquid pairs, you often see opportunities that look attractive but are impossible to capture because there isn't enough volume. It's frustrating. And then there's risk management. Arbitrage is supposed to be "risk-free," but in practice, slippage, latency, and counterparty risk mean it's never entirely free of risk. That's where our focus is, minimizing those frictions.

Interviewer: That's interesting. And what's your awareness of AI-powered FX platforms?

Participant: Quite high. We already use machine learning for generating signals. For example, we have models trained on price data that flag potential arbitrage setups. The problem is ensuring robustness. AI models can easily overfit; they look great on historical data, but then fail in real-time.

That said, I think AI has real potential, especially for identifying patterns across markets that humans might miss. The key is building models that are adaptive and resilient in live conditions.

Interviewer: And how do you think predictive alerts or automated execution could help your work?

Participant: Well, uh, I think timing is everything for us. Sometimes you get a very narrow window where you need to act, and if you miss it, the opportunity's gone. If an AI system could give a predictive alert, basically telling me "this is the moment," then I could pull the trigger at the right window. But then again, I would like to know why. If it just tells me "now," but I don't understand the reasoning, I'd hesitate. Transparency matters.

But again, execution is king. You could have the best model in the world, but if your execution is slow, you lose the trade.

Interviewer: And how much trust would you place in AI-driven decisions?

Participant: I'd trust it as a supplementary tool. AI is great at crunching data, but final judgment still rests with traders. There are things to consider, like geopolitical risk, unexpected news that a model might not capture.

Interviewer: And how important are compliance and regulation for you?

Participant: Very important. We operate in regulated markets, so compliance gaps aren't acceptable. That said, in our line of work, speed is often prioritized. So the challenge is balancing speed with compliance. If AI can help automate compliance without slowing us down, that would be ideal.

Interviewer: Would cost savings make you more likely to adopt such a platform?

Participant: Cost savings are always welcome, but in arbitrage, speed and accuracy matter more. If a platform is cheaper but slower, it's useless to us. But if it's cheaper and faster, that's compelling.

Interviewer: Lastly, how might AI-generated trade signals affect your daily decision-making?

Participant: They already do, in a way. AI-generated signals help us narrow focus to higher-probability trades, which saves time and reduces noise. The risk is over-reliance. Traders still need to apply judgment and intuition. I'd never blindly follow a signal without context.

Interviewer: That's very insightful. Thank you for explaining.

Appendix E. P5: Senior Professional and Remittance User

Interviewer: Thank you so much for speaking with me today. Did you get a chance to look at the questions I shared beforehand?

Participant: Yes, I did. It was good to have some time to think about them, so thank you for that.

Interviewer: Great. Just to confirm, everything you share will remain anonymous and is only for academic research. Is that alright?

Participant: Yes, of course.

Interviewer: Wonderful. So, to start, how do you currently manage foreign exchange transactions, and what challenges do you face?

Participant: Well, for me personally, it's mainly remittances. I send money back home every month to cover mortgage payments and living expenses for my family. Sometimes I also make foreign purchases, say, if I'm buying something online in euros or dollars.

I usually go through the bank because it feels secure, but, uh, it comes with challenges. The first is cost, between the transaction fees and the less-than-favorable exchange rates, I feel like I lose quite a bit every month. The second is timing. Sometimes the money arrives quickly, sometimes it takes three or four days. And, you know, when your family is waiting for funds, that delay can be stressful.

So, to put it simply: it works, but it's not efficient.

Interviewer: I see. And what's your awareness of AI-powered FX platforms?

Participant: I've heard about them, mostly through fintech articles or ads. They sound promising, but I'd say my understanding is surface-level. I get the basic idea that AI can analyze market data and maybe time the transfers better or get me a better rate. But I don't know how much of that is real and how much is just marketing talk.

That said, the concept appeals to me. If a platform could automatically spot when the rate is best, or help me avoid fees, I'd definitely be open to it. But, I think I'd need to test it first. With financial decisions, especially when family depends on it, I wouldn't hand over control straight away.

Interviewer: That makes sense. And how would faster execution or predictive modelling affect your experience?

Participant: Faster execution would be fantastic. Like I said, sometimes it takes days for the transfer to go through. If an AI platform could guarantee same-day or near-instant transfers, that would reduce a lot of stress.

Predictive modelling is interesting too. For example, if the system could say, "Hey, midweek tends to have better rates for your currency pair," that could save me money across the year. Even small improvements, repeated month after month, add up. But again, I'd want to see that it actually works, maybe by starting with smaller transfers and building trust gradually.

Interviewer: And what about trust in AI for high-value transactions?

Participant: I'd be cautious. For smaller amounts, sure, I'd be willing to let the system handle it. But for larger transfers, I'd want to see a proven track record first. Maybe if I used it for six months and saw consistent results, then I'd start trusting it more.

Interviewer: Understood. How important are compliance, security, and regulatory alignment?

Participant: Extremely important. If I'm moving money internationally, I want to know that it's being handled securely and legally. I wouldn't touch a platform that couldn't demonstrate compliance. And with all the fraud these days, security has to be ironclad.

Interviewer: If cost savings were demonstrated, would that influence your decision?

Participant: Definitely. Even saving a few dollars per transfer adds up over time. And for bigger payments, it could make a big difference. But again, I'd balance cost against trust and reliability.

Interviewer: And how would integration with your bank affect adoption?

Participant: Integration would be huge. If it connects easily with my bank account, I'd definitely want to use it more. I don't want the hassle of moving money through multiple platforms. It has to feel seamless, like an extension of what I already do.

Interviewer: Finally, how might AI-generated trade signals or predictive tools affect your daily decision-making?

Participant: I think they could make the process less stressful. Instead of me checking rates every day and guessing when to send, the platform could guide me. But I'd still want the final say; I wouldn't want to feel like I've completely handed over control.

Interviewer: That's very insightful, thank you so much.

Participant: My pleasure.

Appendix F. P6: Head of Treasury Sales in a Bank

Interviewer: Thank you for joining me today. I really appreciate your time. Did you get a chance to review the questions I shared beforehand?

Participant: Yes, I did. That was helpful, thank you.

Interviewer: Perfect. Just to confirm, everything you share will remain anonymous and is only for academic research. Is that okay with you?

Participant: Absolutely.

Interviewer: Wonderful. So, how do you currently manage FX transactions, and what challenges do you face?

Participant: Well, in my role, I oversee treasury sales for corporate and institutional clients. That means we handle everything from simple spot trades to more complex hedging strategies for clients exposed to multiple currencies.

The challenges vary. One major issue is client education. Many clients, especially SMEs, don't fully understand the risks of currency exposure. They often come to us after they've already suffered a loss, rather than proactively hedging. Another challenge is speed; markets move quickly, and clients don't always make decisions as fast as they should. Finally, regulatory requirements add layers of complexity. Every transaction has to comply with KYC, AML, and reporting standards, which slows things down.

Interviewer: Right, that makes sense. And what's your awareness of AI-powered FX platforms?

Participant: Quite high. Banks are exploring them actively, both for internal use and for client-facing solutions. I think AI has potential to improve execution speed, offer predictive insights, and even automate some compliance checks.

But there's also a lot of hype. Some vendors oversell what AI can actually do. In reality, adoption will depend on whether these tools can integrate with existing systems and deliver consistent results without creating new risks.

Interviewer: How would faster execution or predictive modelling affect your operations?



Participant: Faster execution would improve efficiency, no question. If trades could be executed instantly when conditions are favorable, clients would benefit directly. Predictive modelling could be a game-changer if it's accurate. Imagine being able to advise a client, "Look, our system suggests this currency will weaken over the next two weeks, so you may want to hedge now." That would make our advice more proactive rather than reactive.

Interviewer: And what level of trust would you place in AI-driven decision-making?

Participant: Initially, limited. We'd see it as a support tool rather than a replacement for human judgment. Trust would have to be earned over time, through performance. Clients are especially sensitive; if they feel like they're being guided by a "black box," they'll resist. So transparency and explainability will be crucial.

Interviewer: How important are compliance and security in your choice of platform?

Participant: Absolutely essential. For a bank, compliance isn't just a requirement; it's a core part of our license to operate. Any platform that couldn't demonstrate complete regulatory alignment would be a non-starter. And security is just as critical. If client data were compromised, the reputational damage would be immense.

Interviewer: If cost savings could be demonstrated, would that influence your adoption?

Participant: It would be a factor, yes. But for banks, reliability and compliance come first. A platform that saved money but introduced operational risk wouldn't be worth it.

Interviewer: And how would integration with existing banking systems affect adoption?

Participant: Integration is the linchpin. Banks run on legacy systems, and adding new technology is never straightforward. If an AI-powered FX platform integrates seamlessly, adoption becomes much easier. If it requires rebuilding infrastructure, it's unlikely to be adopted at scale.

Interviewer: Finally, one question specific to your role: how could AI-based FX forecasting improve your client services?

Participant: It could help us serve clients more proactively. For example, if the system predicted a period of high volatility, we could alert clients in advance and recommend hedging strategies. That would enhance client trust and satisfaction. But again, accuracy and explainability are key; if the system is wrong too often, clients will lose confidence quickly.

Interviewer: That's a very valuable perspective, thank you.

Participant: Happy to.

Author Biography

Aanya Soparkar is a Year 12 International Baccalaureate Diploma student at Dubai International Academy, Emirates Hills, with a strong interest in finance, entrepreneurship, and the role of technology in transforming global markets.

Her most recent work is an IRIS research paper titled "AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region," which investigates how AI-based trading systems could address inefficiencies faced by small and medium-sized enterprises (SMEs). Drawing on expert interviews with FX professionals and SME finance managers, alongside secondary data from market reports, the study explores how predictive analytics, automation, and



compliance tools can improve SME financial performance in the region.

She has also undertaken several independent projects within the IB curriculum, including an evaluation of Walmart's acquisition of Flipkart and an analysis of Mahindra's XUV400 electric vehicle launch. These projects helped her develop advanced skills in financial analysis, data interpretation, and strategic evaluation.

Beyond research, Aanya attended the Wharton Essentials of Entrepreneurship summer program, where she gained hands-on experience in business modeling and financial planning. She has also interned in both banking and fintech, including RAKBANK Treasury and Stripe Payments Platform, gaining exposure to treasury operations, foreign exchange markets, and digital payment systems. In addition, she served as Organizer and Head Facilitator for the International Meeting of Young Beekeepers (IMYB) Dubai, its first time outside of Europe, highlighting her commitment to sustainability and cross-cultural collaboration.

Aanya hopes to continue pursuing research at the intersection of finance, entrepreneurship, and technology, aiming to contribute to innovation and inclusion in the financial services industry.

Mentor Contribution Statement

Mona Rahmani provided valuable guidance during the formative stages of this research project. Her mentorship was instrumental in shaping the initial research direction, refining the central question, and clarifying the study's conceptual framework. Through early discussions, she offered constructive feedback on how to position the topic within the broader context of AI adoption in financial services, helping the author identify a clear and relevant research gap.

Mona also advised on how to balance qualitative and secondary data, ensuring that the paper maintained coherence between its exploratory design and its practical applications. Her insights contributed to strengthening the logical flow and structural clarity of the manuscript, particularly in the development of the introduction and methodology sections.

Her role was limited to conceptual and structural guidance; all data collection, analysis, interpretation, and writing were conducted independently by the author. Throughout the process, Mona's advice encouraged critical reflection, methodological precision, and stronger alignment between the research objectives and findings, providing an invaluable foundation for the study's development.

