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

Abstract

Though the global foreign exchange (FX) market processes over US$7.5 trillion daily, small and medium-sized enterprises (SMEs) in cross-border transactions face outdated systems that reduce efficiency and competitiveness. This paper investigates whether an AI-powered FX digital platform can enhance SME financial performance by streamlining rate optimization, automating compliance, and providing real-time analytics. Primary data was collected from six semi-structured interviews with FX professionals and SME finance managers, supported by secondary market analysis and competitor case studies. Results show strong demand for automated execution, predictive analytics, and transparent compliance tools, with positive sentiment outweighing concerns about trust and over-reliance on automation. Market analysis indicates significant growth potential for AI-driven FX services in the MENA (Middle East and North Africa) region, and competitor benchmarking positions the proposed platform between institutional-grade AI solutions and regional SME platforms. These findings suggest that AI-enabled FX platforms, if able to address trust concerns, could reduce inefficiencies, improve transparency, and strengthen SME competitiveness in 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)

1. Introduction

Every day, over US$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 the technology 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 US$56 billion in 2022 and SMEs represent around 80–90% of private-sector businesses (World Bank, 2023; Wilson Center, 2024), this technological gap translates directly 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 issue is compounded by fewer dealers handling disproportionately high transaction volumes. For SMEs with narrow profit margins, even small delays or suboptimal rates can disrupt cash flows and erode profitability (Goldman Sachs, 2022).

The shortcomings are not only operational but also informational. Most retail and 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 lack of real-time and actionable intelligence leaves customers without the tools to actively manage currency risk, while banks lose out on increased FX turnover that better-informed clients might generate. Moreover, traditional banks often cater to large corporate clients with advanced tools, while fintech entrants—though more user-friendly—rarely integrate predictive analytics, sentiment tracking, and compliance automation in a single service (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 individual consumers in the MENA region?** The hypothesis proposes that integrating real-time market data, predictive analytics, and personalized trade recommendations into a digital FX platform will significantly enhance financial performance for SMEs while increasing transaction volumes for banks.

The proposed value proposition is twofold: 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 economic 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.

To investigate this, the paper evaluates the viability and market demand for such a platform, drawing on primary qualitative data from six semi-structured interviews with FX professionals and SME decision-makers, as well as secondary data from global FX market reports, case studies, and industry publications. In doing so, it situates the proposed platform within the existing competitive landscape and assesses how AI integration could address operational inefficiencies and information asymmetries, thereby improving FX accessibility, financial inclusion, and competitiveness in the 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).

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 prior to 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 the structure of the interviews, it was broken into two sections. First, every interview began with core open-ended questions on FX market volatility and SME banking challenges, then followed by targeted questions on AI platform integration, including issues of trust, transparency, and efficiency.

Table 1 shows the set of seven core questions designed to establish a consistent baseline for comparison across responses. These were deliberately phrased to be broad enough for participants from different industries to answer meaningfully, while still addressing the central problem under investigation, which was the operational, financial, and strategic effects of adopting AI-powered FX trading platforms. This ensured that insights were not skewed toward a single professional context while 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 alignment in your choice of FX platform?	To determine the weight of non-performance factors in 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.

The second section of each interview contained a customised question tailored to the participant's professional background to elicit highly specific insights relevant to their operational context. This allowed the research to capture the nuances that generic questions might overlook.

Table 2 presents these customised questions, showing how each participant's sector informed the additional inquiry. By designing questions in this way, the study ensured the collection of data that could be meaningfully compared across industries while also probing for unique, sector-specific challenges and opportunities.

Table 2. Customised 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 stabilises global supply chains and determine managers' preferences for integrated forecasting tools.

2.2 Participants:

The participants for the interviews 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 focus on gaining specialised 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 whose roles provided them with substantial exposure to FX trading, banking operations, or high-volume cross-border transactions. This approach ensured that only participants with the most relevant professional backgrounds were included (Palinkas et al., 2015). In parallel, expert sampling was employed to specifically target individuals recognised for their proven track record in making high-value FX-related decisions that could 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 of five male participants and one female participant aged between 37 and 54 years, all residing or operating within 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 Profile:

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

2.3 Measures:

The interview questions were designed to map directly to the core analytical constructs relevant to the study's hypothesis: timing risk, which addressed AI's potential to mitigate

exposure to unfavourable rate movements; platform trust, which measured the willingness of participants to rely on AI for high-value FX transactions; and perceived efficiency gains, which referred to expectations for faster transaction speeds, reduced operational costs, and improved accuracy. For example, questions exploring reactions to market volatility and AI-generated recommendations assessed both psychological readiness and behavioural intent, while inquiries about operational process changes targeted perceived efficiency and cost-saving potential.

Responses were thematically analysed 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, making it well-suited for exploratory research on AI in FX trading (Braun & Clarke, 2012). Codes were first generated from the transcripts and then grouped into broader themes to ensure consistency and transparency in the analysis. 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 of all interview responses, a manual sentiment classification process was conducted to categorise participant perspectives on AI-powered FX trading platforms into three distinct groups: positive, neutral, and negative (Miles et al., 2014). The classification was based on the tone, context, and wording of each relevant statement, ensuring that both explicit and implied attitudes were captured.

Positive sentiments were assigned when participants expressed clear enthusiasm, perceived benefits, or optimism regarding the adoption of AI-driven FX solutions. For example, interviewees such as the Head of Treasury Sales for a bank, who described the platform as "significantly reducing execution times," or the CIO for a Private Investment Firm, "providing

better predictive analytics for currency movements," were coded as positive. Neutral sentiments were used for fact-based, descriptive, or mixed responses that neither strongly supported nor opposed the concept. This included statements that outlined operational processes or listed both advantages and disadvantages without a clear preference, such as "AI models can definitely be efficient, but they depend on how high the quality of the input data is." Negative sentiments captured explicit concerns or scepticism, such as distrust in algorithmic decision-making, perceived opacity in trade logic, or fears of over-reliance on automation, evident in remarks like "banks can lose clients' trust if AI decisions cannot be explained."

To maintain consistency, each statement was reviewed twice: first during initial transcription review, and then in a second coding round to confirm or adjust its classification. Counts for each category were then tallied to provide a numerical distribution of sentiments across the dataset, which would later be visually represented in the Results section. This structured approach ensured transparency and replicability in the analysis process while grounding classifications in concrete evidence from the interviews (Braun & Clarke, 2006).

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 anonymised 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, coding of data, 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 robust, 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? These guiding questions were approached from both quantitative and qualitative perspectives to ensure a comprehensive understanding of market potential.

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. Interestingly, several studies noted the growing relevance of hybrid AI-human decision models, in which AI outputs are treated as advisory tools rather than fully automated execution triggers.

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.

3. Results

3.1 Primary Data Analysis — Interview Findings and Sentiment Patterns:

The interviews show strong excitement for an AI-powered FX platform among SME decision-makers and frequent FX users, but also some practical concerns about trust and

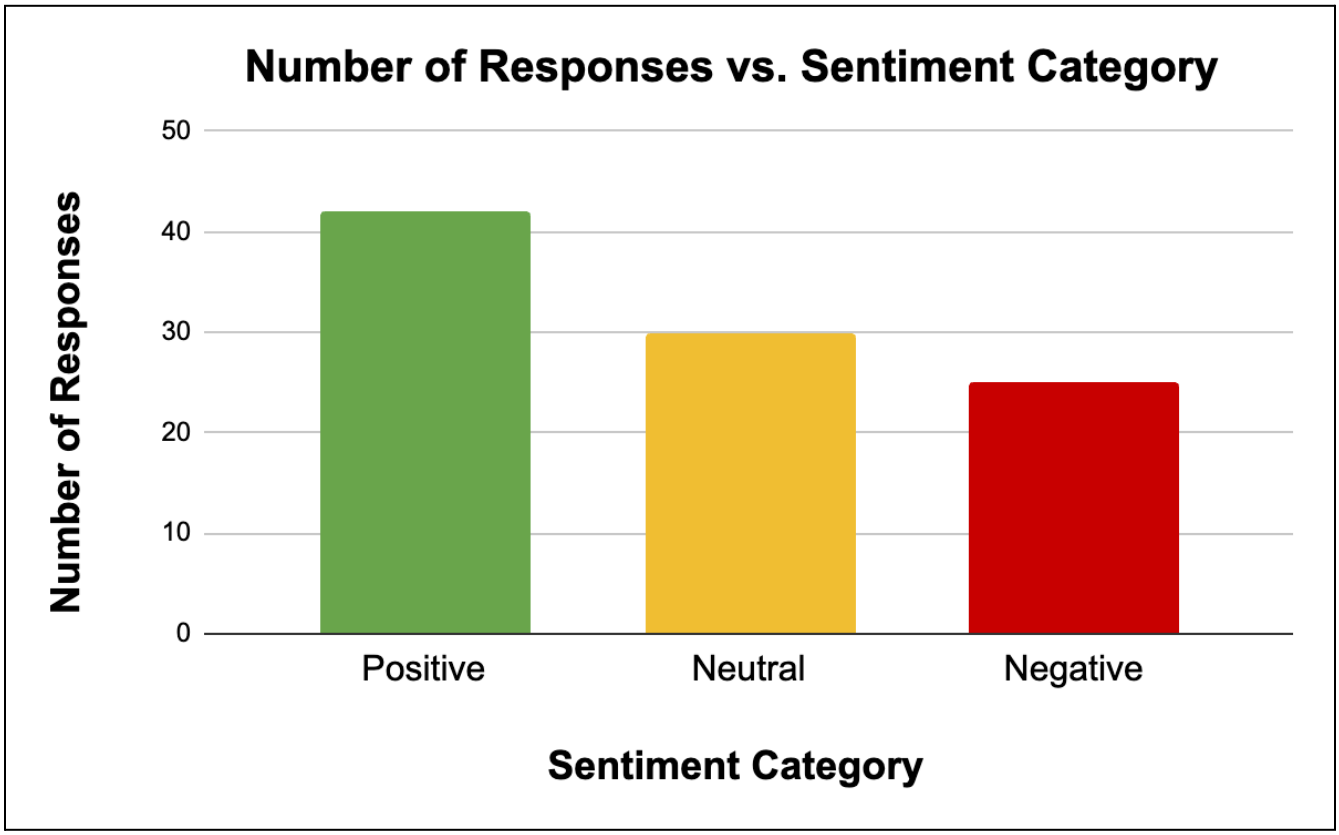
transparency. Across six interviews, comments about speed, helpful timing advice, and making work easier were more common than comments about risks. Several interviewees said that getting alerts for the “best time to convert” and having access to the platform outside normal banking hours would be very useful. For example, one senior treasury sales head said it would “ cause bottlenecks” in the process and remove delays caused by dealer availability. A trading and arbitrage executive felt that predictive alerts could “pull the trigger at the right window” as long as the reasoning behind them was clear.

However, there were also concerns. A corporate commodities CEO explained that decisions about hedging, especially for oil-related trades, should not be made entirely by a model, especially during big market events. This was because accountability still lies with the management team. Similarly, a bank treasury executive stressed that model guidance must follow regulations and suit the client’s needs, which can be different for different types of businesses.

The coded interview data were grouped into three sentiment categories: positive, neutral, and negative. Positive comments were linked to faster execution, helpful timing advice, and fewer delays. Neutral comments often described current processes or mentioned conditions needed before using the platform. Negative comments were linked to a lack of trust, unclear recommendations, and over-reliance on automation. The distribution of these comments can be seen in *Figure 1*, which shows that positive feedback was the most common, followed by neutral, then negative. This suggests most people were open to using the platform but wanted to be sure it was safe and clear.

There were also patterns across different roles. Almost everyone agreed on the need to reduce “timing risk,” the chance of missing good exchange rates because a dealer was unavailable. Both large companies and smaller users liked the idea of alerts that matched their payment cycles. Most agreed that any AI-generated signal should also show *why* the rate was changing, such as news or economic data. The main differences came from risk appetite: traders wanted more control and automation, while corporate leaders preferred the AI to give advice that they could then approve or reject.

Figure 1. Distribution of Sentiments in Interview Responses



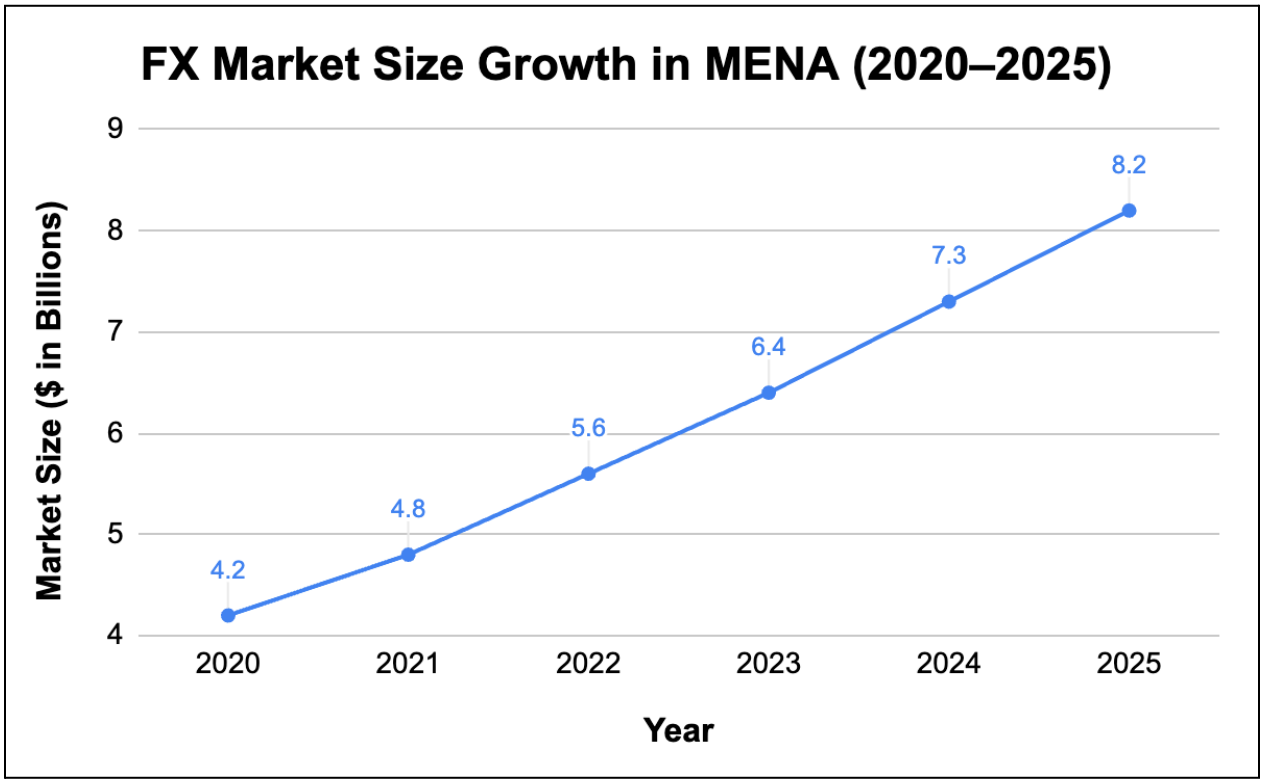
3.2 Secondary Data Analysis — Market Size, Growth, and Adoption:

The wider market shows a strong opportunity for this type of platform. According to the Bank for International Settlements, daily foreign exchange trading reached USD 7.5 trillion in April 2022, showing the huge size of the market where timing and execution can make a big difference (BIS, 2022). McKinsey reports that by 2024, non-bank providers were handling up to 65% of personal cross-border transfers in some regions, mostly because they offered better prices and easier user experiences (McKinsey, 2025). This means banks need to compete more effectively on convenience and transparency.

In the MENA region, PwC predicts that AI could add USD 320 billion to GDP by 2030, with financial services being a key part of that growth (PwC, 2023). The World Bank shows that remittances to MENA were USD 55 billion in 2023, with big changes in flows linked to

currency policies; for example, Egypt's remittances rose after exchange rate unification in March 2024 (World Bank, 2024). The Financial Stability Board also reported that 90.4% of SWIFT wholesale payments in 2024 were processed within one hour, showing that payment infrastructure is already strong enough for faster, AI-driven decision-making. These trends are shown in *Figure 2.*

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



This figure illustrates key indicators of market readiness for AI adoption: (i) the scale of remittance inflows to MENA, (ii) structural shifts following Egypt's exchange rate unification in 2024, and (iii) the efficiency of existing global payment infrastructure, with 90.4% of SWIFT wholesale transactions settled within one hour. Together, these data points highlight both the demand-side drivers (remittance flows and SME reliance) and the supply-side enablers (robust payment rails) for accelerated AI-driven FX adoption in the region.

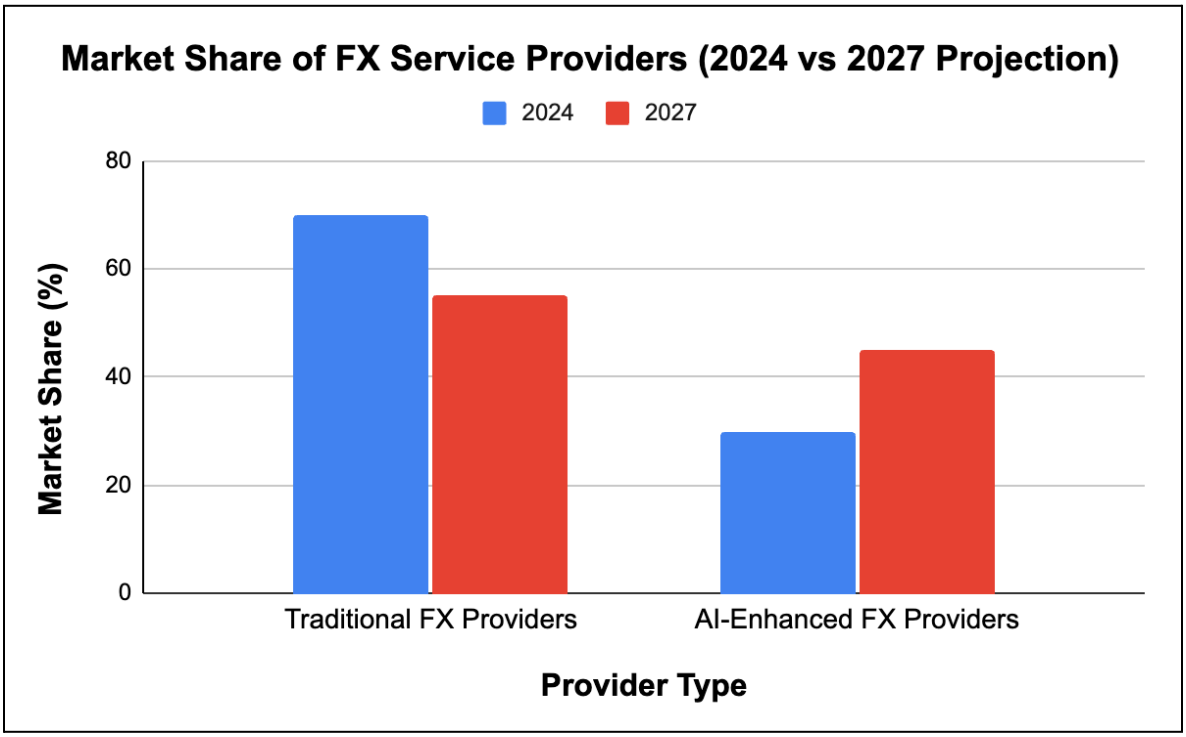
Building on this regional evidence, broader secondary data shows strong global AI-FX growth trajectories. According to McKinsey (2024), the global FX market processes over USD 7.5

trillion daily, with AI-enabled trading platforms projected to grow at a compound annual growth rate (CAGR) of 11% through 2028. BIS (2023) data further reveals that algorithmic and AI-assisted trades already account for approximately 28% of total FX transaction volume, highlighting the sector's technological trajectory. The SME cross-border payments submarket, valued at USD 2.1 trillion annually, has been identified as a high-growth niche, with AI integration forecast to increase transaction volumes by 18% over five years (Statista, 2024).

Moreover, regional segmentation illustrates that the MENA FX market alone was valued at USD 48.7 billion in 2023, with SME cross-border transactions representing 19% of total value (Statista, 2024). The SME banking submarket in MENA has recorded an annualised growth rate of 6.8% since 2020, and AI-powered FX adoption in this segment is expected to reach 35% penetration by 2027 (PwC, 2024). EY (2024) reports that banks offering AI-enhanced FX services currently achieve SME retention rates approximately 22% higher than those using traditional platforms, underscoring a tangible competitive advantage.

Market share analysis indicates that global banks currently lead AI-FX innovation; however, fintech challengers are rapidly gaining ground in niche SME-focused solutions by offering faster settlement times, predictive analytics, and integrated compliance features (Accenture, 2024). Adoption patterns are not uniform worldwide: Asia-Pacific leads with an annual AI-FX adoption growth rate of 32%, followed by MENA at 26%. Global FX market expansion is steady at around 7% year-on-year, but AI adoption within that market is growing significantly faster, indicating that technological transformation is outpacing overall market growth. The analysis also indicates that AI-enhanced providers already hold a significant competitive edge, with adoption rates projected to nearly double in three years, a trend that will likely reshape SME-focused banking strategies.

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



3.3 Competitive Case Studies and Strategic Market Placement:

A detailed competitive analysis was carried out using the 5Ps of Marketing framework to understand how the proposed AI-powered FX platform compares to two key market players: HSBC AI Markets and Emirates NBD businessONLINE. These competitors were selected because they directly serve corporate clients in the FX space, but they differ in scope, technological focus, and target audience.

HSBC AI Markets operates as a global leader with advanced AI-driven analytics designed primarily for institutional clients, offering deep market insights, predictive modelling, and API integration. However, its services are generally geared towards large-scale enterprises, which limits accessibility for SMEs.

Emirates NBD businessONLINE, on the other hand, is a well-established regional platform catering to both corporates and SMEs, offering convenience, multi-service integration, and

strong customer relationships, but without the same AI depth or predictive analysis capabilities found in HSBC's solution.

The proposed platform seeks to position itself between these two competitors, combining HSBC's predictive AI capabilities with the SME accessibility and personal service approach of Emirates NBD. This middle-ground strategy aims to deliver explainable AI-generated FX timing advice that is both user-friendly and cost-effective, supported by a lean but specialised AI team. The comparison across Product, People, Place, Promotion, and Price dimensions highlights the distinct positioning of the proposed platform. For example, it seeks to leverage advanced AI features without the premium pricing associated with HSBC, while also going beyond Emirates NBD's regional scope by incorporating scalable infrastructure for future international expansion. These strategic differences, along with the advantages and disadvantages for each competitor, are presented in Table 4, illustrating where the proposed platform can gain a competitive edge and where it may face challenges.

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	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

	cannot access the same depth of AI tools.		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 specialised AI team working directly with SME relationship managers, ensuring personalised service, although the team will be smaller than those of established competitors.
Place	HSBC's services are accessible globally through the HSBC Evolve platform, ensuring unparalleled geographic coverage, but its global focus means SMEs in MENA may not receive region-specific attention.	Emirates NBD offers strong physical and digital coverage across the MENA region, but lacks reach beyond it.	The proposed platform will launch with targeted MENA 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	Emirates NBD uses regional marketing campaigns and	The proposed platform will adopt a results-driven

	marketing and research-based branding, which reinforces its reputation among large corporations but may not resonate with SMEs.	partnerships that strengthen local visibility but offer limited international recognition.	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.

4. Discussion

4.1 Interpretation of Key Findings:

Findings from both primary and secondary research indicate that an AI-powered FX trading platform tailored for SMEs in the MENA region could address core inefficiencies in currency conversion, rate transparency, and trade timing. Interviews revealed consistent challenges in

securing competitive FX rates, executing transactions at optimal times, and accessing clear market drivers—issues compounded by reliance on manual processes or outdated banking tools (Interview Data, 2025). Secondary data supported these observations, showing rising 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 positioned the proposed platform between institutional-grade AI solutions and SME-focused banking interfaces, targeting the gap where advanced capabilities and accessibility converge.

4.2 Theoretical and Practical Implications:

From a theoretical perspective, the platform aligns with recent extensions of the Technology Acceptance Model (TAM), which emphasize not only perceived usefulness and ease of use but also trust, risk perception, and transparency as critical adoption triggers in financial technologies (Marangunić & Granić, 2015; Al-Emran et al., 2023). In addition, integrated models that combine TAM, the Technology Organization Environment (TOE) framework, and Diffusion of Innovation (DOI) theory have been shown to provide a more comprehensive understanding of AI adoption in SMEs, highlighting both structural constraints and user perceptions (Zhou et al., 2024; Al-Okaily et al., 2022). These perspectives demonstrate that successful AI solutions in finance must balance usability, organizational readiness, and cultural acceptance in order to drive sustainable adoption.

Practically, SMEs could leverage the platform to automate hedging strategies, receive AI-generated trading signals grounded in live market sentiment, and execute multi-currency transactions with minimal friction. The research also highlights that transparent AI recommendations, especially those showing underlying rationale, would be essential for adoption, particularly among risk-averse corporate leaders. However, SME readiness remains uneven: recent surveys show that only 12% of SMEs have invested in AI-related training, while 52% cite lack of internal skills and 29% identify insufficient training as top barriers. Although 51% regard AI as critical for future competitiveness, just 27% feel capable of implementing it effectively (TechRadar, 2024). This “AI readiness gap” underscores the need

for supportive measures, such as simplified onboarding, tailored training programs, and policy interventions, that can enable SMEs to capture the benefits of AI-driven FX platforms.

4.3 Business Model Implications:

The research findings support a B2B SaaS model with tiered subscription pricing based on transaction volumes, supplemented by FX spread revenue to create a diversified income stream. The platform's value proposition centres on enabling SMEs to act on market opportunities faster and more confidently while reducing operational risk and improving decision-making accuracy.

Key partners would include regional banks to provide liquidity, compliance verification providers to streamline onboarding, and AI model/data suppliers to ensure continuous platform improvement. Payment infrastructure providers and API integration partners will be essential for seamless execution and connectivity with existing SME banking and ERP systems. The platform's key activities would focus on delivering AI-driven FX rate prediction and sentiment analysis, maintaining robust security and uptime, managing regulatory compliance across jurisdictions, and providing ongoing feature enhancements based on user feedback.

Core resources required to sustain the platform include a proprietary AI analytics engine, secure banking API integrations, a skilled team of data scientists and compliance experts, and a multilingual user interface to serve the linguistically diverse MENA market. Channels for reaching customers will include direct SME sales teams, strategic partnerships with banks, collaborations with SME trade associations, and targeted digital marketing campaigns on platforms like LinkedIn and industry-specific portals.

The cost structure will be driven by AI model development and training, regulatory compliance costs, cloud hosting and infrastructure maintenance, and customer acquisition. Revenue streams will be generated through subscription fees, FX spread margins, integration/customisation fees for enterprise clients, and premium analytics add-ons. This combination of recurring subscription revenue with variable transaction-based income will

provide both stability and scalability.

To present the business model clearly, the canvas has been divided into two tables: Table 5, which covers the front-end elements such as key partners, activities, value propositions, customer relationships, and customer segments, and Table 6, which details the back-end elements, including key resources, channels, cost structure, and revenue streams.

Table 5: Business Model Canvas Front-End.

Key Partners	The platform's key partners include regional banks that provide liquidity, compliance, and KYC/AML verification providers to ensure regulatory adherence, AI model and data providers that supply technical capabilities, payment infrastructure providers to support transaction processing, and API integration partners that enable seamless connectivity with SME systems.
Key Activities	Core activities involve AI-driven FX rate prediction and sentiment analysis, ongoing platform maintenance and security, management of regulatory compliance requirements, and integration with SME banking systems and ERP tools to streamline operations.
Value Proposition	The value proposition centres on delivering real-time, AI-powered FX insights and automated execution, offering SMEs competitive rates and measurable cost savings. It also provides transparent, explainable AI recommendations and simplified compliance processes for cross-border transactions.
Customer Relationships	Customer relationships are maintained through dedicated account managers for high-volume SMEs, onboarding support and training for new clients, ongoing performance reporting, and access to self-service support tools, including chatbot assistance.

Customer Segments	The primary customer segments targeted by the platform are small to medium-sized enterprises in the MENA region that handle FX transactions, defined here as regional and community banks with more limited international infrastructure compared to global players. These institutions manage high volumes of cross-border transfers for their clients but often lack advanced predictive analytics and automation tools.

Table 6: Business Model Canvas Back-End.

Key Resources	**Channels**
Key resources include a proprietary AI analytics platform, secure banking API integrations, highly skilled data science and compliance teams, a multilingual user interface, and a robust cloud infrastructure.	The platform reaches its target customers through direct sales to SMEs, strategic partnerships with banks, engagement with SME trade associations, and targeted digital marketing campaigns via LinkedIn and industry-specific online portals.
Cost Structure	**Revenue Streams**
Major costs involve AI model development and training, regulatory compliance and licensing, API hosting	Major costs involve AI model development and training, regulatory compliance and licensing, API hosting

and maintenance, and customer acquisition activities.	and maintenance, and customer acquisition activities.

By integrating these components, the business model leverages findings from both primary interviews, emphasising the need for transparency, speed, and integration, and secondary market data, which indicates growing demand for accessible, AI-enhanced FX tools among SMEs in MENA. The model ensures that the platform can differentiate itself from both large-scale institutional offerings, which often overlook SMEs, and smaller regional platforms that lack advanced predictive capabilities.

4.4 Limitations of the Research:

This study's scope was constrained by a small, UAE-based participant pool and sector bias toward service-oriented SMEs, limiting generalisability to the wider MENA market. Over-reliance on self-reported interview data introduces potential response bias, and the absence of prototype testing prevents direct usability validation. Secondary data gaps on SME-specific FX behaviour in MENA required reliance on global trends, which may not fully capture regional dynamics.

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 satisfaction with existing systems	Conduct prototype usability tests to observe real behaviours

Sample Size & Composition	Only 6 participants – small dataset limits statistical generalisability	Reduces the reliability of conclusions across all SME sectors	Expand sample size across more industries and transaction volumes
Gender Representation	5 male participants, 1 female	Potential underrepresentation of perspectives from women-led SMEs, which may differ in risk tolerance or tech adoption	Ensure more balanced gender representation in future sampling
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
Researcher Assumptions	Pre-existing belief that AI automation is a primary driver of adoption	May have influenced question framing and interpretation of responses	Use neutral question wording; involve multiple analysts for coding responses

Time Constraints	No prototype testing within the study period	Limited ability to validate feature usability and real-world adoption likelihood	Build an MVP for an early adopter pilot before full launch
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

4.5 Strategic Recommendations:

To encourage adoption, the platform might first target frequent SME importers and exporters and provide limited-time free trials. Market-specific modifications would be possible with a phased rollout that began in the UAE and progressed into high-trade MENA markets. In order to lower acquisition costs, early-stage marketing could concentrate on ROI-driven case studies backed by SME-bank distribution partnerships. Explainable AI may continue to be a distinguishing characteristic to promote trust and reduce skepticism, as described in Theoretical Implications. Multilingual support, mobile-first functionality, and integration with popular SME accounting systems could be the main priorities of future development. To improve product-market fit, more research might involve testing prototypes and conducting market research in Saudi Arabia, Egypt, and other trade hubs.

4.6 Alignment of Findings with the Hypothesis:

The results support the hypothesis that a 24/5, AI-powered FX platform tailored for SMEs can enhance trade timing, operational efficiency and pricing fairness. Both primary data from interviews and secondary market evidence indicate a strong opportunity for adoption, with positive sentiment among decision makers reinforcing the potential value of such a platform. The competitive analysis further suggests that while large institutions and regional platforms

offer partial solutions, there is still no widely adopted model that combines SME accessibility, AI-powered timing recommendations, and transparent decision logic in a single, scalable system.

These results align with the study's mixed-methods approach, in which secondary data validated broader market trends in adoption and technological readiness while qualitative interview insights emphasized the significance of usability and trust. Although this should not be interpreted as definitive, the literature and industry reports that are currently available did not provide compelling evidence of platforms that address this specific SME-focused gap. Rather, it indicates that more research is required to confirm the hypothesis and guarantee generalizability outside of the current sample, including prototype testing and wider geographic sampling.

5. Conclusion

This research has examined the persistent inefficiencies and information gaps in foreign exchange (FX) services for SMEs and individual consumers in the MENA region, confirming a clear market gap for a 24/5 AI-powered FX trading platform. The proposed model integrates competitive rate execution, real-time market intelligence, predictive analytics, and tailored trading recommendations within a single, compliance-ready digital solution. By streamlining operational processes and enhancing decision-making, the platform offers banks a measurable path to economic growth through increased FX transaction volumes, while enabling customers to access faster, fairer, and more informed currency exchanges.

The findings indicate that SMEs and individual FX users remain underserved by current systems, which are constrained by limited operating hours, dependence on manual dealer interactions, and the absence of actionable, real-time insights. Competitor analysis further confirms that no existing provider in the MENA region combines AI-driven analytics, automated compliance, and personalised trade recommendations in a unified offering. These

findings support the hypothesis that such a platform could significantly improve transactional efficiency, rate optimisation, and market accessibility for the target audience.

The refined value proposition is twofold: economic development for banks through sustained transaction growth and financial empowerment for SMEs and consumers through improved accessibility, operational efficiency, and actionable market intelligence. By reducing friction in cross-border transactions and democratising access to professional-grade FX tools, the platform addresses both functional and social priorities, enhancing SME competitiveness and advancing financial inclusion in the region.

Beyond the MENA context, the model demonstrates strong scalability potential for other emerging markets such as India, Nigeria, Vietnam, and Kenya, where SMEs drive economic activity but face structural barriers to efficient FX services. Its modular architecture and compliance-ready design enable rapid localisation, while its AI framework could be adapted to adjacent services such as trade finance, commodity hedging, and SME credit risk assessment.

Ultimately, this business concept seeks to bridge the technology gap between institutional and retail FX trading, contributing to a more inclusive, transparent, and efficient financial ecosystem. By making speed, clarity, and informed decision-making available to all participants, it aligns both commercial and developmental objectives, positioning itself as a catalyst for economic growth and SME empowerment across multiple markets.

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8. Appendix

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: Yes, I did. It was helpful to look through them ahead of time, so thank you for sending them over.

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

Participant: Absolutely, 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 some background, as a private investment firm, foreign exchange is really woven into almost everything we do. We manage diversified portfolios that include equities, debt instruments, and alternative investments, all of which may be denominated in multiple currencies. So we're constantly exposed to FX risk. Typically, we use forward contracts and options to hedge exposures. For instance, if we have a significant euro-denominated bond position, we'll lock in the forward rate to protect against a weakening euro. Sometimes, we also use swaps when it makes sense from a liquidity perspective.The challenges, though, are several. Timing is critical. Even a half-hour delay in executing a trade can materially affect returns — especially in volatile markets. And then there's liquidity. In major pairs like USD/EUR, spreads are tight, execution is smooth. But the moment you move into EM currencies — say, Turkish lira or some Asian currencies — liquidity dries up and spreads widen. That eats into performance. Another persistent challenge is costs. Banks and brokers add margins that, when aggregated over a large volume of trades, erode our performance metrics. For us, basis points matter. You know, even 5–10 bps shaved off across

billions in transactions translates into very significant numbers. So in short, it's a mix of operational delays, liquidity constraints, and cost inefficiencies. And in this industry, even small inefficiencies compound into meaningful performance drag.

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

Participant: I've read quite a bit about them, and a few fintech providers have pitched us solutions. The common selling points are predictive analytics — using AI to model likely FX movements — and faster, even automated, execution. Some platforms also talk about embedded compliance tools, which is interesting.I'd say awareness is there, and interest is there, but adoption lags because professionals want evidence. Show me five years of audited back-tested data, show me how the model behaves in crises, and then maybe we'll take it seriously. Until then, it's viewed as more of an advisory tool than something you'd actually entrust execution to.

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

Participant: Faster execution would directly reduce slippage. Slippage is the silent killer in FX. You intend to execute at a certain level, and by the time it's processed, you're off by a few pips. Over thousands of trades, those pips add up. Predictive modelling is even more intriguing. If an AI system could reliably flag short-term directional moves, it could let us position portfolios proactively instead of reactively. For example, imagine it identifies that sterling is about to weaken ahead of a central bank announcement — if we could hedge before the move, that's real alpha. But here's the nuance: predictive models tend to perform well in stable market conditions, and then fall apart in crises. AI systems trained on historical data may fail when conditions deviate significantly from the past. And crises are precisely when you need reliable signals. That's where I'd want to see proof.

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

Participant: At this stage, trust would be incremental. I'd start by using it, maybe for smaller trades or to validate human judgment. Over time, if it consistently demonstrated accuracy, we could give it more responsibility.

And there's also the question of accountability. If a human trader makes a bad call, you can analyze the reasoning, learn, and improve. If an AI model makes a bad call, and you don't know why, it's harder to adjust. That lack of explainability is a barrier.

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

Participant: I think its a non-negotiable. We operate in a highly regulated space. Any lapse in compliance — whether it's AML, KYC, or reporting — creates legal and reputational risk. And security is equally critical. The idea of entrusting sensitive trade data to a third-party platform raises obvious concerns. Unless a platform demonstrates bulletproof compliance and security, we wouldn't even consider it.

Interviewer: And if cost savings were demonstrated?

Participant: Cost savings are attractive, no question. If a platform could consistently deliver tighter spreads or lower transaction fees, it would certainly get attention. But savings don't override risk. In our world, I'd pay slightly more for certainty and security rather than chase a cheaper but unproven option.

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

Participant: Integration is absolutely critical. We have established order management systems, portfolio analytics, and reporting workflows. If a new platform doesn't integrate seamlessly, it creates operational risk. We'd never ask traders to toggle between multiple systems in the heat of execution. It has to feel like an extension of our existing infrastructure, not an add-on.

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

Participant: Automated hedging could provide consistency and speed. Human traders, no matter how skilled, can't react instantly to sudden moves. An AI-driven hedging tool could. During periods like the pandemic or the 2022 rate shocks, the ability to execute instantly could have saved meaningful sums.

But again — it would need to prove itself in stress conditions, not just during calm markets. If it passes that test, it could be a powerful addition to the toolkit.

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

Participant: My pleasure.

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 a constant factor. We sell crude and refined products primarily in USD, but our cost base, contractors, equipment, raw materials — is global. That means payments in euros, yen, rupees, dirhams, and so on. We manage FX primarily through forwards and swaps. For instance, when we know we'll be paying an equipment supplier in euros three months from now, we lock in the forward rate to avoid surprises. The challenge,

though, is twofold. Volatility is obvious, a few cents swing in the dollar can translate to millions gained or lost per shipment. But operationally, the bigger headache is settlement delays. Payments that get stuck in the banking system for days can disrupt the supply chain. Suppliers won't load cargo until they see funds. That can idle ships, which costs us dearly.

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

Participant: Honestly, both are damaging, but in different ways. Volatility is a direct hit to the bottom line, but delays ripple through operations. If a $100 million cargo is sitting in port because payment hasn't cleared, the daily demurrage costs alone can be staggering. So, volatility erodes margins, but operational inefficiency disrupts the whole business rhythm.

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

Participant: I've heard about them from both banks and fintech pitches. The idea of predictive modelling is appealing, if you can forecast currency moves, you can hedge more intelligently. But my concern is applicability. Most of the platforms I've seen seem geared toward generic corporate flows or retail clients. Energy trading is complex. Prices move with geopolitics, OPEC announcements, even weather. Unless an AI is trained on sector-specific data, I question its accuracy.

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

Participant: Certainly. Last year, when the euro weakened sharply against the dollar, we were shipping crude to Europe. If an AI platform had flagged that trend earlier, we could have hedged more aggressively. Instead, we absorbed the loss. So yes, there's real 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 clear, the fewer disruptions to cargo schedules. Predictive modelling, if reliable, could help us time payments

better, maybe even negotiate contracts differently. For example, if we knew the dollar was likely to strengthen, we could 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, for oil-related trades, especially when we're talking hedging during major market events, I wouldn't let a model make those calls on its own. Maybe it can give us guidance, highlight trends, but ultimately the accountability lies with management. If something goes wrong, you can't say, "Oh, the AI told us so." That doesn't work in my industry. It has to remain advisory, not decisive.

Interviewer: And compliance and security?

Participant: Non-negotiable. Oil and gas is under intense scrutiny, from regulators and from the public. A compliance failure would be disastrous. Any platform we used would need to demonstrate absolute alignment with global regulatory standards.

Interviewer: Would cost savings influence your decision?

Participant: Savings are attractive, yes. If we could shave even 1% off transaction costs, that's millions annually. But I'd never sacrifice reliability or compliance for cost. Stability comes first.

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

Participant: It could add real value. For example, if the platform could anticipate a strengthening of the rupee, we could time payments to our Indian contractors accordingly. Over dozens of contracts, that optimization would accumulate into substantial savings. It would also give us greater negotiating confidence with suppliers.

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

Participant: Glad to contribute, good luck with you 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.

The manuscript demonstrates commendable ambition in its scope and includes valuable primary research, but there are several substantial issues that need addressing.

The paper investigates whether an AI-powered foreign exchange trading platform could improve transaction efficiency and decision-making for SMEs in the Middle East and North Africa region, which represents an interesting intersection of technology and finance. The author has conducted six semi-structured interviews with FX professionals and SME managers, supplemented by secondary market analysis, to explore this question. The effort to collect primary data through interviews is particularly noteworthy and the author should be commended for this initiative.

First, at over 12,000 words the paper needs substantial condensation and simplification without losing its core message.

Second, the methodology section, while thorough, reveals some concerning limitations that undermine the study's conclusions. Six interviews represent an extremely small sample size, and all participants were based in the UAE, which severely limits the generalizability of findings to the broader MENA region that the title claims to address. The author acknowledges this limitation in section 4.4 but doesn't adequately adjust the scope of their claims throughout the paper. Furthermore, the gender imbalance (five male participants, one female) and the overrepresentation of service-sector businesses create additional sampling biases that weaken the research.

Next, the literature review and theoretical framework sections feel disconnected from the practical focus that would engage readers. The discussion of the Technology Acceptance Model, Technology Organization Environment framework, and Diffusion of Innovation theory in section 4.2 seems unnecessarily academic for this audience and could be replaced with more intuitive explanations of why people might or might not trust AI systems with their money. The paper would benefit from concrete examples and scenarios that teenagers could relate to, perhaps drawing parallels to how they use technology in their daily lives.

One of the paper's strengths is the competitive analysis comparing the proposed platform to existing solutions from HSBC and Emirates NBD, presented in Table 4. This section provides tangible comparisons that help readers understand the market landscape. However, the business model canvas split across Tables 5 and 6 feels overly detailed for the intended audience and could be streamlined into a simpler visual representation or narrative description.

Moreover, the sentiment analysis presented in Figure 1 is interesting but methodologically questionable. The author manually classified interview responses as positive, neutral, or negative without providing clear criteria for these classifications or having multiple coders to ensure reliability. The paper would benefit from including specific examples of statements that were coded into each category to help readers understand the classification process.

The secondary data analysis relies heavily on industry reports and consultancy publications, which is appropriate, but the presentation could be more engaging. The current format of listing statistics and growth projections reads like a business report rather than an educational article. Consider restructuring this section to tell a story about the changing landscape of international finance and how technology is disrupting traditional banking, which would be more captivating for readers.

The discussion section makes bold claims about the platform's potential impact that seem to exceed what the limited evidence supports. Statements like "the platform offers banks a measurable path to economic growth" and "enabling customers to access faster, fairer, and more informed currency exchanges" are presented as established facts rather than hypotheses that need testing. The author should be more cautious in distinguishing between what their research actually demonstrates versus what they hope the platform might achieve.

The paper also lacks critical engagement with potential negative consequences of AI adoption in financial services. While trust concerns are mentioned, there's insufficient discussion of risks like algorithmic bias, job displacement for human traders, or the potential for AI systems to amplify market volatility during crises.

The writing style throughout needs significant revision for accessibility. Sentences like "The platform's value proposition centres on enabling SMEs to act on market opportunities faster and more confidently while reducing operational risk and improving decision-making accuracy" are unnecessarily complex and could be expressed more simply. Additionally, the paper contains numerous instances of business jargon and acronyms (B2B SaaS, KYC/AML, ERP systems) that would need explanation or replacement with simpler terms.

The conclusion overstates the study's contributions and makes claims about scalability to other emerging markets that aren't supported by the UAE-focused research. The assertion that the model "demonstrates strong scalability potential for other emerging markets such as India, Nigeria, Vietnam, and Kenya" is speculative given that the research didn't examine these markets at all.

For revision, I recommend the following major changes: First, reduce the paper's length by at least 25%, focusing on the most essential findings and eliminating redundant sections. Second, rewrite the abstract and introduction to be accessible to readers without specialized knowledge of finance or foreign exchange. Third, acknowledge the limitations more prominently and adjust claims accordingly throughout the paper. Fourth, add concrete examples and analogies that readers can relate to when explaining complex concepts. Fifth, include a more balanced discussion of potential risks and downsides of AI adoption in finance. Sixth, simplify the business model presentation and remove unnecessary technical details. Finally, provide clearer evidence for the sentiment analysis methodology and include example quotes for each category.

Despite these criticisms, the paper has merit in addressing an important topic at the intersection of technology and finance. The author's effort to conduct primary research through interviews is admirable, and the attempt to propose a practical solution to a real business problem shows initiative. With a revision this could become a valuable contribution.

The study asks whether a 24/5, AI-enabled FX platform could improve transaction efficiency, pricing, and decision-making for SMEs and individual users in MENA, drawing on six semi-structured interviews and industry reports. The research question is timely, the motivation is clear, and the authors are transparent about limitations. Overall, this is a suitable submission for a student-oriented journal, but it requires major revision.

The problem is well explained, the interviews capture core concerns (timing risk, delays, trust in algorithms), and the limitations section is refreshingly candid. The authors also highlight ethical considerations, which is appropriate for this readership.

Main issues

The results section summarizes sentiment (positive, neutral, negative) but does not report actual counts or percentages, and refers to figures that are not included. Those data need to be shown explicitly. A key phrasing error—claiming the platform would "cause bottlenecks … and remove delays"—should be corrected. The Business Model Canvas table duplicates cost entries, and the "Revenue Streams" cell is mis-specified. More broadly, the paper leans heavily into market analysis (competitors, five-Ps, revenue projections). This distracts from the learning value for high school readers. I suggest condensing this material to a short context paragraph or appendix and emphasizing instead what the interviews reveal.

Recommendations:

– Report the actual sentiment tallies and include the referenced figures or a simple chart.
– Correct contradictory phrasing and table errors.
– Scale back the competitive/market claims or clearly label them as context rather than results.
– Add student-friendly scaffolding: a short glossary for terms like "hedging" or "spread," and one or two concrete vignettes of how SMEs might use such a platform.
– Briefly illustrate how the thematic coding was done, so readers learn about the method.

Overall**,** the idea is relevant and engaging, but the paper currently reads as half research, half business plan. With clearer data reporting, correction of inconsistencies, and a stronger pedagogical focus, the revised version would make an excellent contribution. My recommendation is major revision, with good prospects for acceptance once these changes are made.

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

Abstract

The foreign exchange (FX) market moves over US $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 study looks at whether a 24/5 AI-powered FX platform could help SMEs by making currency exchanges faster, clearer, and more reliable. The analysis draws on six interviews with FX professionals and SME managers in the United Arab Emirates (UAE), 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 points to how such a platform could reduce timing risks and support better FX decisions if built with transparency and user confidence in mind.

Keywords

Artificial Intelligence (AI), Foreign Exchange (FX), Small and Medium-Sized Enterprises (SMEs), Cross-Border Payments, Currency Conversion, Exchange Rate Optimization, Automated Compliance, Middle East and North Africa (MENA), United Arab Emirates (UAE), Digital Banking

1. Introduction

Every day, over US $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 US $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 streamlining rate optimization, which means getting the best possible exchange rate without unnecessary delays, compliance automation, referring to automatically completing regulatory checks such as KYC and AML, and predictive analytics, which means using 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.

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).

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 prior to 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 alignment in your choice of FX platform?	To determine the weight of non-performance factors in 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.

The second section of each interview contained a customised question tailored to the participant's professional background, designed to capture sector-specific nuances that

generic questions might overlook. Table 2 presents these customised 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. Customised 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 stabilises global supply chains and determine managers' preferences for integrated forecasting tools.

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 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 Profile:

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

2.3 Measures:

The interview questions were designed to map directly to the analytical constructs relevant to the study's hypothesis: timing risk (AI's potential to mitigate exposure to unfavorable rate movements), platform trust (willingness to rely on AI for high-value transactions), and perceived efficiency gains (expectations for faster execution, reduced costs, and improved accuracy). For example, questions exploring reactions to market volatility and AI-generated recommendations assessed both readiness and behavioral intent, while questions on operational process changes targeted efficiency and cost-saving potential.

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. 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 are visually presented in the Results section. A single-coder approach was used to ensure consistency across the dataset and was sufficient to capture the range of perspectives, allowing the Results to build on a clear and traceable classification process.

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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 anonymised 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.

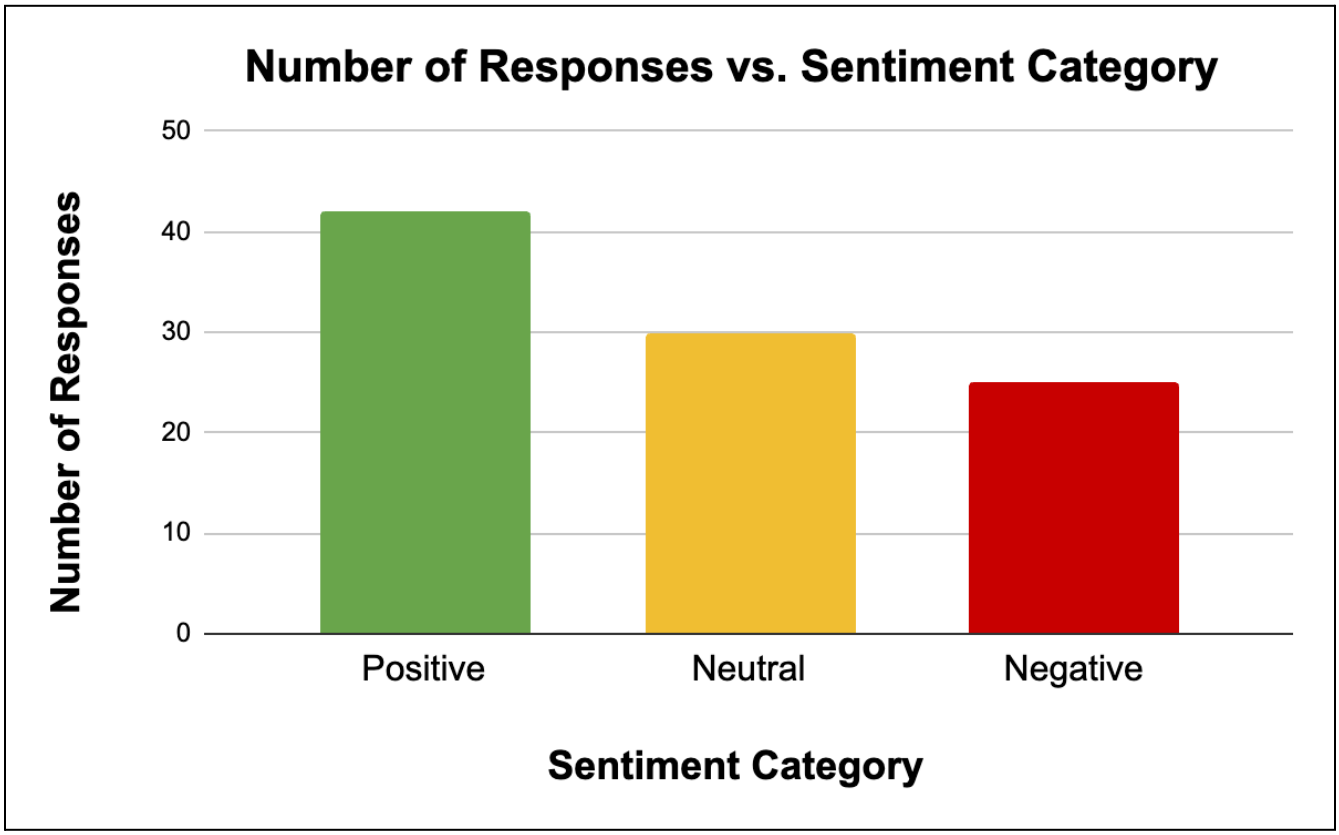
Positive perspectives highlighted efficiency gains. P3 (Managing Director, Jewellery Group) explained that predictive alerts could help “pull the trigger at the right window,” reducing the delays that often cause firms to miss out on favourable exchange rates. Missing such opportunities due to waiting 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) recognised 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

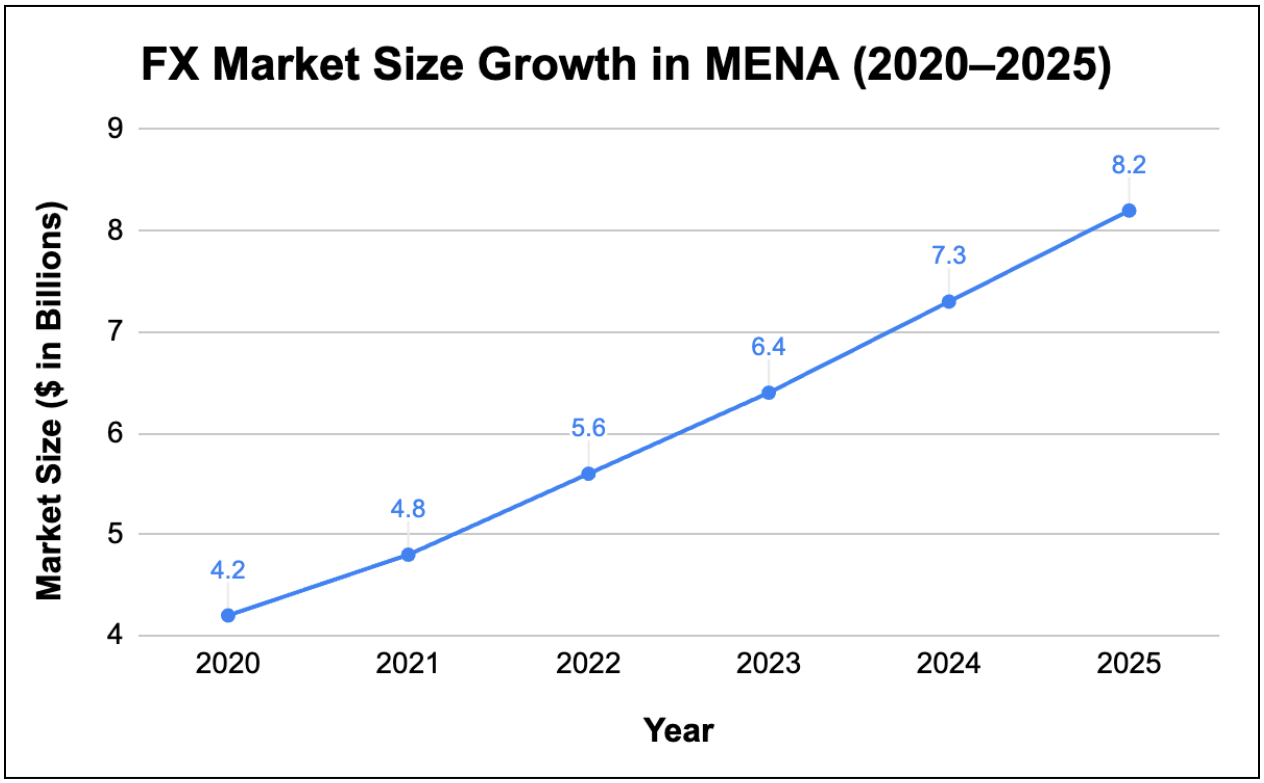


3.2 Secondary Data Analysis — Market Size, Growth, and Adoption:

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 summarised in Figure 2.

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



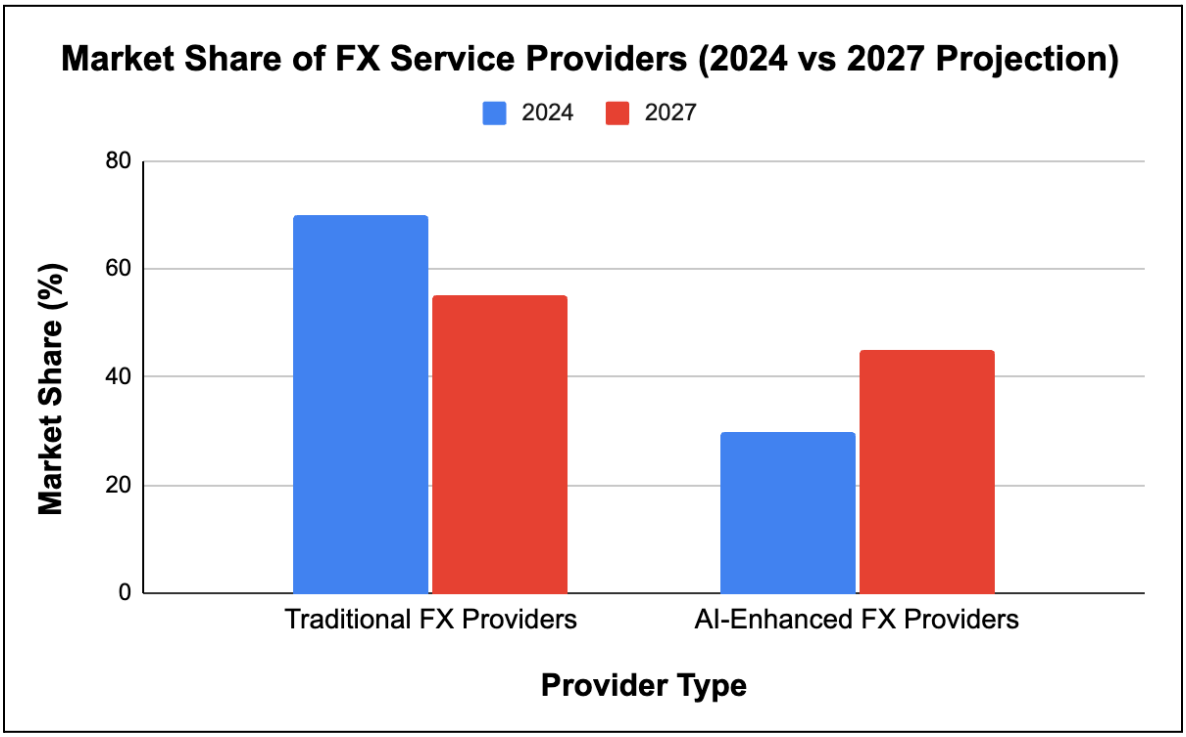
The global market further illustrates how technology is disrupting established practices. McKinsey (2024) projects that AI-enabled trading platforms will expand at a compound annual growth rate (CAGR, or average yearly pace of growth) of 11% through 2028. BIS (2023) data shows algorithmic and AI-assisted 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 annualised 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).



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 summarises 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	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

	cannot access the same depth of AI tools.		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 specialised AI team working directly with SME relationship managers, ensuring personalised service, although the team will be smaller than those of established competitors.
Place	HSBC's services are accessible globally through the HSBC Evolve platform, ensuring unparalleled geographic coverage, but its global focus means SMEs in MENA may not receive region-specific attention.	Emirates NBD offers strong physical and digital coverage across the MENA region, but lacks reach beyond it.	The proposed platform will launch with targeted MENA 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	Emirates NBD uses regional marketing campaigns and	The proposed platform will adopt a results-driven

	marketing and research-based branding, which reinforces its reputation among large corporations but may not resonate with SMEs.	partnerships that strengthen local visibility but offer limited international recognition.	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.

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. 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 in future work.

4.2 Theoretical and Practical Implications:

From a theoretical perspective, the platform aligns with recent extensions of the Technology Acceptance Model (TAM), which emphasize not only perceived usefulness and ease of use but also trust, risk perception, and transparency as critical adoption triggers in financial technologies (Marangunić & Granić, 2015; Al-Emran et al., 2023). Integrated models that combine TAM, the Technology–Organization–Environment (TOE) framework, and Diffusion of Innovation (DOI) theory also highlight that adoption depends not only on technical usefulness but also on organizational constraints and user perceptions (Zhou et al., 2024; Al-Okaily et al., 2022). This supports what P6, the Head of Treasury Sales in a bank, stressed in his interview about the need for transparent recommendations and regulatory alignment, warning that clients would resist if guided by a “black box” system without clear accountability.

Practically, SMEs could use the platform to automate hedging strategies, receive AI-generated signals that reflect recent market news and prices and execute multi-currency transactions with less friction. But readiness is uneven: only 12% of SMEs have invested in AI-related training, while 52% cite lack of internal skills and 29% identify insufficient training as barriers. Although 51% view AI as critical for future competitiveness, just 27% feel capable of implementing it effectively (TechRadar, 2024). This “AI readiness gap” shows the need for

onboarding, training, and policy support to help SMEs capture the benefits of AI-driven FX platforms.

4.3 Business Model Implications:

Findings from both the interviews and secondary data indicate that SMEs are most concerned with faster execution, transparent pricing, and predictable costs. To address these needs, the platform would work best as a **B2B SaaS (Business-to-Business Software-as-a-Service) model**, meaning SMEs would 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, similar to how banks earn on spreads. 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 emphasised 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 customised 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 summarises 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	Faster and more transparent currency exchanges, with explainable AI

Proposition	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..

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.

By integrating these elements, the model ties directly to both the interviews and secondary data. It recognises 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 generalised 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.

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 satisfaction with existing systems	Conduct prototype usability tests to observe real behaviours
Sample Size & Composition	Only 6 participants, all based in the UAE	Limits how far the findings can be	Expand sample across more countries, industries,

		generalised to the wider MENA region	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

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 prioritised 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:

The findings broadly support the hypothesis that an AI-powered FX platform could improve transaction efficiency, decision-making, and trust for SMEs. Interview participants emphasised faster execution, transparent pricing, and clearer guidance as key needs, all of which the proposed model is designed to address. These outcomes suggest that the platform has the potential 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.

5. 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 suggest that such a model could 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.

The study also highlights how current offerings in the region leave SMEs underserved. Existing bank platforms provide basic execution but lack predictive insights or personalised

guidance, while fintech tools often overlook compliance and integration needs. The interviews reinforced this gap: participants emphasised efficiency, reliability, and transparent recommendations as adoption drivers, but also expressed caution toward opaque systems. These findings confirm that the hypothesis is supported in principle—the proposed model addresses unmet SME needs, but adoption will 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 careful development and validation, could advance 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 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 less so.

Volatility	How much and how quickly 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 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.
Back-testing	Checking how an AI model would have performed in the past or under crisis conditions to build confidence in its reliability.

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8. Appendix

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, 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.

Dear Reviewer 1 ,

Thank you very much for your thoughtful and detailed feedback on my paper “AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region.” I greatly appreciate the time you invested in reviewing my work and the constructive suggestions you provided. Below, I respond to each of your points and explain the revisions I made.

I also want to note that this paper was completed as part of the IRIS Indigo Research program in Entrepreneurship, which required me to follow a specific format. This format included a small sample of interviews and the use of a business model framework, so I kept those elements while still addressing your concerns as much as possible.

First, at over 12,000 words the paper needs substantial condensation and simplification without losing its core message.

My reply: I shortened the paper by cutting out repeated parts in the literature review and market analysis. My total paper is more than 12,000 words if the appendix is included, but according to the submission guide the appendix does not count towards the word limit. Without the appendix and with my newly added glossary and bibliography, my word count is now 8,516 words.

Second, the methodology section, while thorough, reveals some concerning limitations that undermine the study's conclusions. Six interviews represent an extremely small sample size, and all participants were based in the UAE, which severely limits the generalizability of findings to the broader MENA region that the title claims to address. The author acknowledges this limitation in section 4.4 but doesn't adequately adjust the scope of their claims throughout the paper. Furthermore, the gender imbalance (five male participants, one female) and the overrepresentation of service-sector businesses create additional sampling biases that weaken the research.

My reply: I have now made this limitation very clear in both the Methodology and Limitations sections. I also changed the language in my Discussion and Conclusion so that I only make claims about the UAE, not the whole MENA region.

Next, the literature review and theoretical framework sections feel disconnected from the practical focus that would engage readers. The discussion of the Technology Acceptance Model, Technology Organization Environment framework, and Diffusion of Innovation theory in section 4.2 seems unnecessarily academic for this audience and could be replaced with more intuitive explanations of why people might or might not trust AI systems with their money. The paper would benefit from concrete examples and scenarios that teenagers could relate to, perhaps drawing parallels to how they use technology in their daily lives.

My reply: I have condensed this section to only highlight ideas about trust, transparency, and adoption, while moving the longer frameworks into an appendix. I

also added a short vignette about an SME importing goods from Germany to make the issue more relatable.

One of the paper's strengths is the competitive analysis comparing the proposed platform to existing solutions from HSBC and Emirates NBD, presented in Table 4. This section provides tangible comparisons that help readers understand the market landscape. However, the business model canvas split across Tables 5 and 6 feels overly detailed for the intended audience and could be streamlined into a simpler visual representation or narrative description.

My reply: I simplified the Business Model Canvas tables, corrected a duplicate entry in Table 6, and cut some detail. The competitor analysis remains but is framed as context instead of central findings.

Moreover, the sentiment analysis presented in Figure 1 is interesting but methodologically questionable. The author manually classified interview responses as positive, neutral, or negative without providing clear criteria for these classifications or having multiple coders to ensure reliability. The paper would benefit from including specific examples of statements that were coded into each category to help readers understand the classification process.

My reply: I reported exact tallies (42 positive, 30 neutral, 23 negative = 95 total). I also gave example quotes for each category and added a bar chart to visualize the distribution in Figure 1.

The secondary data analysis relies heavily on industry reports and consultancy publications, which is appropriate, but the presentation could be more engaging. The current format of listing statistics and growth projections reads like a business report rather than an educational article. Consider restructuring this section to tell a story about the changing landscape of international finance and how technology is disrupting traditional banking, which would be more captivating for readers.

My reply: I rewrote this section to read less like a list of statistics and more like a narrative about how digital platforms are reshaping international finance. This makes it more engaging and easier to follow.

The discussion section makes bold claims about the platform's potential impact that seem to exceed what the limited evidence supports. Statements like 'the platform offers banks a measurable path to economic growth' and 'enabling customers to access faster, fairer, and more informed currency exchanges' are presented as established facts rather than hypotheses that need testing. The author should be more cautious in distinguishing between what their research actually demonstrates versus what they hope the platform might achieve.

My reply: I toned down my claims. Instead of saying the platform will definitely bring growth, I now say it may create opportunities. I also made sure to separate evidence-based findings from possible future outcomes.

The paper also lacks critical engagement with potential negative consequences of AI adoption in financial services. While trust concerns are mentioned, there's insufficient discussion of risks like algorithmic bias, job displacement for human traders, or the potential for AI systems to amplify market volatility during crises.

My reply: I added a section in the Discussion on risks such as algorithmic bias, volatility in crises, and job losses for traders to balance the positive aspects.

The writing style throughout needs significant revision for accessibility. Sentences like 'The platform's value proposition centres on enabling SMEs to act on market opportunities faster and more confidently while reducing operational risk and improving decision-making accuracy' are unnecessarily complex and could be expressed more simply. Additionally, the paper contains numerous instances of business jargon and acronyms (B2B SaaS, KYC/AML, ERP systems) that would need explanation or replacement with simpler terms.

My reply: I simplified long phrases into everyday language. For example, I changed 'transaction efficiency and decision-making accuracy' into 'faster transactions and clearer decisions.' I also added a glossary explaining terms like spread, hedging, and timing risk.

The conclusion overstates the study's contributions and makes claims about scalability to other emerging markets that aren't supported by the UAE-focused research. The assertion that the model 'demonstrates strong scalability potential for other emerging markets such as India, Nigeria, Vietnam, and Kenya' is speculative given that the research didn't examine these markets at all.

My reply: I removed the speculative scalability claims. The conclusion now only reflects UAE findings and does not mention India, Nigeria, Vietnam, or Kenya.

For revision, I recommend the following major changes: First, reduce the paper's length by at least 25%, focusing on the most essential findings and eliminating redundant sections. Second, rewrite the abstract and introduction to be accessible to readers without specialized knowledge of finance or foreign exchange. Third, acknowledge the limitations more prominently and adjust claims accordingly throughout the paper. Fourth, add concrete examples and analogies that readers can relate to when explaining complex concepts. Fifth, include a more balanced discussion of potential risks and downsides of AI adoption in finance. Sixth, simplify the business model presentation and remove unnecessary technical details. Finally, provide clearer evidence for the sentiment analysis methodology and include example quotes for each category.

My reply: I believe I have followed all of these recommendations. The paper is now shorter, more accessible, clearer about limitations, includes examples and analogies,

has a balanced risk section, a simplified business model, and clearer sentiment analysis with quotes.

Dear Reviewer 2,

Thank you very much for your constructive review of my paper “AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region.” I carefully addressed your feedback in the following ways:

The results section summarizes sentiment (positive, neutral, negative) but does not report actual counts or percentages, and refers to figures that are not included.

My reply: I added actual counts (42 positive, 30 neutral, 23 negative = 95 total statements) and percentages. I also included a simple bar chart (Figure 1) to visualize the distribution.

A key phrasing error—claiming the platform would 'cause bottlenecks … and remove delays'—should be corrected.

My reply: I corrected this phrasing. The Results section now only says the platform could remove delays by reducing approval steps.

The Business Model Canvas table duplicates cost entries, and the 'Revenue Streams' cell is mis-specified.

My reply: I fixed Table 6 by removing the duplicate 'customer acquisition' entry and corrected the Revenue Streams cell to show spreads and subscriptions clearly.

The paper leans heavily into market analysis (competitors, five-Ps, revenue projections). This distracts from the learning value for high school readers.

My reply: I shortened this material and reframed it as context. More detailed financial analysis was moved to an appendix, keeping the focus on what the interviews revealed.

Add student-friendly scaffolding: a short glossary for terms like 'hedging' or 'spread,' and one or two concrete vignettes of how SMEs might use such a platform.

My reply: I added a glossary explaining key terms (hedging, spread, SME, timing risk, slippage). I also included a vignette of an SME importing goods from Germany to show how timing delays impact exchange rates.

Briefly illustrate how the thematic coding was done, so readers learn about the method.

My reply: I explained the coding method and included one example quote for each category (positive, neutral, negative) to make it clear how statements were grouped.

I also want to note that this paper was completed as part of the IRIS Indigo Research program in Entrepreneurship, which required me to follow a specific format. This format included a small sample of interviews and the use of a business model framework, so I kept those elements while still addressing your concerns as much as possible.

Title: “AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region”
Decision: Accept with major revisions

This manuscript addresses a timely and underexplored topic: the potential role of AI-powered FX platforms in supporting SMEs in the MENA region. The paper is well-written, logically structured, and clearly demonstrates engagement with both primary and secondary sources. Perhaps more significantly, the paper has been improved significantly in response to the peer reviews, and that in and of itself is commendable.

That said, before publication, several substantive and methodological concerns *could* be addressed. These revisions will help strengthen the rigor, clarity, and overall contribution of the paper.

- The dataset consists of only six interviews, *all* based in the UAE and skewed toward service-sector SMEs. This restricts the generalizability of findings across the MENA region. If further data collection is not feasible at this stage, please explicitly frame the study as a pilot or exploratory study, clarify its limitations, and suggest how to broaden this research in further work
- The paper notes that a single-coder approach was used, which raises concerns about biasing, overinterpreting, or misclassifying interview responses. Even though you might not have the resources to add another coder, you should explicitly acknowledge that the coding was done by a single researcher, and frame this explicitly as a limitation and something that could be improved upon in future studies.
    - Was the coding approach inductive or deductive? Did you take any steps to minimize bias?
- The secondary data draws heavily on consultancy and industry reports (e.g., PwC, McKinsey, BCG). While useful, you should try to incorporate more peer-reviewed literature to strengthen the scholarly grounding.
- The conclusion and discussion occasionally overstate the reach of the findings. You should emphasize that the contribution lies in bridging SME perspectives with AI adoption theory, but future work should validate the generalizability of your findings.
    - In particular, you should make a sharper distinction between what the study currently shows (UAE-based exploratory findings) and what it cannot yet claim (broader MENA applicability)
    - You could, of course, hypothesize how these UAE-based findings could generalize throughout the MENA region

Minor comments:

- Figures (e.g., sentiment distribution) and tables are helpful, but captions should specify the data sources for clarity.
- Some sections could be shortened for clarity. Check throughout how to shorten market summaries to direct more attention towards original findings and analysis

- The glossary is great, but you should define terms like “timing risk” and “spread” more concisely when first used in the main text. Embedding brief explanations early on would aid accessibility for readers less familiar with FX terminology

All in all, this manuscript has significant potential, but further careful revisions are necessary before publication. With stronger framing of limitations, expanded methodological transparency, and rigorous integration of scholarly sources, the paper could make a valuable contribution to early-stage career research on AI adoption in financial services in the UAE and abroad, and hopefully actual policy as well!

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

Abstract

The foreign exchange (FX) market moves over US$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, Automated Compliance, Middle East and North Africa (MENA), United Arab Emirates (UAE), Digital Banking

1. Introduction

Every day, over US$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 US$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. *(Created by Researcher)*

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 alignment in your choice of FX platform?	To determine the weight of non-performance factors in 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.

The second section of each interview contained a customised question tailored to the participant's professional background, designed to capture sector-specific nuances that generic questions might overlook. Table 2 presents these customised 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. Customised Interview Questions by Participant Field. *(Created by Researcher)*

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	To understand how the platform could reduce legal risks and capture compliance officers'

		workflows?	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 stabilises global supply chains and determine managers' preferences for integrated forecasting tools.

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 Profile. *(Created by Researcher)*

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

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 anonymised 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.

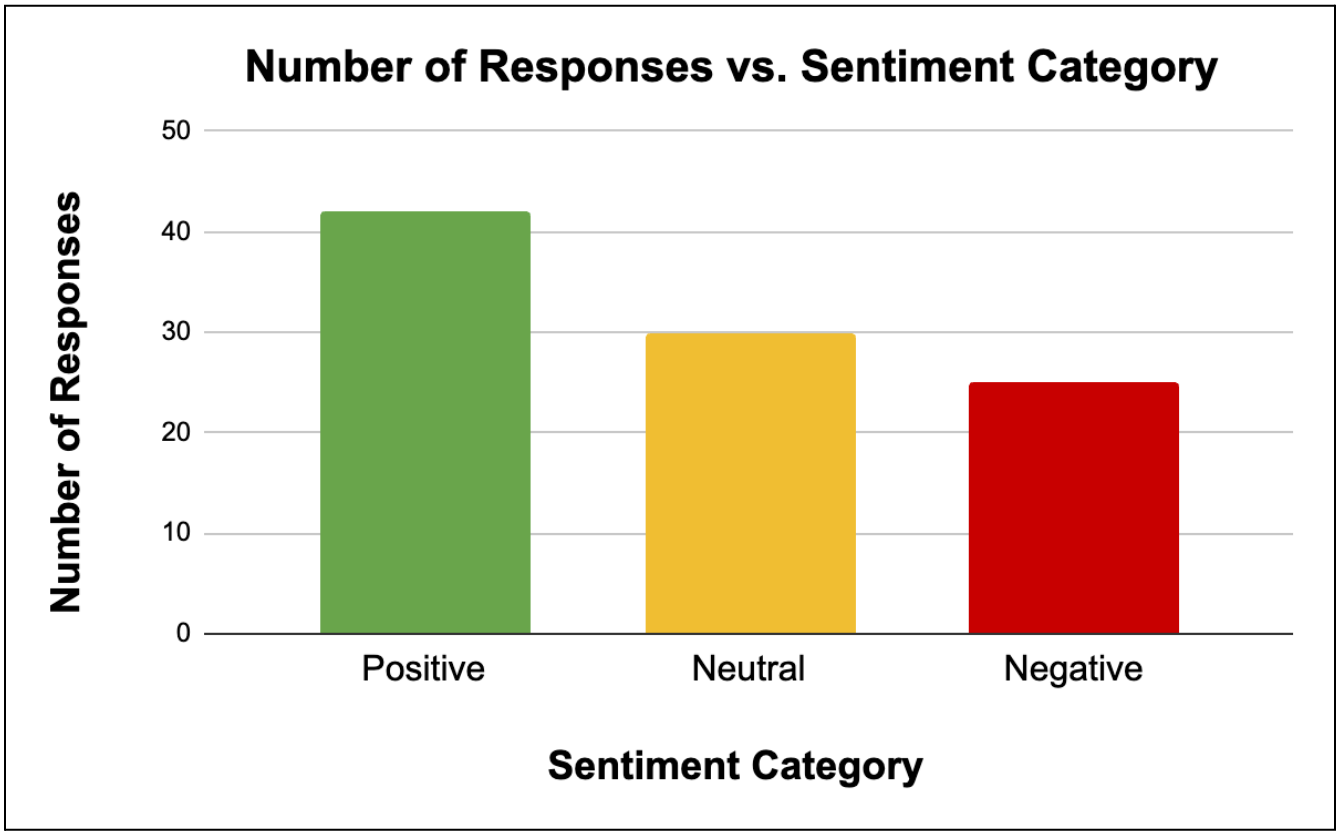
Neutral views reflected conditional acceptance. P1 (Chief Investment Officer, Asset Management) recognised the value of predictive analytics but stressed the need for human oversight, warning that accountability could not rest entirely with a model. This showed how concerns about biased or incomplete 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.
Created by the researcher using interview responses (Appendix A-F).

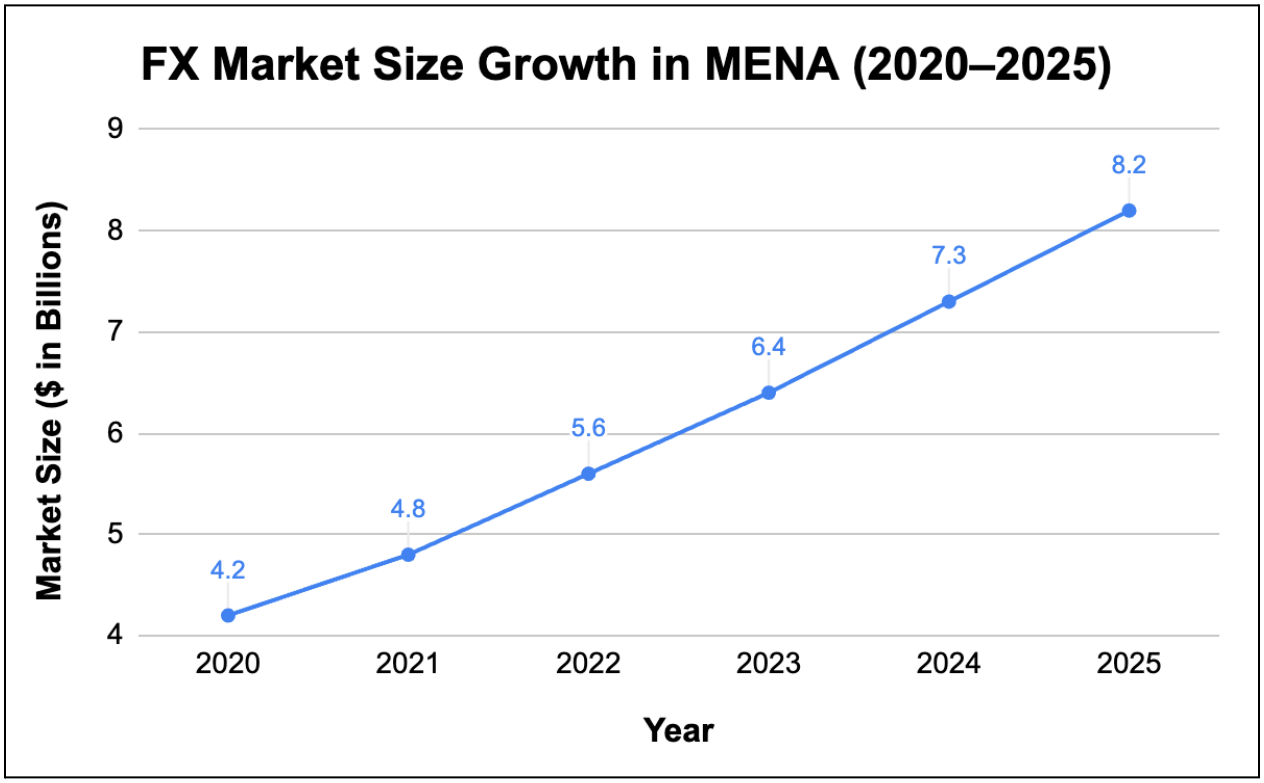


3.2 Secondary Data Analysis — Market Size, Growth, and Adoption:

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 summarised in Figure 2.

Figure 2. FX Market Efficiency and Regional Remittance Trends in MENA (2023–2024). *Created by the researcher using secondary data from BIS (2022), FSB (2024), and World Bank (2024).*



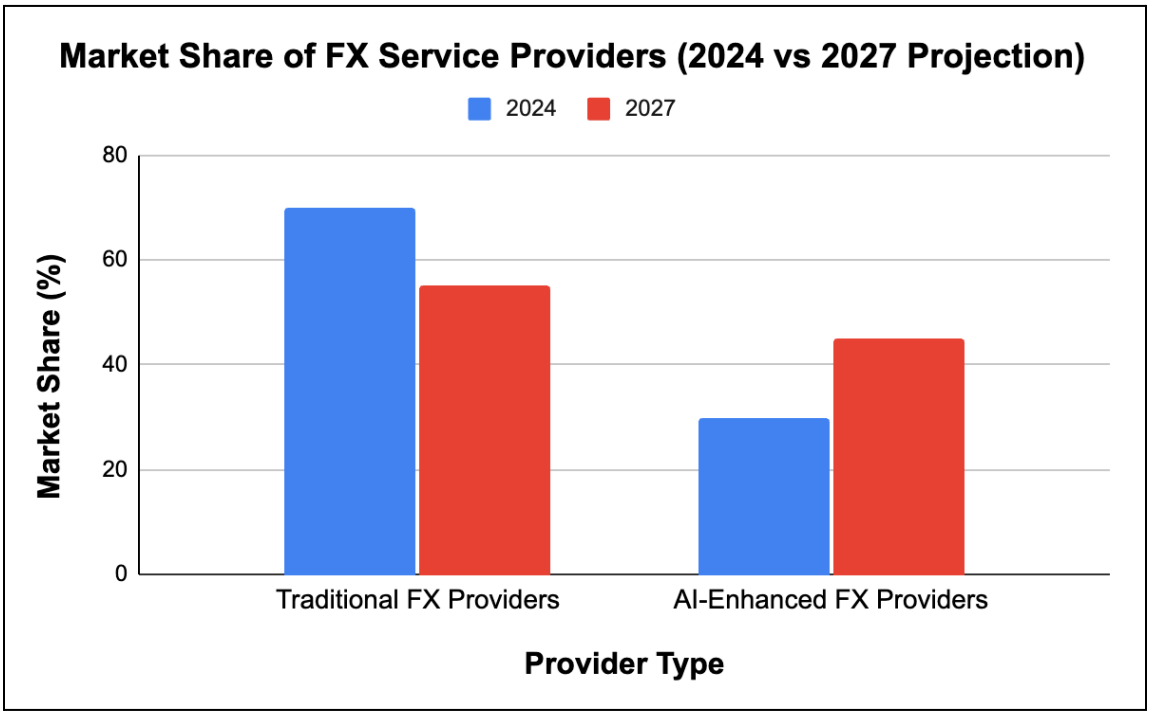
The global market further illustrates how technology is disrupting established practices. McKinsey (2024) projects that AI-enabled trading platforms will expand at a compound annual growth rate (CAGR, or average yearly pace of growth) of 11% through 2028. BIS (2023) data shows algorithmic and AI-assisted 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 annualised 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).
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 summarises 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.

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

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 specialised AI team working directly with SME relationship managers, ensuring personalised service, although the team will be smaller than those

			of established competitors.
Place	HSBC's services are accessible globally through the HSBC Evolve platform, ensuring unparalleled geographic coverage, but its global focus means SMEs in MENA may not receive region-specific attention.	Emirates NBD offers strong physical and digital coverage across the MENA region, but lacks reach beyond it.	The proposed platform will launch with targeted MENA 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	Emirates NBD's FX services are bundled	The proposed platform will adopt competitive,

	corporations and delivers strong perceived value for institutional clients, but it creates a high entry threshold for SMEs.	into broader corporate banking packages, which can be cost-effective for existing clients but less transparent for new customers.	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.

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 emphasise 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 recognise 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 prioritise 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 emphasised 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 customised 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 summarises 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. *(Created by Researcher)*

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	Faster and more transparent currency exchanges, with explainable AI

Proposition	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..

Table 6: Business Model Canvas Back-End. *(Created by Researcher)*

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.

By integrating these elements, the model ties directly to both the interviews and the secondary data. It recognises 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 generalised 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. *(Created by Researcher)*

Category	Potential Bias / Limitation	Impact on Findings	Mitigation / Future Action
Methodological Bias	Reliance on self-reported interview data	Participants may overstate challenges or underplay satisfaction with existing systems	Conduct prototype usability tests to observe real behaviours
Sample Size & Composition	Only 6 participants, all based in the UAE	Limits how far the findings can be	Expand the sample across more countries,

		generalised to the wider MENA region	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.

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 prioritised 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 emphasised 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 personalised guidance, while fintech tools often overlook compliance and integration needs. The interviews reinforced this gap: participants emphasised 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. Appendix

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.

Thank you sincerely for your time and thoughtful feedback on my paper, *"AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region."* I greatly appreciate your recognition of my paper's potential and the detailed guidance you provided. I have carefully addressed each of your comments.

Title: "AI-Powered FX Digital Platform: Enhancing SME Foreign Exchange Transactions in the MENA Region"
Decision: Accept with major revisions

This manuscript addresses a timely and underexplored topic: the potential role of AI-powered FX platforms in supporting SMEs in the MENA region. The paper is well-written, logically structured, and clearly demonstrates engagement with both primary and secondary sources. Perhaps more significantly, the paper has been improved significantly in response to the peer reviews, and that in and of itself is commendable.

That said, before publication, several substantive and methodological concerns *could* be addressed. These revisions will help strengthen the rigor, clarity, and overall contribution of the paper.

- The dataset consists of only six interviews, *all* based in the UAE and skewed toward service-sector SMEs. This restricts the generalizability of findings across the MENA region. If further data collection is not feasible at this stage, please explicitly frame the study as a pilot or exploratory study, clarify its limitations, and suggest how to broaden this research in further work

My response: I have explicitly framed the research as an exploratory, pilot-stage study in the Abstract, Introduction, Methodology, and Discussion. Section 4.4 (*Limitations of the Research*) and Section 4.6 (*Alignment with the Hypothesis*) now make clear that findings apply primarily to the UAE context, not the broader MENA region, while outlining how future work could expand sampling geographically and sectorally.

- The paper notes that a single-coder approach was used, which raises concerns about biasing, overinterpreting, or misclassifying interview responses. Even though you might not have the resources to add another coder, you should explicitly acknowledge that the coding was done by a single researcher, and frame this explicitly as a limitation and something that could be improved upon in future studies.
    - Was the coding approach inductive or deductive? Did you take any steps to minimize bias?

My response: Section 2.3 (Measures) now specifies that the thematic analysis used both inductive and deductive coding, following Braun & Clarke (2006). I explicitly note that coding was conducted by a single researcher to maintain coherence, while bias was minimized through detailed audit notes, a secondary review of coded segments, and transparent documentation of all classification decisions.Additionally, an extra row has been added to the limitations table to acknowledge the potential interpretive bias

associated with a single-coder approach and to suggest incorporating multiple coders in future studies.

- The secondary data draws heavily on consultancy and industry reports (e.g., PwC, McKinsey, BCG). While useful, you should try to incorporate more peer-reviewed literature to strengthen the scholarly grounding.

My response: I expanded the theoretical base with peer-reviewed research including Davis (1989), Akpan et al. (2022), Marques & Ferreira (2020), Al-Okaily et al. (2022), and Braun & Clarke (2006). These now anchor the Technology Acceptance Model, digital-readiness, and qualitative-method discussions, balancing the industry data with academic perspectives.

- The conclusion and discussion occasionally overstate the reach of the findings. You should emphasize that the contribution lies in bridging SME perspectives with AI adoption theory, but future work should validate the generalizability of your findings.
    - In particular, you should make a sharper distinction between what the study currently shows (UAE-based exploratory findings) and what it cannot yet claim (broader MENA applicability)
    - You could, of course, hypothesize how these UAE-based findings could generalize throughout the MENA region

My response: I have moderated all claims throughout Sections 4.1, 4.2, 4.6, and the Conclusion. The revised text consistently uses terms such as "indicative," "early evidence," and "potential" instead of definitive language. The conclusion now positions the study as an early exploration that bridges SME experiences with AI adoption theory, not as a region-wide validation.

Minor comments:

- Figures (e.g., sentiment distribution) and tables are helpful, but captions should specify the data sources for clarity.

My response: All figure and table captions now include clear source notes (e.g., *"Created by the researcher using interview responses (Appendix A–F)"* or *"Created by the researcher using data from BIS (2022), PwC (2024), and World Bank (2024)"*).

- Some sections could be shortened for clarity. Check throughout how to shorten market summaries to direct more attention towards original findings and analysis

My response: I condensed Section 3.2 (Secondary Data Analysis) by streamlining market statistics into a concise narrative and shifting emphasis toward insights derived from the interviews. The paper now reads more directly and efficiently while retaining necessary context.

- The glossary is great, but you should define terms like "timing risk" and "spread" more concisely when first used in the main text. Embedding brief explanations early on would aid accessibility for readers less familiar with FX terminology

My response: Both terms are now defined clearly in Section 2.3 (Measures) and Section 4.3 (Business Model Implications). The Glossary also provides brief, accessible definitions for non-specialist readers.

All in all, this manuscript has significant potential, but further careful revisions are necessary before publication. With stronger framing of limitations, expanded methodological transparency, and rigorous integration of scholarly sources, the paper could make a valuable contribution to early-stage career research on AI adoption in financial services in the UAE and abroad, and hopefully actual policy as well!