Foreign Exchange Management System (FXMS)

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Chapter 1

System Request (FXMS)

1.1 Project Sponsor

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1.2 Business Need

The need for a project like the Foreign Exchange Management System (FXMS) is crucial for businesses operating internationally for several reasons:

- **Operating internationally:** Businesses engaged in importing and exporting goods and services will need a system like FXMS for currency conversion, enabling them to exchange their local currency for that of the country in which they wish to operate, thereby settling international transactions.
- **Managing cash flow:** Businesses operating overseas need to manage their cash across multiple currencies. FXMS will help them monitor and optimize their cash by converting currency at favorable rates and timings.
- **Softening the risk:** FXMS will provide businesses with tools to manage and mitigate the risks associated with fluctuations in currency prices. By using specific strategies, companies can lower the risk of exchange rate volatility and protect their profit margins.

1.3 Business Requirements

The functionality that the system should have includes:

- Ability to manage clients and accounts (insert, update, delete).
- Ability to manage trades (insert, update, and delete trades). Any trader can enter new trades while updating and deleting existing trades require specific privileges.
- Ability to manage traders and coverage groups by assigning a trader to a coverage group, moving a trader from one coverage group to another.

- Ability to manage currencies and rates including daily updates of rates available in the market. The system is assumed to be connected with another system (such as Tadawul) which provides daily updates for exchange rates between all currencies.
- The system will integrate with two systems: FX trading database and FX coverage group database. These two systems are the main data sources for the system.

1.4 Business Value

The Foreign Exchange Management System (FXMS) is expected to deliver significant gains:

- **Quicker and Better Decision Making:** Facilitated by the collection of multiple systems, enhancing competitive advantage in international markets.
- **Less Human Error:** The human factor is limited to tasks that require human interaction and not repetitive tasks that are error-prone.
- **More Money:** The efficient management of trades and currency conversions is expected to increase the organization's revenue.
- Headcount reduction by 10 traders per branch.
- 15% increase in market share.

1.5 Constraints

- The system should run on Windows 10.
- The system should be delivered by the end of the year 2028.
- Security and reliability must be considered during development.

Chapter 2

Feasibility Study

Overall, the risk in this project compared to the gains can be considered manageable.

2.1 Technical

The technical team is confident they can build it since they built a similar system before, the knowldege they gained during that experience lowers the risk.

- **Familiarity with application:** The team is familiar with building an FXMS.
- **Familiarity with technology:** Since the team members have a collective experience of over 50 years building complex software, we are confident they will be able to tackle the project.
- **Project Size:** Large project.
- **Compatibility:** The company wants a custom solution, so we will make sure it integrates well by analysing before we build anything and before we choose a platform.

The techincal team is confident they can build the system even though it is big. They have built a similar system before and they are familiar with the requirements and the technology.

2.2 Financial

2.2.1 Cost-Benefit Analysis

The cashflow analysis below in Figure 2.1 is a condensed versin of the 4 years (monthly based) version of the cashflow analysis. It gives an idea on the way the project will behave financially.

	Cash Flow Analysis					
		Y1	Y2	Y3	Y4	total
	0	1	2	3	4	
cash out						
office furniture	(150,000.00)					(150,000.00)
laptops	(50,000.00)					(50,000.00)
office rent		(300,000.00)	(300,000.00)	(300,000.00)	(300,000.00)	(1,200,000.00)
moci		(5,000.00)	(5,000.00)	(5,000.00)	(5,000.00)	(20,000.00)
utility		(11,000.00)	(11,000.00)	(11,000.00)	(11,000.00)	(44,000.00)
marketing		(500,000.00)	(500,000.00)	(500,000.00)	(500,000.00)	(2,000,000.00)
maintenance		(50,000.00)	(50,000.00)	(50,000.00)	(50,000.00)	(200,000.00)
t&a		(50,000.00)	(50,000.00)	(50,000.00)	(50,000.00)	(200,000.00)
salary		(1,463,370.00)	(1,463,370.00)	(1,463,370.00)	(1,463,370.00)	(5,853,480.00)
total	(200,000.00)	(2,379,370.00)	(2,379,370.00)	(2,379,370.00)	(2,379,370.00)	(9,717,480.00)
cash in						
captial	2,000,000.00					2,000,000.00
increased sales			1,450,083.37	7,758,308.70	41,508,891.91	50,717,283.98
decreased salaries			3,207,642.57	-	-	3,207,642.57
total	2,000,000.00	-	4,657,725.93	7,758,308.70	41,508,891.91	55,924,926.54
net cashflow	1,800,000.00	(2,379,370.00)	2,278,355.93	5,378,938.70	39,129,521.91	46,207,446.54
cummulative net cashflow	1,800,000.00	(579,370.00)	1,698,985.93	7,077,924.63	46,207,446.54	

Figure 2.1: Cashflow Analysis of FXMS

2.2.2 ROI and BEP

We will move to the big numbers, the ROI and the BEP.

ROI	488%
BEP	36

Figure 2.2: ROI and BEP of FXMS

2.2.3 Conclusion

The project overall risk is medium. Although the team familiarity is high, the system's dependencies and huge footprint makes us consider the project as medium risk.

Chapter 3

Methodology

Below in Table 3.1, the criteria we used to choose our methodology are mentioned with what we chose.

Table 3.1: Criteria Evaluation for System Development Methodologies

Criteria	Waterfall	Parallel	V-Model
Are the requirements clear?	Yes (Poor)	Yes (Poor)	Yes (Poor)
Is the technology familiar to the team?	Yes (Poor)	Yes (Good)	Yes (Good)
Is the system complex?	Yes (Good)	Yes (Good)	Yes (Good)
Does the system need to be reliable?	Yes (Good)	Yes (Good)	Yes (Excellent)
Is the system scheduled to be built in a short time?	No (Poor)	No (Good)	No (Poor)
Do we have schedule visibility?	Yes (Poor)	Yes (Good)	Yes (Poor)

We decided to go with the V-Model methodology since it is simple and straightforward, and the testing phase ensures quality and reliability, in addition to the quality personnel and the engineers themselves who will bake the quality in. We don't believe in doing quality work after the fact since it should be built and baked in from the beginning.

Also since the project requirements are clear and the team is comfortable with the technology, the V-Model methodology fits the use case and helps the project succeed.

Chapter 4

Project Workplan

The project workplan is shown in Figure 4.1. The project is divided into 7 main phases after the "Kick off meeting". The phases are:

- **Requirements Gathering:** This phase will be done by Nawaf.
- **Business Case:** This phase will be done by Mohammed.
- **System Design:** This phase will be done by Yazeed.
- **Analysis:** This phase will be done by Nawaf.
- **Design:** This phase will be done by Mohammed.
- **Development:** This phase will be done by Yazeed.
- **Quality Assurance:** This phase will be done by Nawaf.
- **Testing:** This phase will be done by Yazeed.

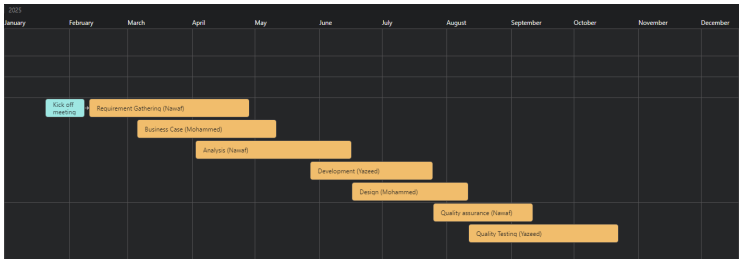

Figure 4.1: Workplan Breadown Structure (WBS) of FXMS