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E-MUDARABA SUGGESTED SYSTEM FOR ISLAMIC INVESTMENTS

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Abstract

This paper initiates a new ideas, for technical proposal, to digitalize the traditional Mudaraba contract, with a very special proposal, provides an effective technical mechanism, to complete the process of managing the Mudaraba account, in accordance with the requirements of Islamic Shariah, regarding the Mudaraba rules, by providing variety of proposed technical options, covering the set-up of Mudaraba investment account, managing this account, through withdrawal and deposit operations, easily distribution of generated profits, ability to convert the account nature from investment to current account, and vice versa. As well as, simplifying the operations, with the ability creation of an electronic system instead of the complex traditional procedures, which used in the traditional management of Mudaraba

accounts, the system considers strongly the Islamic banking regulations and rules which are essential to validate the Islamic banking transactions. Additionally, the system considered the required level of security in banking operations, by introducing a mechanism to secure the operation from any potential threatens.

Keywords: Mudaraba; Sharia; Islamic Banks; E-Bank; Investments; Electronic Signature; Applications

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INTRODUCTION

The local, regional and international banking arena is witnessing recently a great development in the Islamic banking industry, in establishing a new Islamic banks and the increasing of the Islamic windows, beside the conventional services [1], Islamic banks are considered as a new addition to ethic, safe and fair banking operations for a large group of depositors, especially Muslims, compared with conventional banks [2].

Islamic banking can define as the banking institution that collects and employs fund within the scope of Islamic Sharia (A religious law forming part of the Islamic tradition, It is derived from the religious precepts of Islam, particularly the Quran and the Hadith. Islamic law of transaction based on the prohibition of the usury which is known as Riba and the uncertainty which is known as Garar) [3], which aims to establish the Islamic justice society and achieving the equal distribution of wealth, the philosophy of Islamic banks is based on the principle of non-interest [4], which accepting deposits without interest rate as compensation for depositors, instead Islamic banks employ these deposits in areas permissible by Islamic law, through legitimate methods as well [5]. In addition, Islamic banks are financial institutions that act as financial intermediaries between savers and investors units, within the framework of the Shariah-based; Mudaraba is the Sharia suggested investment contract, based on the principle of profit and loss sharing [6].

Investment generally means the money generation through productive activities, with a financial investment instruments, such as stocks and bonds, or a real investment such as property's ownership [7], Investment also means assets purchasing by individuals and enterprises in order to obtain current or future income [8,9]. Islamic investment mean a set of productive and commercial activities to generate money in the Islamic way [10]. It is also an alternative process of freezing idle money, because the basic of money is to invest in productive activities, so the entitlement of returns requires production, Sharia forbidding usury, which generates money out of money [11]. In this area, Islamic banks are engaged in a various operations, which aim to support the society development, through the investment in activities acceptable to Sharia, the investment in the various ways and methods aims to achieve the legal profits from Sharia point of view, the most prominent among these methods is the Mudaraba. which can be known as: An investment partnership agreement under which the investor (the "Rab-ul-Mal") provides capital to the investment manager (the "Mudarib") in order to undertake a business or an investment activity. While profits are shared on a pre-agreed ratio, losses are borne only by the investor [12]. Banking Mudaraba is known as the provision of money to the bank to invest for a part of the generated profits, it is a safe way for clients to invest their money, and has been successfully applied in contemporary investments modes. The Mudaraba generated profit is must be known and divided between the parties by a pre-agreed ratio, which are percentages of the expected profits and not to the capital, if a lump sum pre-determined as a return, this spoils the contract without dispute [13].

This research covers two areas : the technical area, in terms of suggesting an integrated capable system, providing many technical options to the clients, in order to invest fund through the Mudaraba Islamic bank account, the suggested options intend to provide an easy management of the investment account through the 1-possibility of sharply profits calculations, 2-transfer of profits from the investment account to current accounts, 3-add and withdrew amounts in the Mudaraba investment account 4-full financial reports about all the transactions on the Mudaraba investment account. The other side discussed by the research is the banking procedure side, which aims to convert the traditional banking procedures

into a technical tools provided by the system, the research focuses on the validity of the operations that are conducted on the Mudaraba investment accounts within the Islamic banks conditions, and the compatibility of these tools with the Islamic Sharia.

LITERATURE REVIEW

As a result of the rapid growth in information technology, the use of electronic banking services has become one of the most important competition factors in banking industry. Banks have taken strides towards switching to e-banking services, to satisfy clients and to compete in banking services. E-banking services are accessible, secure and easy for the clients to use on a 24-hour basis [14]. Such services (website, e-cards, ATMs, smart phone applications, etc.), directing customers to use electronic banking services instead of traditional way, to achieve competitive advantage, Islamic banks as well should improve their electronic banking services to catch up with the current developments in technology [15].

One of the concepts associated with electronic banking services is the electronic operations, which means all financial and banking operations carried out or held via an electronic means. It is an important approach for establishing the electronic smart contract, which is conducted by electronic means in whole or in a part. It is authenticated, verifies the validity of the process and the identity of the client through the electronic signature, which is an encrypted part of the data, built up of letters, numbers or symbols, and listed in electronic, digital or image format. So that the originator can be identified, distinguished and confirmed for its content [16].

Mudaraba is a contract between two parties, one provides the capital of specific and known amount, to a second party, usually competent and safe, to invests this capital under certain conditions, the generated profits distribute between parties with a greed ratios [13], Mudaraba is one of the most important modes of investing money, executed by prophet Mohamed(peace be upon him) before Islam with his wife khadeja, currently it is widely used by investors, banks and Islamic financial institutions [17]. Accordingly, the Mudaraba mentioned in this study is the banking Mudaraba, thus the study aspires to provide a proposed technical system, that may help implementing the banking Mudaraba contract easily and smoothly,

which consists of many investors and a lot of employees, so bank accepts deposits from many clients who are not able to manage their own money, instead they choose the Islamic bank to invests their money on Islamic Sharia bases [18].

Shariah Rules in Mudaraba

According to primary and secondary sources of Islamic Sharia, regarding the conditions of the Mudaraba, there is a certain rules should be apply, to validate the contract from the sharia point of view, this rules are [19]:

- The capital shall be known and delivered to the (Mudarib).
- Both parties agreed the share of both parties in the Mudaraba profit.
- The owner of the money (the client) shall bear the loss.
- Profits will be distributed after the capital is recovered.
- If there is any negligence or misconduct of the Mudarib (the bank) the bank shall bear the loss.
- In the case of continuing Mudaraba, the loss may be covered from the profit of another operation.
- The Mudarib should employ best efforts to accomplish the objectives of the contract and investment.

Mudaraba Types

The Mudaraba classified to different types, as per the characteristic of the contract [20]:

- Mudaraba according to the nature of investment activity (unrestricted and restricted).
- Mudaraba according to the period of the Mudaraba contract (temporary and permanent).
- Mudaraba according to the number of parties (binary and collective).

The paper mainly concerned the type of Mudaraba with the characteristics that combine the freedom of the bank to invest in any activity it deems profitable

(unrestricted), and the contract is temporary, and the Mudaraba is collective, (multi-party Mudaraba), the collective Mudaraba can be categorized into three cases:

- One capital provider in the contract and multiple managers, such as investing for the capital provider a number of managers, who have experiences and the know-how in management and investment, against a specific share of profit.
- One manager and multiple investors, specific percentage of the profit to the management, this research supposed this style, bank do the management, in this case bank can establish one or separate contracts with investors, and this may be before the bank's work in the first client's money, or after (this case is applied to the proposed system, so that one bank invests for a number of money-providers (clients), and the system is keen to apply the traditional form of Mudaraba in a technical application.
- Multiple managers and multiple investors. These three scenarios of collective Mudaraba have been effectively applied to financial investment in Islamic banks, as an alternative to interest-based investment, and created a good opportunity for Islamic bank's clients to find a legitimate alternative to invest their money.

Steps of Traditional Banking Mudaraba [21]:

The Mudaraba operation commonly executed in the Islamic banks with many steps:

- A number of clients, each one invest a certain amount of money, in order to invest legally in the form of Mudaraba, clients have a certain percentage of expected profits, such as half or two thirds. The rest of the profit to the Islamic Bank.
- The Islamic Bank mixes all these funds and then invests in areas that comply with Islamic law.

- The Islamic Bank calculates the profits at the end of each year in an estimated manner. (Altandeed Alhokmi)¹, by counting the existing funds, including those recovered from investors with bank in different deals.
- The bank then deducts its share of agreed profits, which is the percentage that agreed upon the Mudaraba contract, then handing over the profits to the clients according to the invested amount and period.
- Any client may withdraw his capital in whole or in a part, at any time before or after the end of the year, but with a change in the percentage of profit entitlement from invested capital. This will be added as a technical tool in the proposed system, which will help clients to manage their investment easily.
- Investors bear the losses, without default or negligence from the Islamic bank; the amount of such damage shall be deducted from the client's capital. If the losses are a result of a negligence or misconduct by the bank, the bank shall bear the loss.

Above are the steps taken by traditional Mudaraba in Islamic banks, this will be apply to the proposed system, in a consistency with Islamic Shariah rules.

The system is trying to find an effective technical mechanism that provides many important tools, helping clients to manage the investment in the Mudaraba accounts, from these tools, the mechanism of profits distribution, which depend on the basis of legitimacy in the distribution of profits, it will use the mechanism of estimation (Altandeed Alhokmi), It aims to estimate the cash value of the expected profits, at the end of the contract term, or at the client request time [22]. Hence, the estimation mechanism in the Mudaraba contract, allows the Mudaraba contract to be terminated by the clients at any time, during the duration of the contract.

When applying the Islamic Shariah requirements to the traditional banking Mudaraba steps, there are a number of points that accompany these steps that require legitimate discussion, to give the proposed system, the ability to apply the Sharia rules in all suggested technical tools:

¹ *Is the process of estimating the values of assets and investments using accounting and financial measurement tools, so that the fair market value is considered at the valuation time. It is considered as an alternative to the actual liquidation of assets and investments. The assets are valued at fair market value as if the asset had been sold and the debt had been collected.*

Determining a specific period of time for Mudaraba contract: Mudaraba is a flexible contracts, allows the possibility of termination of the contract at any time, according to the willing of the parties, accordingly, both client or bank may requests termination of the contract at any time, and in the case of Mudaraba in a certain period specified in the contract, most important scholars of Islamic law (Hanafis and Hanbali) have approved the timing of Mudaraba investment at a certain time [23].

Termination of the Mudaraba contract: The Sharia legal rules regarding the termination of Mudaraba contract, relied on the views of a group of Muslim scholars, they all confirmed the possibility of client to terminate the contract at any time, and the possibility of taking part of the profits at any time, before ending of the contract, this rule is suitable for clients who engaged in collective Mudaraba [24], so the proposed system (electronic Mudaraba) provides a number of technical options to the clients aiming to participate in Islamic banking Mudaraba contract, such as, ending the Mudaraba contract, transferring money from the Mudaraba investment account to the current account, the electronic smart contracts used to apply the legal conditions that allow client to transfer the funds, so that the process is sound and valid from the legal perspective, additionally, the system also provides another technical service, enabling the client to withdraw part of the profits when needed, by calculating the profit rate, and estimating the period in which the capital was invested, and transferring the required amount by electronic contract, to the current account, the benefit of these technical services, is to give an easy option to manage investment in the Mudaraba accounts, without banks requiring clients to have a certain period of time to get their generated profits.

Distribution of profits by numbering: This term mainly intended to distribute the client's share of profits when realized, according to the investment amount, multiplied by the period of investment with the bank.

Example 1: If the first client deposits in Mudraba account a thousand dollars for one month, and the second client deposits in Mudraba account two thousand dollars for two months, if the expected profit is 5%, the first client under the principle of distribution by (numbering) is worth the profits of one hundred dollars (1%), ($1 \times 1=1$), and the second client ($2 \times 2=4$), the first client number is combined with the

second client number (1 + 4=5) then the profits divided to the total number (500/5=100), which is equal the share of the number of (100) and then multiplied to the number of shares per client (1 × 100=100),second client profits will be (4x100=400).

Traditional Mudaraba account Procedures in Islamic banks [19,20]:

- Submit an application for investment in Islamic Mudaraba.
- Put the client's money at the disposal of the bank.
- Implementation of investment activities.
- Distribution of profits.

THE PROPOSED SYSTEM

This section reviews the importance of information technology, and its contribution to the banking operations, and the emergence of many technical tools, to facilitate transactions between clients and banks to be fast, flexible and efficient. Electronic banking service means the online banking, and the creation of a web page by banks, to provide Information about their products and services, and providing technical tools, that allow clients accessing to the accounts, transferring funds, paying bills, and purchasing products or services online [25].

Figure 1 shows the structure of the system available options, which helps clients to manage their investments easily and safely. The general purpose of the system is to assist Islamic banks in initiate electronic Islamic finance instruments, these instruments, take into consideration the validity of banking transactions from the Sharia point of view. As Islamic transactions in general, are very sensitive in strictly following the Sharia rules, the system aims to create a proper converting for a punch of traditional contracts, to smart digital contracts, and initiate a banking services, that meet client ambition, so this research provide a mechanism of managing investment in Islamic banks, moreover, the system investigate the possibility of offering acceptable tools for both Islamic and non-Islamic banks, this

system considers that the electronic services provided to clients must be simple, easy and safe.

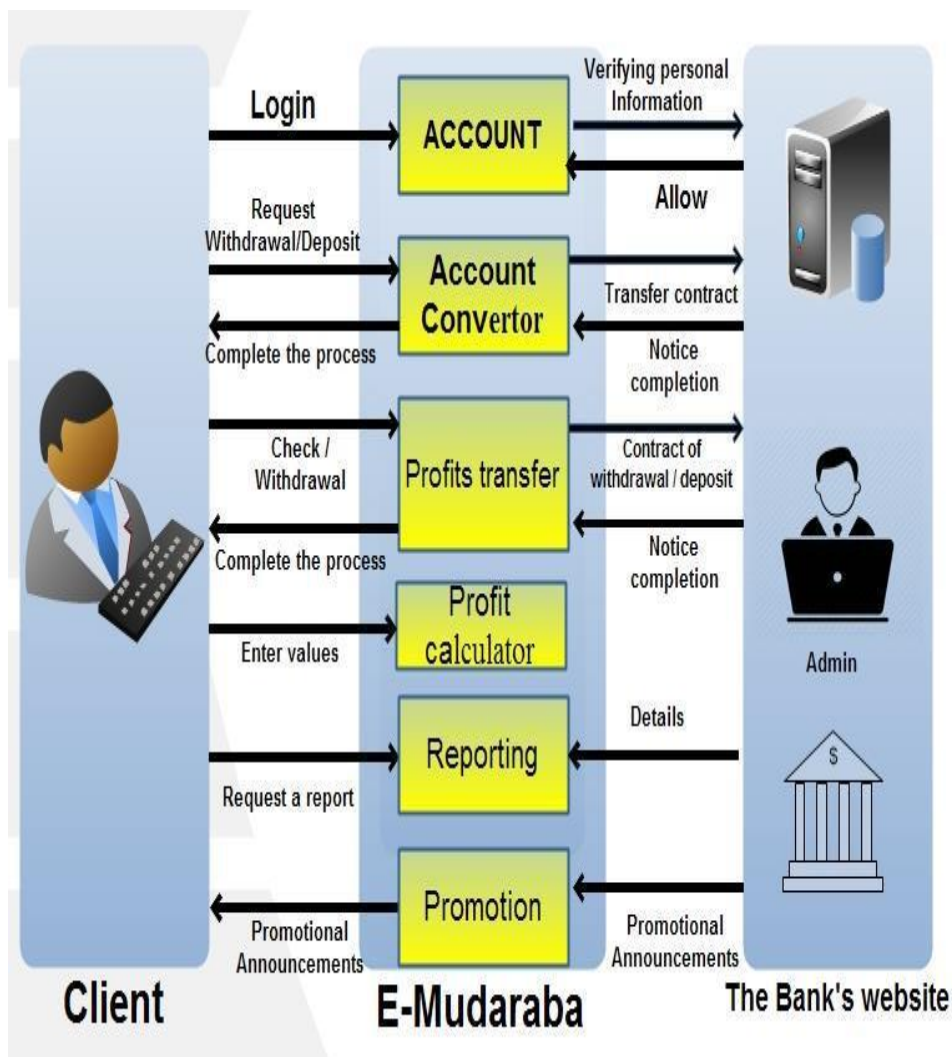


Figure 1: Structure of the services provided by the proposed system.

This system assumes that the client already opened Mudaraba account in the bank. The data flows, show in the structure, covers all the orders exchanged between system participants. Figure 2 shows the system main screen, consists of the technical suggested tools. This screen appears after the client logs in traditionally, as commonly in electronic banks, by entering a password and user name.



Figure 2: The E- Mudaraba provided services.

This part, gives details about each tool and its procedures, steps and added values:

Account convertor: This tool provides the following options

- Convert the nature of the account, from the current account to the Mudaraba investment account.
- Transfer money, from the current account to the Mudaraba investment account.

Compare to the traditional steps, which require a termination of the established contract, and conduct a new contract with new conditions, this system, provides a technical tool, to execute the above mentioned manual steps, in digital way, which is reduce the traditional complicated steps, as explained bellow:

- Termination of Mudaraba contract: in this step the client sign an application that he requires the termination of the Mudaraba contract, in order to determine the amount that he wishes to withdraw from the capital, and then, a new contract establish between the client and the bank, in the remaining amount.

- The client cannot transfer the money directly to the current account. There must be a signed application, to transfer the amount.

But the proposed system provides a tool to terminate the Mudaraba contract, which makes it easier for parties, the banks and the clients, to complete the process easily and quickly. In addition, the tool enables the transfer of funds, directly from the Mudaraba investment account, to the current account, or any account determined by the client, without any applications.

For adding funds to the Mudaraba investment account, from the current account, the traditional way is carried out the following steps:

- Establishing a new Mudaraba contract specifying the investment amount, the profits ratio and the duration of the contract.
- Deposit the money in a cash or bank transfer.

It is noticeable from this traditional process, that it uses many contracts, in order to validate the process, to be compliant with the Islamic Sharia, but the proposed system, works to provide and execute the necessary electronic contracts, for each step, where clients were asked to approve these contracts, so that operations could be conducted easily and conveniently.

Profits transfer: This tool helps clients to withdraw a part or all of generated profits, from the investment Mudaraba account, as explained in the second part of this research, there is an agreed profit rate in the Mudaraba contract, which is depends on the capital amount, and the investment period, In this option, the conversion process is done by calculating the generated profits, based on the Shria legal maxim "Altandeed Alhokmi" which is explained earlier [18].

Profit calculator: The proposed system, provides a profit calculator, offers many options such as: knowing the percentage of the profits, profit amount and cumulative capital, considering that, in the Mudaraba investment accounts, the profit rate is fixed, which means, it does not increase or decrease at any time of the contract,

while the profit amount increase and decrease according to capital amount and period of investment. Using the distribution of profits by numbering method explained previously.

Reporting: The proposed system provides a tool to prepare reports for all important data, which helps clients to obtain a detailed summary of the operations performed on the Mudaraba investment accounts. These results are in the form of drawings and statistical tables, through which the clients can receive feedback, helping them to manage their investment accounts effectively and accurately.

Promotion: This tool helps banks to advertise the most important and latest offers to clients, in the field of investments, to keep clients aware of important information, in order to increase or develop their investments. This tool strongly supports the spread of e-banking services, which is an indicator of financial inclusion, targeted by banks as one of the most important indicators of the good performance.

DISCUSSION

The concept of sustainability of debt implies the fulfillment of intertemporal budget constraint condition. It means in the long-run the market value of government debt must be equal to present value of debt. In the violation of above condition fiscal policy is not sustainable. Budget constraint in the equation form may be written as below This research highlights the importance of e-Mudaraba, and the extent of its contributions, in motivating clients to invest and manage their funds, the system provides many smart options and services, that suit and comply with Islamic law, considering the necessity to innovate modern ideas and tools, to develop the Islamic banking institution's provided services, with applying the current technologies widely used in daily life. In Islamic law of transactions it is essential to base on legal contract, while executing transactions and operations, for instant, in Mudaraba operations, the process of deducting a part of the capital and transfer it to the current account, it requires three different contracts, and each contract needs to be signed by the client and the bank, these processes definitely cost time and effort, the e-

Mudaraba suggested system, provides the possibility of creating and execute the necessary contracts for all transactions in one screen, the process which requires days to complete, could be done in a short time in the e-Mudaraba system, with highly accuracy under the terms and conditions of Islamic valid contracts.

Figure 3 shows the electronic contract, to transfer a part of the capital, from current account to Mudaraba investment account, applying the Sharia requirement regarding the valid contract, specially, the conditions regards the offer and acceptance, which are simply applied in easy and fast way, through the code sending and approval.

NOOR BANK	
Transaction No:	BHX-XX1_125254
Branch:	Main branch_Manama
Date:	8/7/2018
Name:	HAMAD ALI ABDULRAHMAN
Account Type:	current account
Account No:	BHX_2352333
Currency:	300 BHD
Procedure required:	Add an investment account
To Account Type:	Investment account
Account No:	BHX_I_25256
Electronic signature of Account Owner:	XXXX-XXX-XXXXX
Code:	252FG5R
Approved By:	Mr. Ali Ahmad
Prepared By:	Electronic Services Section
<p>⊙ If you receive the code to your email and phone number, indicate your agreement to the procedure.</p> <p>⊙ When you click the Approval button, the bank is allowed to perform the indicated transaction</p>	
<p>Send code Approval CANCEL</p>	

Figure 3: E-Mudaraba contract establishing screen.

Figure 4 shows the digital calculator, which gives the client the accurate results about the investment amount and generated profits, according to the profit and loss sharing (PLS) declared margin, based on the investment amount, and the specified distribution period of profit (monthly, quarterly, semiannually and annually). Additionally, the calculator enables client to calculate the cumulative profits, and many other options, such as getting the estimated margin of profits in certain period and certain amount.

Figure 4: Electronic Calculator.

MUDARABA ACCOUNT										
	Start Date		8/1/2017	Lump sum		-				
	1	2	3	4	5	6	7	8	9	10
Month	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
August	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
September	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
October	505.00	600.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
November	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
December	510.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
January	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
February	500.00	550.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
March	550.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
April	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
May	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
June	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
July	500.00	525.00	551.25	584.30	631.20	669.10	709.20	751.80	796.90	844.70
Total	6,065.00	6,400.00	6,615.00	7,011.60	7,574.40	8,029.20	8,510.40	9,021.60	9,562.80	10,136.40
Valuation	6,200.00	13,300.00	21,450.00	30,200.00	38,950.00	50,700.00	62,020.00	75,400.00	88,200.00	100,600.00
Cumulative Contributions	6,065.00	12,465.00	19,080.00	26,091.60	33,666.00	41,695.20	50,205.60	59,227.20	68,790.00	78,926.40
Surplus / (Deficit)	135.00	835.00	2,370.00	4,108.40	5,284.00	9,004.80	11,814.40	16,172.80	19,410.00	21,673.60
Surplus / (Deficit) %	2.2%	6.7%	12.4%	15.7%	15.7%	21.6%	23.5%	27.3%	28.2%	27.5%
Annual Return	4.8%	7.4%	9.0%	6.8%	3.4%	8.4%	5.0%	6.4%	4.0%	2.4%
Cumulative Annual Return	7.1%	8.2%	8.7%	7.8%	6.1%	6.9%	6.3%	6.4%	5.8%	5.1%
Forecast										
Initial monthly annuity	500.00									
Annual annuity escalation		6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
Forecasted Annual Return	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Monthly Annuity	500.00	530.00	561.80	595.48	631.21	669.08	709.23	751.78	796.89	844.70
Valuation	6,224.96	13,340.09	21,441.68	30,635.01	41,036.20	52,772.20	65,982.08	80,818.16	97,447.21	116,051.72

Figure 5: Mudaraba financial statement (yearly).

Figure 5 shows the financial statement and yearly report, to explain the cash out and in, payment, balance, cumulative amounts in both withdrew or deposit, with recent and expected future PLS margin, and this summarized in diagram, to show the historical PLS, as shown in Figure 6.

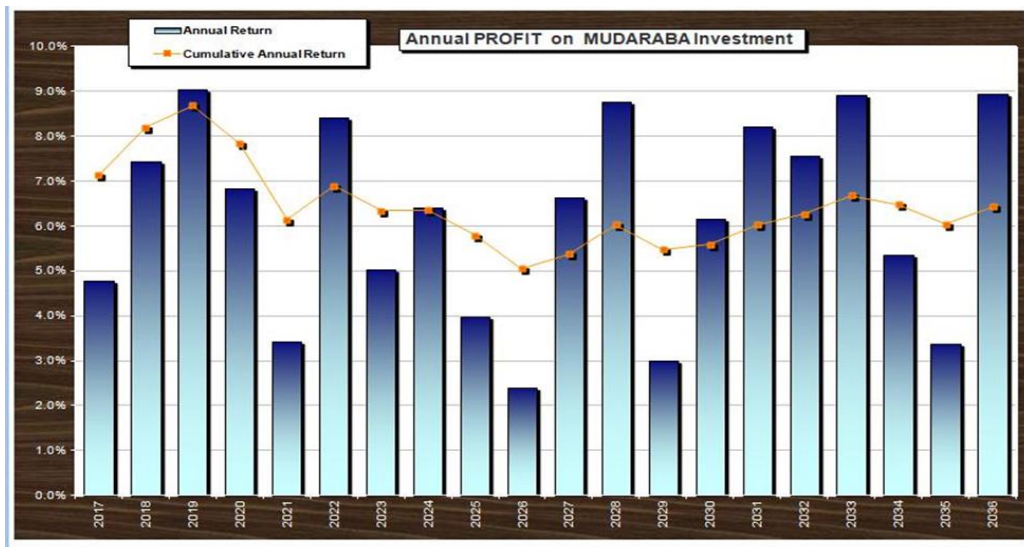


Figure 6: PLS Margin diagram.

Figure 7 shows the monthly financial statement, and to explain the cash out and in, and summary to all monthly data payment, balance, cumulative amounts in both withdrew or deposit, with recent and expected future PLS margin.

MONTHLY REPORT							Cumulative MUDARABA Investment ACC			
Monthly Annuity Balance & Annual Return on Investment Calculations							Select Month	Jul-2037	6.4%	
Month	Payment Number	Opening Balance	Annuity Amount	Investment Growth	Closing Balance	Investment Return %	Opening Balance	Investment Return %	Investment Growth	Closing Balance
Aug-2017	1	-	500.00	-	500.00	4.8%	-	6.4%	-	500.00
Sep-2017	2	500.00	500.00	2.00	1,002.00	4.8%	500.00	6.4%	2.68	1,002.68
Oct-2017	3	1,002.00	505.00	4.01	1,511.01	4.8%	1,002.68	6.4%	5.37	1,513.05
Nov-2017	4	1,511.01	500.00	6.04	2,017.05	4.8%	1,513.05	6.4%	8.10	2,021.15
Dec-2017	5	2,017.05	510.00	8.07	2,535.11	4.8%	2,021.15	6.4%	10.81	2,541.96
Jan-2018	6	2,535.11	500.00	10.14	3,045.25	4.8%	2,541.96	6.4%	13.59	3,055.55
Feb-2018	7	3,045.25	500.00	12.18	3,557.43	4.8%	3,055.55	6.4%	16.32	3,571.87
Mar-2018	8	3,557.43	550.00	14.22	4,121.65	4.8%	3,571.87	6.4%	19.07	4,140.94
Apr-2018	9	4,121.65	500.00	16.40	4,638.13	4.8%	4,140.94	6.4%	22.09	4,663.04
May-2018	10	4,638.13	500.00	18.55	5,156.68	4.8%	4,663.04	6.4%	24.86	5,187.90
Jun-2018	11	5,156.68	500.00	20.62	5,677.30	4.8%	5,187.90	6.4%	27.64	5,715.54
Jul-2018	12	5,677.30	500.00	22.70	6,200.00	4.8%	5,715.54	6.4%	30.43	6,245.97
Aug-2018	13	6,200.00	525.00	38.35	6,763.35	7.4%	6,245.97	6.4%	33.23	6,804.20
Sep-2018	14	6,763.35	525.00	41.83	7,330.18	7.4%	6,804.20	6.4%	36.25	7,365.46
Oct-2018	15	7,330.18	600.00	45.34	7,975.52	7.4%	7,365.46	6.4%	39.29	8,004.75
Nov-2018	16	7,975.52	525.00	49.33	8,549.84	7.4%	8,004.75	6.4%	42.75	8,572.50
Dec-2018	17	8,549.84	525.00	52.88	9,127.73	7.4%	8,572.50	6.4%	45.83	9,143.33
Jan-2019	18	9,127.73	525.00	56.46	9,709.18	7.4%	9,143.33	6.4%	48.93	9,717.25
Feb-2019	19	9,709.18	550.00	60.05	10,319.23	7.4%	9,717.25	6.4%	52.04	10,319.30
Mar-2019	20	10,319.23	525.00	63.82	10,908.06	7.4%	10,319.30	6.4%	55.31	10,899.61
Apr-2019	21	10,908.06	525.00	67.47	11,500.52	7.4%	10,899.61	6.4%	58.47	11,483.08
May-2019	22	11,500.52	525.00	71.13	12,096.65	7.4%	11,483.08	6.4%	61.65	12,069.72
Jun-2019	23	12,096.65	525.00	74.82	12,696.47	7.4%	12,069.72	6.4%	64.84	12,659.56
Jul-2019	24	12,696.47	525.00	78.53	13,300.00	7.4%	12,659.56	6.4%	68.06	13,252.62
Aug-2019	25	13,300.00	551.25	100.23	13,951.48	9.0%	13,252.62	6.4%	71.29	13,875.16
Sep-2019	26	13,951.48	551.25	105.13	14,607.86	9.0%	13,875.16	6.4%	74.76	14,501.19
Oct-2019	27	14,607.86	551.25	110.08	15,289.19	9.0%	14,501.19	6.4%	78.30	15,130.74
Nov-2019	28	15,289.19	551.25	115.06	15,935.51	9.0%	15,130.74	6.4%	81.85	15,783.84
Dec-2019	29	15,935.51	551.25	120.09	16,606.84	9.0%	15,783.84	6.4%	85.42	16,400.51
Jan-2020	30	16,606.84	551.25	125.14	17,283.24	9.0%	16,400.51	6.4%	89.02	17,040.77
Feb-2020	31	17,283.24	551.25	130.24	17,964.73	9.0%	17,040.77	6.4%	92.84	17,884.67
Mar-2020	32	17,964.73	551.25	135.38	18,651.36	9.0%	17,884.67	6.4%	96.29	18,332.21
Apr-2020	33	18,651.36	551.25	140.55	19,343.16	9.0%	18,332.21	6.4%	99.98	18,983.44

Figure 7: E-Mudaraba financial statement (monthly).

The system covers all its procedures with an effective security system. This system, commonly used in the most electronic banking procedures, which are usually similar, starting with client's verification procedures, in a series of procedures that verify the client's identity. It is assumed that, the client has a password and a user name, provided by the bank, the client enters the user name and password, then verification code sent to the client's email or phone number, contains a verification code (a verification code is a set of symbols and numbers). After the verification process, as the system contains many services, the system asks the client's verification code if he wants to carry out any operation [26]. The security system is flexible and effective, commensurate with the importance of transactions conducted by the client [27].

The unique additional features in this system is the creation of a mechanism to issue the verification code, through the electronic signature [28], and as we discussed earlier, the Islamic operations are done through the establishment of the valid contracts, and those contracts are need offer from bank and acceptance from the client, which is been applied through the electronic signature, Figure 8 shows, the mechanism of generating the code is strict, in order to ensure the highest degree of verification of the client identity, this idea is a new, provided by the system, the mechanism of creating code is through a mathematical equation, the variables are electronic signature, the service intended to be conducted by the client and a specific code, in conclusion, the mechanism of electronic signature, one of the most processes requested by the client, in the management of his investment account, so the system created this mechanism, to ensure that the client is sure to carry out the process identified in advance, if the client doubts in any operation, the bank can provide the client with a report recording the time of the transaction, and the verification code, through which it indicates the name of the client and the service desired. This is the proposed guide and reference to all operations in the system.

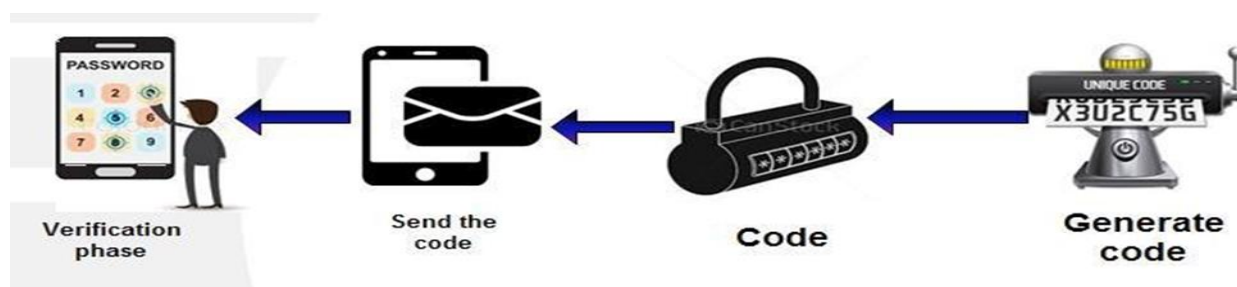


Figure 8: Code generation mechanism.

CONCLUSION AND FUTURE WORK

This research provides a proposed system for the management of the Mudaraba investment accounts, which contains many technical services (account transfer, profit transfer, profit calculator, reports), which help Islamic banks to provide the online banking services, and to convert the traditional transactions to technical tools.

The traditional transactions in Islamic banking (Murabaha, Mudaraba, Musharaka, etc.) need to follow clear and sharp steps, to complete the transaction. These steps are mainly based on Islamic Shariah regulations, and must be followed strictly. Thus, the system provides these services in the form of technical tools, that enable client to manage his account online, without the need to visit the bank, and use the traditional way to complete transactions; instead, the client will be able to execute any operation with the available electronic contracts, suggested by the system.

The flexibility in executing operations that the system provides, enable client to easily convert the nature of current account to an investment account, that gives returns on investment, and this encourage clients to invest in the Mudaraba investment account, without losing the option to withdrew the invested amount, in emergency cases, which is complicated and required many steps in the traditional investment account.

This research intend to contribute significantly in the current efforts in both academic and industry institutions, to come up with the current development in

banking services quality, that based on technologies, rather than traditional procedures, as a necessary transition in the current competition all over the world, Islamic banking industry in past decades, developed a lot and reached to non-Islamic societies, this requires quantitative and qualitative changes in provided services, with strong considerations to the Sharia rules, regarding the operations and transactions, this challenges, especially in technology, needy to certain ideas, to achieve the level of satisfaction, this research particularly tries to discover and study the possibilities of converting traditional steps, operations and procedures in to digital mechanisms, without violation to rules and regulations governing the Islamic contracts.

The Future work will include detailed validation of the technical side and the banking side; moreover, a real scenario testing will carry out, supported by a validation from experts in banking and industry, and will cover the system technical side and Sharia legal side.

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