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Impact of Non-performing assets on the commercial banking industry: Survey evidence recommendations for practitioners

Jamal M. Shamieh[1*], Ghada S. Albandak[2]

[1]*Studies and Training Center at the American University of Madaba, Jordan.*
[2]*Department of Nutrition and Dietetics at the American University of Madaba, Jordan.*

Corresponding author: Jamal M. Shamieh (*Email: j.shamieh@aum.edu.jo*)

Abstract

The purpose of this research study is to investigate the impact of non-performing assets on the profitability of commercial banks. The study adopts a quantitative research design where data was collected through questionnaires and analyzed using statistical methods, descriptive and inferential. The findings reveal that non-performing assets have a statistically significant impact on the profitability of commercial banks drawn from the Middle East (ME). When banks experience less loan defaults, reduced overdue credit card payments, decreased unpaid business loans, and minimal non-payment of interest or principal; they report increased profits. This study offers practical solutions to reduce non-performing assets through survey evidence recommendations for practitioners in order to increase profitability. Further it offers practical solutions for reducing non-performing assets in various areas in the banking industry. Although other studies identified the major Non-performing loans, a type of NPA (NPL) impacts, this study focuses on how to deal with non-performing assets in order to increase profitability.

Keywords: Commercial banks, Middle East, Non-performing asset (NPAs), Non-performing assets, Profitability, Banking industry.

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1. Introduction

Banks like many organizations have various assets including, but not limited to, loans and marketable securities, investment securities, investment assets, and long-term assets. While some of these assets are categorized as performing assets because they can earn banks some returns, others are non-performing assets NPLs (see Appendix 1 for a full list of abbreviations in this research study) because banks cannot draw any benefit from them [1-4]. Such assets can be in the

form of investments, loans, or advances [5, 6]. Generally, when banks are exposed to normal risk and can use their assets to obtain returns, such assets are productive. On the contrary, if banks are exposed to unusual risk and cannot obtain interest from their assets, they are non-productive or non-profitable [5]. Therefore, banks may lose income in the form of commissions, fees, and interest due to NPAs.

Profitability is the performance benchmark for all businesses, including the banking industry. When doing business, entities aim to generate revenue. Ahmed [7] defines profitability as the relationship between investments contributing to the realization of profits and profits obtained by an enterprise. In many instances, profitability is measured by considering the relationship between profits and investments (value of property rights or assets) or profits and sales. On some occasions, bank profitability is depicted as a function of micro and macro determinants. Some of the macro variables that affect bank profitability include, but are not limited to, inflation, interest rate, tax rate, and Gross domestic product (GDP) [8, 9]. Micro variables are bank-specific factors which may include risk management, capital, NPAs, and bank size [10-12]. Since NPAs are among the bank-specific determinants of profitability, it is worth investigating and scrutinizing them.

The purpose of the current research study is to investigate the impact of NPAs on the profitability of commercial banks. The study's null hypothesis states that NPAs have no statistically significant (See Appendix 4 for the terminologies used in this research) impact on the profitability of commercial banks. To investigate this purpose, the following objectives were targeted: identifying NPAs linked to commercial banks, assessing the level of profitability of commercial banks and determining the relationship between NPAs and the profitability of commercial banks, across the ME.

The study is organized into six parts. The first part introduces the research and outlines its background. The second part reviews previous work documenting the NPAs and their association with profitability in the commercial banking industry to identify literature gaps that guide the current research study. In the third part, the methodology for collecting data is described. The fourth part presents the findings, which are discussed in relation to the literature findings in part five. The sixth part presents conclusions and recommendations.

2. Literature Review

The second part focuses on revealing the literature gaps that guide the design of the current research study. To achieve this purpose, empirical studies documenting the relationship between NPAs and profitability of commercial banks were reviewed. The theoretical framework on which the foundation of the current investigation is built is also outlined. Theories on which the study is built are depicted and described thoroughly to highlight the author, date of development, assumptions, and applicability in understanding the current research.

2.1. Theoretical Framework

This section outlines and discusses some theories related to commercial bank profitability and NPAs. Such theories postulate that NPAs held by banks could significantly impact their overall profitability. For instance, the credit risk theory is one theory supporting such an assumption. The theory was coined by Merton [13] as a credit threat proposition model in 1974 [13]. It hypothesizes that banks should adopt prudence when offering credit to targeted borrowers who are more likely to default because their actions can increase the bank's credit risk, resulting in NPAs. Based on the theory, banks are required to implement controls to protect their net earnings because NPAs are more likely to impact their profitability negatively. The theory is relevant to the current research study because it outlines the path through which commercial banks can create NPAs and how they may impact their overall profitability. The credit risk theory postulates that by defaulting on loans, the credit risk of banks is increased, which makes them NPAs, without interest or profits. As such, the theory helped highlight that NPAs can impact profitability negatively.

The current research study was also built on Hawley [14] risk theory of profit, which was developed in 1893 by Hawley [14]. According to Hawley [14] the theory assumes that profit is a reward for entrepreneurs presuming threats in a competitive business landscape. When conducting business, all production factors including capital, land, and labor offer opportunities to generate revenue but are less concerned whether losses or profits are obtained. According to the theory, the greater the business risk is, the more profits are realized. Business risks could arise due to the introduction of better product substitutes, non-availability of raw materials, declining market prices, manmade catastrophes, and obsolescence of technology. Risks are often inevitable and not easy to predict in the dynamic business environment. When undertaking such risks, entrepreneurs are usually rewarded. However, critics argue that profits are born out of the efforts of entrepreneurs to reduce risks and not the boldness to undertake risk [15]. The theory is relevant to the study because it could help assume that regardless of the risk of NPAs due to growing uncertain market conditions, commercial banks forge ahead to deliver their services, hence becoming more profitable. For instance, the bold move to offer more loans could increase profitability if they are honored. Equally, the bold move to risk giving advances could increase employee morale and productivity, which could steer banks to higher profitability.

2.2. Empirical Studies

Previous research utilizing evidence from Asia showed that NPAs have a negative (when increasing) and positive (when decreasing) association with the profitability of commercial banks. To begin, Wadhwa, et al. [16] explored the impact of NPAs on the profitability of commercial banks. The study highlighted that NPAs have significantly impacted the growth and development of the economy, focusing more on bank profitability. The study employed a secondary approach to gather data from five (private and public) commercial banks between 2014 and 2019 using the Reserve Bank of India (RBI) database. Using correlation analysis, the relationship between NPAs and net profits was computed. The findings revealed an inverse relationship between NPAs and net profits. Similarly, Pancha [17] explored NPAs and their impact on

bank profitability measured using Return on Assets (ROA) and Return on equity (ROE). The study adopted a descriptive longitudinal research approach to collect secondary data from 53 banks. The data sources included the RBI and the WB databases as well as other published financial reports. The regression analysis model was used in analyzing the link between the variables. The study findings revealed a negative and statistically significant association between profitability and NPAs. Finally, Das and Uppal [18] relied on evidence from India to explore the link between the profitability of commercial banks and NPAs. The study included 39 private and public banks and collected data published between 2005 and 2019. Regression analysis was also adopted to determine the functional relationship between NPAs measured using NPLs (a type of NPAs) and profitability measured using ROA, GDP, and non-interest income. The findings indicated a negative association between NPLs and ROA. All other profitability variables had a statistically significant positive association with NPLs. Indian evidence has highlighted that NPAs influence bank profitability positively and negatively.

Similarly, Gnawali [19] examined the impact of NPLs on bank profitability using Nepal evidence. The study focused more on NPLs and their impact on the profitability of commercial banks within the country. The study relied on secondary data encompassing collected financial statistics from bank reports published between 2010 and 2017. The study sample included public and private commercial banks. The regression analysis model was used. The study findings revealed a negative association between NPAs and bank profitability. Equally, Singh, et al. [20] investigated the effect of NPLs on the profitability of commercial banks in Nepal. The study relied on secondary data to accomplish the research purpose. Particularly, data collected from the banks published between 2015 and 2019. Profitability was measured using GDP, Capital Adequacy Ratio (CAR), bank size, inflation and ROA. The findings revealed that NPLs had a positive and statistically significant effect on GDP growth. However, it has a negative effect on CAR, ROA, and bank size. From the Nepal evidence, it is clear that NPAs and their related components such as NPLs have negative and positive impacts on commercial bank profitability.

European evidence has also been used to understand the association between bank profitability and NPAs. For instance, Jolevski [21] researched NPLs and the profitability of commercial banks using Macedonia evidence. The profitability of the commercial banks was measured using interest rates, ROA, and ROE. The study targeted data published between 2007 and 2015. Data analysis was achieved through correlation and regression analyses. The correlation results revealed a moderately high inverse relationship between NPLs and ROA and ROE. Regression findings revealed a negative association between the ROA and ROE and NPLs. Also, Alshebmi, et al. [22] examined how NPLs impact the profitability of banks drawn from Kosovo. The study relied on secondary data published between 2010 and 2019. Based on profitability theory, the study measured commercial banking profits using ROA. Bank size and liquidity risks were utilized as control variables. A multiple linear regression model was employed to analyze collected data. The study findings revealed that NPLs have a statistically significant effect on ROA. Each NPL increase by one percent led to a decrease in ROA by 0.19 percent when control variables were held constant. Finally, Serwadda [23] explored the determinants of profitability of commercial banks using Hungary evidence. To measure bank profitability, the study employed Return on average asset (ROAA). NPLs were one of the independent variables in the study. A panel regression model was used to analyze collected data. The findings revealed that NPLs had a statistically significant inverse relationship with bank profitability. Generally, European evidence indicated a negative relationship between NPAs and bank profitability.

Previous research also utilized evidence from the American continent to understand how NPAs impact bank profitability. To begin, Skorburg and Shenai [24] investigated NPLs and their impact on bank profitability using evidence from USA commercial banks. The study reviewed empirical studies on market value, bank profitability, and asset quality focusing more on small commercial banks. The review revealed that the profitability of banks was measured using ROE while NPAs were assessed using NPLs. Fifteen banks were assessed to determine how their profitability was affected by NPLs. The study demonstrated through the regression model that NPLs had a statistically significant inverse impact on ROE.

Research on NPAs and their impact on bank profitability was conducted using African evidence. Lartey [25] explored NPLs and bank profitability using evidence from Ghana. The study focused more on one case to gather relevant secondary and primary evidence to accomplish the study objective. Bank profitability was measured through ROE, GDP, and lending rate. Statistical analysis methods helped analyze the collected data to gain insights. The study revealed that NPLs negatively impacted profitability. NPLs are often contributed by various factors including but not limited to lack of adequate training on the side of customers, late loan disbursement, unfavorable loan sizes, higher interest rates, and unwillingness to pay loans. By addressing such issues, loan defaults could be minimized, reducing NPLs, and this often translates to improved profitability. Similarly, Mwaetako [26] investigated NPLs and how they impact the profitability of commercial banks using evidence from Namibia. The collected data was published in financial reports between 2015 and 2020. Regression models were applied to analyze the data. Findings indicated that the null hypothesis stating that NPLs have a significant association with ROA was rejected, implying NPLs in Namibia’s commercial banks do not affect their profitability and this could be due to the fact that profitability largely depends on other organizational factors. Evidence from Africa is mixed since a significant negative association has been revealed on one occasion and another it has been disputed.

Finally, previous research presented findings to understand bank profitability and NPAs using evidence from the ME. For instance, Alshebmi, et al. [22] used Saudi Arabia's evidence to understand profitability and NPLs and their link. The study sample involved data from 12 commercial banks from Saudi Arabia published between 2009 and 2018. Regression methods, were adopted to examine the collected data aimed at making appropriate inferences. The study revealed a weak and insignificant inverse relationship between profitability (ROA, bank liquidity, GDP, and credit risk) and NPAs. However, there was a weak positive insignificant association between NPLs and CAR. The positive association for instance

may be attributed to capital injection requirements for additional equity leading to an increase in CAR although it may not be significant statistically. Equally, Khan [27] researched profit determinants in the banking industry using evidence from Gulf Cooperation Council (GCC) countries. Profitability was measured using ROA and ROE. Asset quality was one of the independent variables. The findings indicated that asset quality negatively relates to ROE. Evidence from the ME has pointed out mixed findings: the negative and statistically significant and the weak and insignificant relationship between bank profitability and NPAs.

Generally, the positive association in the above cases could be attributed to increased efforts such as operational restructuring when NPAs increase to enhance creditworthiness of the banks, which ultimately lead to improved productivity, innovation, and cost control, all of which contribute positively to GDP. The negative association could be due to lack of such efforts, reducing profitability in terms of CAR, ROA, and bank size. The negative effects are experienced in some variables and the positive effects in others.

2.3. Summary and Literature Gaps

On the one hand, various reviewed research studies across the world revealed the negative association between NPAs and the profitability of commercial banks. While Lartey [25] and Jolevski [21] indicated that NPAs had a statistically significant negative impact on the profitability of commercial banks, Mwaetako [26] found out that the association was insignificant statistically. On the other hand, previous research revealed in some cases positive association between the profitability of commercial banks and NPAs [19]. From the above literature findings, it is clear that mixed results have been recorded, making it difficult to conclude the relationship between NPAs and commercial banking profitability. Equally, the review indicates that most research studies used secondary panel data to analyze the association. Therefore, there was minimal understanding of the association using cross-sectional primary research. Previous findings cannot be applicable in the current business environment that is influenced by various factors. Therefore, the current research study addressed this literature gap by pursuing cross-sectional primary research.

2.4. Research Questions

RQ1: What NPAs do commercial banks across the ME have?
RQ2: To what extent are commercial banks across the ME profitable?
RQ3: What is the relationship between NPAs and the profitability of commercial banks across the ME?

3. Research Methodology

The current research study aimed to investigate the impact of NPAs on the profitability of commercial banks. It hypothesized that NPAs have no statistically significant impact on the profitability of commercial banks. To confirm or reject the hypothesis aimed at in order to accomplish the purpose of the research, relevant data had to be collected. Therefore, this third part outlines and describes various procedures and measures employed to effectively collect, analyze, and utilize relevant data. It outlines the research method and research instrument embraced for appropriate data collection, analysis, and utilization. Procedures for collecting and analyzing relevant and measures for ensuring the study findings are valid are also discussed.

3.1. Research Design

Social scientists regard research design as a strategy involved in designing a research study to collect, analyze, and utilize the most appropriate data to accomplish the research objectives. A design incorporates appropriate measures and procedures implemented in data collection, analysis, and utilization. According to the The University of South California [28] a research design allows researchers to strategize effectively in collecting evidence to logically address the research problem. As such, social scientists are highly engaged in designing their research to ensure relevant evidence is obtained to accurately test underlying conceptual and theoretical assumptions. Failed efforts to identify and address design issues leave researchers vulnerable to errors that could result in unconvincing and weak findings. Therefore, the researcher ensured the current research was well designed by identifying the most appropriate method, instrument, data collection, and analysis procedures as described below.

3.1.1. Research Method

A research study can be designed using the mono-research method which allows social scientists to apply either qualitative or quantitative research methods [29]. When using a qualitative research method, the aim is to collect non-numerical data that is in the form of texts or audio to be interpreted to answer the research questions [30, 31]. On the other hand, scholars using quantitative methods seek to collect numerical data that could be analyzed statistically using inferential or descriptive statistical methods. The descriptive statistical method is mainly for comparing mean differences or gaining insights into demographic information while the inferential statistical method can help understand the causal effect [32, 33]. Moreover, some researchers may want to combine both qualitative and quantitative methods. Such an approach requires mixed-methods research as noted by Timans, et al. [34]. Finally, social scientists may seek to utilize more than two methods for qualitative or quantitative research [35]. Research instruments such as surveys, interviews, and observations can be integrated into one study to collect data, which would be analyzed qualitatively and quantitatively. Since the current study targeted numerical data, it was designed using the mono-method method, focusing more on the quantitative method.

3.1.2. Research Instrument

After deciding to employ a quantitative research method to target numerical evidence, it was crucial to identify the most appropriate research instrument. In quantitative research, questionnaires and/or experiments can be used to collect data [36]. However, the current study employed questionnaires to gather data from the targeted sample because the research was not conducted in a controlled environment, requiring an experiment [37]. The researcher designed the questionnaire in the first section to collect demographic information of participants. This was followed by the second and last sections that helped gather information about NPAs found in ME commercial banks and the level of profitability of such firms, respectively (see Appendix 2).

3.1.3. Population, Sample, and Sample Selection

This research study targeted commercial banks from the ME. A sample of 400 employees selected from the commercial banks using simple random sampling was recruited into the study. Simple random sampling was applied because it allows an equal selection of participants and minimizes sampling bias [38]. Moreover, through simple random sampling, study reliability and accuracy are elevated due to diminished systematic errors.

Data Collection and Analysis Procedure

A consent form (Appendix 3) was drafted and shared with the banks' employees to increase the chances of recruiting the representative sample. The consent outlined the topic and purpose of the study. Moreover, it entailed information regarding voluntary participation. Once the participants consented and indicated their willingness to participate in the survey, questionnaire templates were sent to them via their emails, and were requested to complete them within two weeks.

After completing the questionnaires, they were sent to the email of the researcher. Completed questionnaires were downloaded and securely stored using a password-protected computer to ensure participant anonymity and privacy were guaranteed. Then, the quantitative data was analyzed statistically using descriptive (bar graphs) and inferential statistics.

3.2. Validity of the Study

The validity of the study was categorized into internal and external validity. On the one hand, internal validity entailed assessing whether the study was actually investigating what it was intended to measure [39]. By designing the most appropriate questionnaire guide based on the research purpose and objectives, the researcher ensured the study's internal validity was guaranteed. On the other hand, external validity required assessing whether the study was generalizable to the target population [40]. By selecting a large and satisfactory sample, the external validity of the study was also guaranteed.

4. Research Findings

4.1. Introduction

Data was collected from commercial banks in the ME to understand how NPAs impact their profitability. After collection, it was analyzed using descriptive statistics to understand the distribution of participants in the sample. Moreover, the study was analyzed using inferential statistics to gain a causal effective understanding of NPAs and commercial bank profitability. This part first presents the demographic findings, which are then followed by the results after analyzing the data using inferential statistics to test the null hypothesis.

4.2. Participant Demographics

Education Level

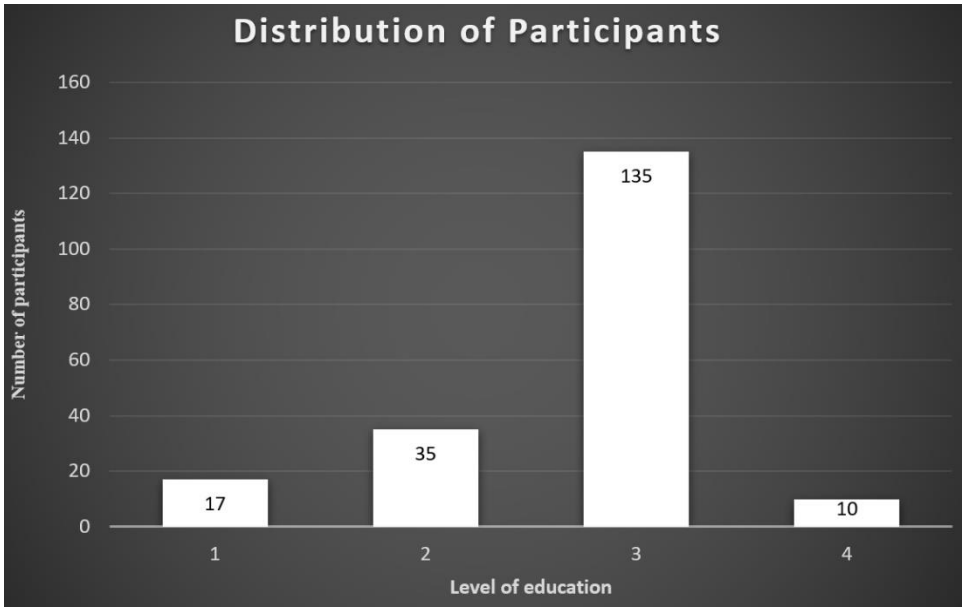

Figure 1.
Distribution of participants based on their level of education.

One represents high school, two (diploma), three (undergraduate), and four (postgraduate and above). From Figure 1, most participants were undergraduates (135), while those with high school certificate were (17). Moreover, participants who had a diploma were 35 while those with postgraduate and above were 10. The findings indicate that participants from all levels of education were included in the research study. As such, research bias was significantly reduced, thereby guaranteeing research validity and reliability.

Gender

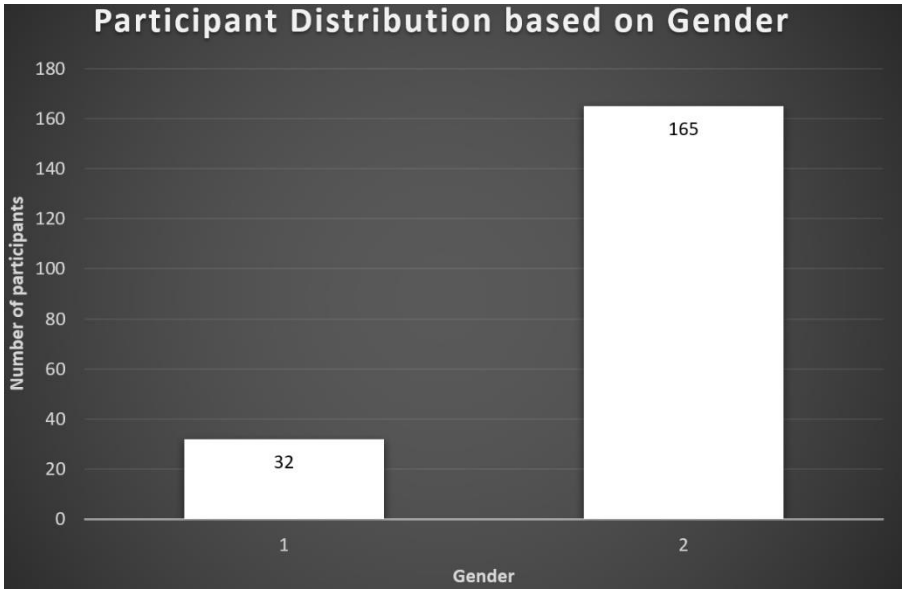

Figure 2.
The distribution of participants based on their gender.

As per the findings in Figure 2 one represents female gender and (2) male gender. The majority of the participants (165) belonged to the male gender category while females were only 32. The gender distribution demonstrates the inclusivity of the sample, thereby reducing fears of research bias.

Age Bracket

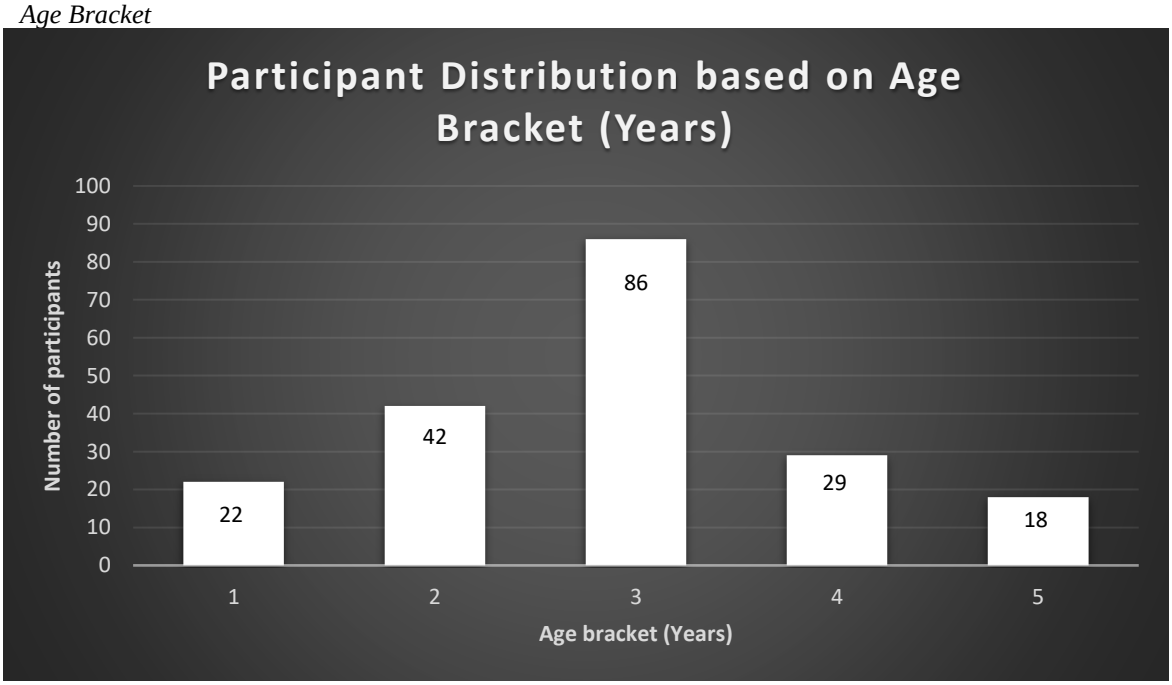

Figure 3.
The distribution of participants based on their age.

Based on Figure 3 one represents participants below 25 years, two (those aged between 25 and 35), three (those aged between 36 and 46), four (those aged between 47 and 57), and five (those aged above 57 years). The majority of the participants (86) were aged between 36 and 46 and the least were over 57 years. Those aged between 25 and 35 years were 42, while those between 47 and 57 years were 29. These findings show the inclusivity of the selected sample. Participants of all ages were included in the study, implying there was diminished research bias.

Work Experience

Figure 4.
The distribution of participants based on their work experience Martin, et al. [41].

From Figure 4 one represents workers with an experience of less than 10 years, two (11 to 15 years), three (16 to 20 years), four (21 to 25 years), and five (over 25 years). Most participants (65) have worked in the commercial banking industry between 16 and 20 years while few (17) have worked between 11 and 15 years. Equally, a smaller number (19) have worked for less than 10 years, while fifty-eight participants indicated to have worked between 21 and 25 years. The demographic covered all years in active service; implying research bias was diminished when designing this research project.

Managerial Level

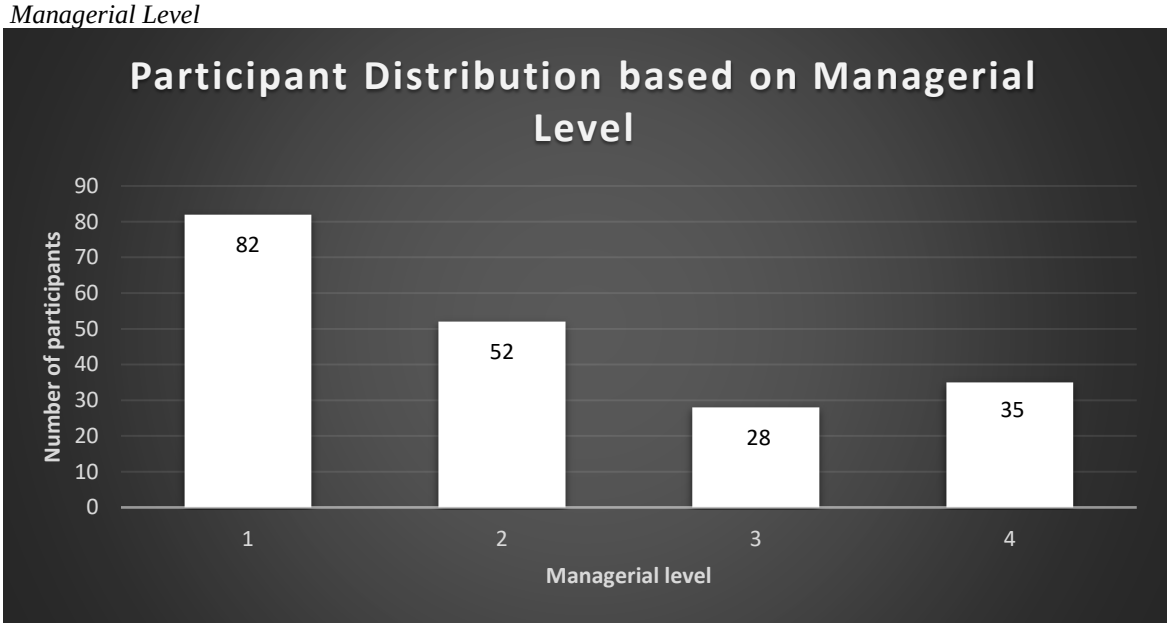

Figure 5.
The distribution of participants based on their managerial level Martin, et al. [41].

For Figure 5 one represents those not in any managerial position, two (those in lower positions), three (those in middle positions), and four (those in top managerial positions). The majority of the participants (82) fall in the category of those not in any managerial position, while a few (28) are in middle-level managerial positions. Moreover, 52 are in lower managerial positions while 35 are in top managerial positions. The findings demonstrate the inclusive nature of participants from all organizational levels, minimizing research bias.

4.3. Hypothesis Testing

The null hypothesis stated that NPAs have no statistically significant impact on the profitability of commercial banks. Various NPAs from the ME commercial banks are examined against profitability to confirm or reject the null hypothesis.

4.4. Relationship between Bank Profitability and Defaulted Loans

Table 1: The relationship between bank profitability and defaulted loans (Author 2024).

Summary Output								
Regression Statistics								
Multiple R	0.16103							
R Square	0.025931							
Adjusted R Square	0.020935							
Standard Error	0.366512							
Observations	197							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	0.697324	0.697324	5.191095	0.023787			
Residual	195	26.19449	0.134331					
Total	196	26.89181						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	3.887701	0.154553	25.15452	3.96E-63	3.582892	4.192511	3.582892	4.192511
X Variable 1	0.080915	0.035514	2.278398	0.023787	0.010874	0.150955	0.010874	0.150955

To determine the relationship between the profitability of commercial banks and their NPAs from Table 1 it was important to focus on the part featuring coefficients. The coefficient is 0.080915, indicating a positive relationship between NPA and the profitability of the commercial banks in the ME. With increasingly lower defaulted loans by one unit, the profitability of those banks increases by 0.080915. The p-value is 0.024< 0.05, implying the positive association is statistically significant. Hence the null hypothesis stating that NPAs have no statistically significant impact on the profitability of commercial banks is rejected and an alternative view (NPAs impact profitability significantly) is held.

4.5. Relationship between Bank Profitability and Overdue Credit Card Payments

Table 2.
The relationship between bank profitability and overdue credit card payments (Author 2024).

Summary Output								
Regression Statistics								
Multiple R	0.225955							
R Square	0.051056							
Adjusted R Square	0.046189							
Standard Error	0.361754							
Observations	197							
ANOVA								
	df	**SS**	**MS**	**F**	**Significance F**			
Regression	1	1.37298	1.37298	10.49151	0.00141			
Residual	195	25.51883	0.130866					
Total	196	26.89181						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	3.679853	0.173249	21.24027	1.27E-52	3.338171	4.021535	3.338171	4.021535
X Variable 1	0.129679	0.040036	3.23906	0.00141	0.05072	0.208637	0.05072	0.208637

The relationship between overdue credit card payments and the profitability of the commercial bank from the ME has a coefficient of 0.129679, indicating the relationship is positive. As commercial banks witness increasingly lower overdue credit card payments by one unit, their profitability is likely to increase by 0.129679. The p-value for the relationship is 0.001 (less than 0.05). As such, the positive relationship is statistically significant. Therefore, the null hypothesis stating that NPAs have no statistically significant impact on the profitability of commercial banks is rejected. Instead, it is held that NPAs have a statistically significant impact on the profitability of commercial banks.

4.6. Relationship between Bank Profitability and Unpaid Business Loans

Table 3
The relationship between unpaid business loans and bank profitability (author 2024).

Summary Output								
Regression Statistics								
Multiple R	0.650632							
R Square	0.423322							
Adjusted R Square	0.420365							
Standard Error	0.282007							
Observations	197							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	11.38391	11.38391	143.1439	4.28E-25			
Residual	195	15.50791	0.079528					
Total	196	26.89181						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	2.740986	0.12646	21.67469	7.89E-54	2.491581	2.990391	2.491581	2.990391
X Variable 1	0.349496	0.029212	11.96427	4.28E-25	0.291885	0.407108	0.291885	0.407108

The coefficient of the relationship between unpaid business loans and the profitability of commercial banks from the ME is 0.349496, indicating that the two variables have a positive relationship. As unpaid business loans in commercial banks from the ME become increasingly fewer by one unit, the profitability increases by 0.349496. The p-value is 4.28E-25, which is less than 0.05. The result indicates that the positive relationship between the variables is statistically significant. As such, the null hypothesis stating that NPAs have no statistically significant impact on the profitability of commercial banks is rejected and instead, a contrary view (NPAs have a statistically significant impact on the profitability of commercial banks) is held.

4.7. Relationship between Bank Profitability and Non-Payment of Interest or Principal

Table 4.
The relationship between profitability and non-payment of interest or principal (author 2024).

Summary output								
Regression statistics								
Multiple R	0.233659							
R Square	0.054597							
Adjusted R Square	0.049748							
Standard Error	0.361078							
Observations	197							
ANOVA								
	df	**SS**	**MS**	**F**	**Significance F**			
Regression	1	1.468203	1.468203	11.26117	0.000951			
Residual	195	25.42361	0.130377					
Total	196	26.89181						
	Coefficients	**Standard Error**	**t Stat**	**P-value**	**Lower 95%**	**Upper 95%**	**Lower 95.0%**	**Upper 95.0%**
Intercept	3.661781	0.172675	21.20619	1.58E-52	3.321231	4.002332	3.321231	4.002332
X Variable 1	0.133743	0.039855	3.355767	0.000951	0.055141	0.212345	0.055141	0.212345

Non-payment of interest or principal is positively associated with the profitability of commercial banks in the ME and the coefficient of the association is 0.133743. As non-payment of interest or principal becomes increasingly lower by one unit, the profitability of the commercial banks grows by 0.133743. The p-value is 0.001 (less than 0.05), implying the positive association is statistically significant. Thus, the null hypothesis stating that NPAs have no statistically significant impact on the profitability of commercial banks is rejected. However, it held that NPAs have a statistically significant impact on the profitability of commercial banks.

5. Discussion

The study has presented research findings, which are discussed in this part relative to the findings captured in literature review. The findings are first summarized, after that they are compared with previous findings to determine contradictions or agreements. This part ends with some concluding remarks.

5.1. Summary of the Current Findings and Discussion

The profitability of commercial banks in the ME banking industry is measured using ROA, ROE, Net interest margin (NIM), CAR, Net profit margin (NPM), Long term agreement (LTA), and Net interest income (NII) (See Figure 6 conceptual model). Such banks are believed to be more profitable when these variables increase.

NPAs of those banks were measured using four metrics: Defaulted loans, overdue credit card payments, unpaid business loans and non-payment of interest or principal. The research study was designed to measure increasing or decreasing NPAs and their impact on commercial banking profitability. Participants gave their views as to whether commercial banks are experiencing increases or decreases in these metrics.

Profitability measures were combined by averaging them to realize one dependent variable (profitability) against the four independent metrics Investigations on the variables were based on two theories: the credit risk theory by Merton [13] and Hawley [14] risk theory of profit (1893). According to the credit risk theory, defaulting on loans increase the credit risk of banks, making them NPAs, and as such they do not contribute to the bank profits. Using the theory, the research is designed to understand how decreasing NPAs impact bank profitability. Equally, the study was built on Hawley's risk theory of profit. According to the theory, any bold move to offer more loans could increase bank profitability if honored. Also, any bold move to give advances could increase employee morale and productivity, which could be translated into higher profitability.

After data collection and analysis, the findings revealed that the profitability of commercial banks from the ME is positively and significantly impacted if one or more of the four metrics decreased.

Generally, current findings are in agreement with other authors' findings obtained from previous works. For instance, evidence from the Asian continent revealed that the profitability of commercial banks is highly impacted by NPAs. To begin, Das and Uppal [18] found a negative association between NPLs and commercial bank profitability (ROA). When the bank's NPLs decrease, its ROA increases significantly. Equally, Singh, et al. [20] found a negative impact of NPLs on some measures of profitability in commercial banks (ROA and CAR). As NPLs decrease, the profitability of the commercial banks from Nepal (ROA and CAR) increases. Finally, Wadhwa, et al. [16] found that the profitability of Indian commercial banks is negatively and significantly impacted by NPAs. The findings demonstrate that as banks increasingly witness a decline in their NPAs, profits continue increasing. Both the current study and previous study findings are in agreement that as NPAs are decreased in the commercial banking sector, there are higher chances of profitability increase.

The current study findings are also in agreement with European evidence. For instance, Jolevski [21] found that NPL had a moderate inverse association with ROE/ROA when analyzing Macedonia evidence. Regression analysis indicated a negative relationship between NPLs and profitability (ROA/ROE). Such findings demonstrate that a decrease in NPLs could lead to an increase in commercial bank profitability (ROA/ROE). Similarly, Serwadda [23] revealed an inverse association between profitability (ROAA) and NPLs. A decrease in the NPLs of commercial banks increases profitability. Finally, Alessi, et al. [2] noted that as NPLs decreased, the profitability (ROA) of commercial banks increased. On the same note, current findings (decreasing defaulted loans, overdue credit card payments, unpaid business loans, and non-payment of interest or principal) increase the profitability of ME commercial banks. The findings indicate that when those commercial banks experience minimal NPAs, their profitability increase as found in previous works.

On the contrary, the current research findings are not in agreement with previously established findings, particularly using evidence from commercial banks in Africa and the ME. For instance, Mwaetako [26] analyzed NPLs using Namibia evidence targeting to confirm or reject a null hypothesis stating that NPLs have a significant association with profitability (ROA).The study findings revealed a negative association between two variables, although it was statistically insignificant, resulting in the rejection of the null hypothesis. While current findings point out a statistically significant impact of NPAs, previous findings from a case study of Namibia have indicated an insignificant impact. Evidence from the ME also disagrees with current findings. Alessi, et al. [2] found a weak and insignificant association between NPLs and the profitability of commercial banks. While the current findings reveal a statistically significant impact, previous findings from the ME indicated that such an association is insignificant. Similarly, current findings (statistically significant association between variables) differ from some previous findings revealing a weak positive insignificant association between NPLs and profitability (CAR).

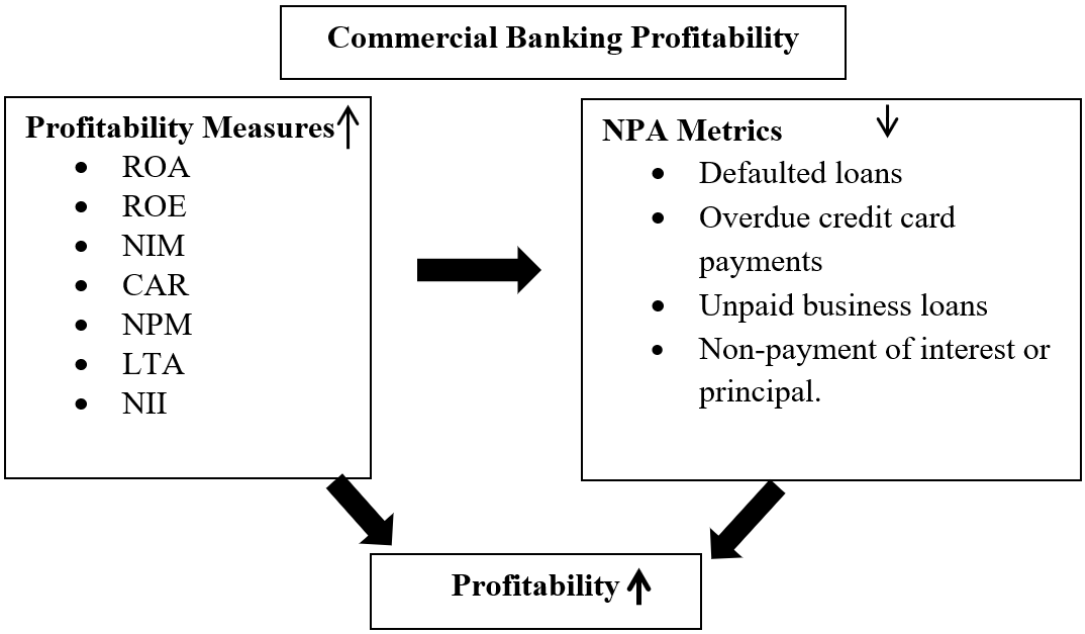

Figure 6.
Conceptual Model: Commercial Banking Profitability.

6. Conclusions

Various reviewed research studies across the world revealed negative association between NPAs and profitability of commercial banks. However, some previous research studies revealed a positive association between NPAs and the profitability of commercial banks. Mixed results were recorded, making it difficult to conclude the relationship.

The review indicated that most previous research studies used secondary panel data to analyze the association. Therefore, there is minimal understanding of the association using cross-sectional primary research. Previous findings cannot be applicable in the current business environment that is influenced by various factors. Hence, the current research study addresses this literature gap by pursuing cross-sectional primary research.

The above shortcomings have been remedied using cross-sectional primary research in the current research and resulted in the following conclusions beyond doubt:

- *The Relationship between bank profitability and defaulted loans*
  Positive association between the variables is statistically significant. Hence the null hypothesis is rejected and an alternative view is held (NPAs in this case are defaulted loans).
- *The relationship between bank profitability and overdue credit card payments*
  Positive association between the variables is statistically significant. Hence the null hypothesis is rejected and an alternative view is held (NPAs in this case are overdue credit card payments).
- *The Relationship Between Bank Profitability and Unpaid Business Loans*
  Positive association between the variables is statistically significant. Hence the null hypothesis is rejected and an alternative view *is held* (NPAs in this *case are Unpaid Business Loans).*
- *Relationship Between Bank Profitability and Non-Payment of Interest or Principal*
  Positive association between the variables is statistically significant. Hence the null hypothesis is rejected and an alternative view is held (NPAs in this case are Non-Payment of Interest or Principal).

Generally, the current research findings are in agreement with other authors' findings obtained from previous works. On the contrary, the current research findings are in disagreement with some previously established findings which concluded that a week and insignificant negative association existed between the variables.

7. Recommendations to Practitioners

The findings have indicated that banks experiencing decreased loan defaults reduced overdue credit card payments, decreased unpaid business loans, and minimal non-payment of interest or principal report higher profits. To achieve this, the following are recommendations for banking practitioners:-

To begin, banking practitioners should strengthen their credit risk evaluation approaches. With rigorous credit assessment frameworks and policies, they can carefully evaluate the creditworthiness of borrowers and offer loans to those who deserve them. Such a strategy can help banks to give more loans to individuals who are more likely to repay in full and in time.

Moreover, practitioners should update the credit scoring models regularly based on economic changes and market conditions to capture emerging borrowing trends and patterns to minimize potential defaults. Additionally they should offer proactive customer support and promote effective communication and develop proactive outreach initiatives to identify signs of financial distress and provide customers with customized repayment plans, restructured payment options, and financial counseling to mitigate the risk of default or unpaid loans.

Furthermore, there should be timely reminders of loan repayment, particularly through automated communication mediums. Incentives such as reduced interest rates should be communicated properly.

Bank practitioners should also strengthen the monitoring and collection approaches. For instance, they should implement predictive analytics for early risk detection. Such tools could help them to identify at-risk customers and avoid them, reducing the risk of defaulting.

Besides, banks should implement tiered collection strategies, including soft reminders and other formal strategies to ensure overdue payments are minimized while strengthening customer relationships.

Additionally, there should be efforts to develop flexible loan and credit offerings by modifying credit terms including limits, interest rates, and repayment terms based on customer profiles to reduce the risk of defaults.

Also, banks should offer grace periods or payment holidays during unforeseen situations to build customer loyalty and mitigate risk of defaults.

Finally, financial literacy programs should be offered to potential customers. Workshops, physical sessions, and webinars should be implemented to educate customers about effective debt management, responsible usage, and appropriate ways of meeting financial obligations without struggles. Furthermore, banks should engage in community partnerships to expand access to financial education aimed at meeting the needs of high-risk populations. With such awareness, defaulted loans, overdue credit card payments, unpaid business loans, and non-payment of interest or principal could be diminished significantly.

8. Study Limitations

Due to limited financial budgets, the researcher was unable to target a larger sample size considering the employee population working in the ME commercial banking industry is large. The researcher resolved to target a sample of 400 participants but only 197 participated.

Equally, time constraints influenced the current research study. Tight schedules made it challenging to balance concurrent commitments. For instance, it was difficult to balance the time for the actual data collection exercise and personal time, leaving limited time focused on the research project.

9. Recommended Further Studies

The current research study was limited to understanding the impact of NPAs on the profitability of commercial banks in the ME. The study explored how decreasing defaulted loans, diminished overdue credit card payments, reduced unpaid business loans, and minimal non-payment of interest or principal lead to higher bank profitability. However, there is a need for an expanded understanding of NPAs and bank profitability. For instance, a comparative analysis of regulatory frameworks and compliance measures across the ME and their contribution to NPAs, and subsequently, the profitability of commercial banks could be performed.

Another area to expand on in the future to add knowledge about NPAs and bank profitability is the study of factors impacting NPA components. Economic conditions and political stability of nations across the ME could be examined to understand how they contribute to NPAs and their subsequent contribution to bank profitability. Focusing on such areas would provide more understanding of the role of control variables.

Additionally, the role of technological innovations in commercial banks should be explored to gain more understanding of NPAs management and impact on bank profitability.

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Appendix

Appendix 1: List of Abbreviations
CAR: Capital adequacy ratio
GCC Gulf Cooperation Council
GDP: Gross domestic product
LTA: Long term agreement
ME: Middle East
NII: Net interest income
NIM: Net interest margin

NPA: Non-performing asset
NPL: Non-performing loans, a type of NPA
NPM: Net profit margin
RBI: Reserve Bank of India
ROA: Return on assets
ROAA: Return on average asset
ROE: Return on equity
USA: United States of America
WB: World Bank

Appendix 2: Questionnaire Guide

The current research study aimed to investigate the impact of NPAs on the profitability of commercial banks in the ME. Your participation is highly appreciated.

A. Demographic Information (please choose the appropriate responses)	
a. Education Level	1. High School
	2. Diploma
	3. Undergraduate
	4. Post Graduate and Above
b. Gender	1. 1. Female
	2. 2. Male
c. Age Bracket (years)	1. Below 25
	2. 25-35
	3. 36-46
	4. 7-57
	5. Above 57
d. Work Experience	1. Less 10
	1. 11-15
	2. 16-20
	3. 21-25
	4. Over 25
e. Managerial Level	1. None
	2. Lower
	3. Mid-level
	4. Top
B. NPAs in commercial banks from the Middle East	Choose 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), or 5 (strongly agree)
1. There are reducing defaulted loans.	
2. The bank has minimal overdue credit card payments.	
3. Unpaid business loans have increasingly become fewer.	
4. Non-payment of interest or principal has increasingly reduced.	
C. Profitability of commercial banks from the Middle East	Choose 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), or 5 (strongly agree)
a. The bank has continuously realized increased return on assets (ROA) in recent years.	
b. The bank has often recorded a high return on equity (ROE) in recent years.	
c. The bank's net interest margin (NIM) has increased significantly in the recent past.	
d. The bank has been having a high capital Adequacy ratio (CAR) in recent years.	
e. The cost-to-income (CTI) ratio has been declining in recent years.	
f. The net profit margin (NPM) has been increasing in recent years.	
g. The loan-to-asset (LTA) ratio has been increasing in in recent years.	
h. The net non-interest income (NII) to total asset ratio has been increasing in recent years	

Thank you for your participation.

Appendix 3. Consent form.

My name is ...I am an academic at... I am conducting a survey on the Impact of Non-Performing Assets on the profitability of Commercial Banking Industry: Survey Evidence Recommendations for practitioners.

As part of this project, I have been reaching out to relevant bank employees who, like you, have experience in the area of my research. To date, around 200employees have responded to my survey. I am emailing you to gauge your interest in participating in this short survey.

The survey will take approximately 20 minutes and contains a series of questions concerning your experience and views on the research topic. In addition, you will be asked some basic demographic questions. If you are interested in participating, the questionnaire template will be sent to you via your email. Then, please email me back the completed questionnaire by my email.

Appendix 4. Terminologies used in this research

Statistical Significance: Refers to the claim that a result from data generated by testing or experimentation is likely to be attributable to a specific cause. A high degree of statistical significance indicates that an observed relationship is unlikely to be due to chance

Positive Association: The values of one variable tend to increase as the values of the other variable increase.

Negative/Inverse Association: The values of one variable tend to decrease as the values of the other variable increase.

Significant Association: A statistical relationship between two variables that is unlikely to be due to chance alone.

Descriptive statistics: methods used to summarize and describe the main features of a dataset.

Inferential statistical: analysis infers properties of a population, for example by testing hypotheses and deriving estimates.