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# THE ROLE OF E-PAYMENTS IN ENHANCING FINANCIAL PERFORMANCE: A CASE STUDY OF THE BANK OF PALESTINE

## Abstract

The purpose of this paper is to explore electronic payments, which are considered one of the most important tools in financial technology. Hence, electronic payments play a great role in enhancing the financial performance of the Bank of Palestine. The study uses three dependent variables such as return on assets (ROA), return on equity (ROE) and earnings per share (EPS). The study methodology employs a descriptive and analytical approach to investigate the bank's data during the period of 2010–2019. Hence, the findings show that electronic payment methods have an important impact on the bank's financial performance, through the return on assets and equity indicators, which helps to reduce costs and thus increase profits. However, there is no statistically significant effect on the earnings per share. What is more, the Bank of Palestine uses a wide variety of electronic payment methods. Thus, the study suggests the necessity to increase the effectiveness of the information security from fraud risks, in addition to activating supervisory and regulatory authorities (such as the Palestinian Monetary Authority), to strengthen the application of electronic payment tools.

## Keywords

electronic payment cards, return on assets, return on equity

## JEL Classification

E42, G23, G21

## INTRODUCTION

Many experts in the financial field confirm that the banking industry principally witnessed a period of transformation, when it commenced to adopt contemporary technologies, primarily those related to electronic payment systems. This quantum leap has led to a rise above routine business and paying more attention to strategies and policies that help to move the banking business ahead. Consequently, electronic payment methods or E-Payment will replace the traditional payment methods and thus provide digital financing services or what is known as "E-Banking" in various forms that are compatible with the nature of operations and deals, and different needs of customers (Mohsen & Habbaz, 2019).

Technological progress is also one of the most important variables that participated in changing the course of the banking industry, as there has been a significant change in the form of banking. It has changed due to the direct reliance on modern technology in providing banking services and developing them with high efficiency in order to create new banking services and developing the methods of providing them to ensure the flow of banking services from banks to a customer with ease and accuracy, as well as improving bank performance (Hammou & Zidan, 2016; Mokadem & Muwafak, 2021). Doubtlessly, the recent technological development has led to various changes and progress in banking. The effect of modern technology on the economy relies on



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the growth rate of that technology, in addition to the scope of banks' ability to make use of the remarkable progress in information technology and communication in an approach that helps and enhances their performance level.

The study problem is one of the most eminent topics in the banking industry. It tests the impact of electronic payments on the financial performance of the oldest and most important Palestinian bank (Bank of Palestine). This is because these methods are among the most significant means applied in E-commerce operations. They also ease making transactions that take place at the international level, which is reflected on the bank's performance, meets the changing needs of customers, and provides various banking services and products.

In accordance with the aforementioned data, and to explain the effects of E-payments in enhancing financial performance, the following question is being asked: What is the effect of E-payments represented by percentage of the number of electronic cards (platinum, classic, signature, Amyali, Easy Life, cash card) on the Bank of Palestine financial performance?

The main question arises from the following sub-questions:

- 1) What is the effect of the percentage of the number of electronic cards (platinum, classic, signature, Amyali, Easy Life, cash card) on the Bank of Palestine ordinary share earnings?
- 2) What is the effect of the percentage of the number of electronic cards (Platinum, Classic, Signature, Amyali, Easy Life, cash card) on the return on assets of the Bank of Palestine?
- 3) What is the effect of the percentage of the number of electronic cards (Platinum, Classic, Signature, Amyali, Easy Life, Cash Card) on return on ownership of the Bank of Palestine?

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## 1. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Many recent studies have dealt with electronic payment methods to improve the quality of services and the consequent enhancement of financial performance in banking institutions. For instance, Sidrat and Ashouri (2019) come to recognize the impact of the use of electronic payment systems on the performance of Algerian commercial banks. The descriptive approach was used to present the theoretical framework and the case study to analyze the study tools. The study sample consisted of 76 employees in 12 teams affiliated with 5 major banks in Algeria. The study findings showed the following important results: The presence of a positive impact of the use of electronic payment systems on improving the performance of Algerian commercial banks (increasing profitability and reducing costs). It also illustrates that electronic payment systems play an eminent role in managing li-

quidity, reducing risks and decreasing effort in the implementation of operations. Thus, the study recommends that there is an urgent need to improve the infrastructure of banks in Algeria, popularize the use of TBE devices, and apply modern electronic payment systems. What is more, a study by Al-Raji and Al-Obaidi (2014) aims to demonstrate the effect of using electronic payment systems on the performance of Jordanian banks (financial performance and the efficiency of internal operations). The study employs a questionnaire designed to collect data from the study sample consisting of four (4) banks, which constituted approximately (33%) of the study population. The study findings showed that the electronic payment system affects directly the financial performance of Jordanian banks. It also positively affects enhancing the efficiency of the banks' internal operations. The study sample positively affects bank performance. Therefore, Mohsen and Habaz (2019) assured the impact and role that electronic payment systems have taken and the number of electronic cards as a pathway in developing and expanding banking operations

and then improving the performance of commercial banks. The return on equity and the presence of a positive relationship between the number of electronic cards and electronic money transfers play crucial role in improving financial leverage. This is what agrees with the study by Mustapha (2018) that illustrates that the performance results of the Nigerian banks improved after the adoption of electronic payment technologies. Moreover, the study by Zallaghi (2018) on Maskan Bank in Lorestan province in Iran showed that the perceived confidence and quality of electronic banking services have a positive impact on the acceptance of electronic banking services and on the development of new banking services, and thus a positive impact on the financial performance of a bank. Also, the study by Odusina and Adekunle (2017) comes to identify the electronic payment system and retain clients in banks and the implications for the development of entrepreneurship in Nigeria. The most prominent results of this study were the existence of a positive and important relationship between the electronic payment system and customer retention, which will improve performance. What is more, Harelimana (2018) examines the effect of the electronic payment system on the financial performance of financial institutions in Rwanda during the period 2012–2016. It illustrates factors affecting customer access to electronic payment systems. It also showed that there is a positive relationship between the electronic payment system and the performance of financial institutions. The study by Hammou and Zidan (2016) showed that the problem of banking technology lies in electronic payment methods and systems and communication channels. The study also showed that the advanced technology positively affects the performance and competitiveness of financial institutions if they are better exploited; and therefore it is necessary to benefit from the experiences of leading banks in the field of information technology employment and management. There is also an urgent need for banks to enhance awareness among customers in order to raise the level of electronic readiness for them and thus enhance the banks' performance.

Torki et al. (2019) examine the impact of electronic payment systems on the performance of the financial sector in selected Islamic countries during 2011–2017. These countries are Iran, Indonesia,

Jordan, Kuwait, Malaysia, and Senegal. The study found that the indicators of electronic payment of various types represented by the mobile phones, internet banking, bank cards and automated teller machines positively and significantly affect the performance of the banking sector. This finding showed that the economic and population growth has a significant positive impact on the performance of the financial sector. In contrast, inflation and the interest rate affect it negatively and significantly. Moreover, Sakanko and David (2019) employed a cross-sectional research design and normal least square regression to examine the impact of electronic payment systems on the financial performance of banks and microfinance institutions in Niger State. The results of the analysis indicate the existence of electronic payment systems in banks that enjoy an exciting acceptance impressive for its ease of use and convenience. It shows a significant positive impact on financial performance. Furthermore, Aduda and Kingoo (2012) and Ahmed and Elali (2021) investigate the relationship between electronic banking services and the performance of banking services in Kenya. The study revealed a positive relationship between electronic banking services and the performance of banks. It also showed that banking transactions have become easier by using the electronic banking services and by bringing services closer to their customers, thus improving the performance of the banking industry. Also, Mathkour (2017), Abuamsha (2021), and Awad et al. (2021) considered technological progress as one of the most important factors that contributed to a radical transformation in the patterns of banking in the era of globalization as banks paid great attention to intensifying the use of the latest information, communication and computer technologies. In addition to developing them with high efficiency in order to create new services. Moreover, the development of methods for their presentation to ensure the flow of banking services from banks to a customer with accuracy and ease, which meets the contemporary and growing requirements of various customer segments, on the one hand, ensures the growth for a bank in the volume of its operations and profits on the other hand. It is concluded that electronic payment methods are working to include technology in providing services, which leads to improving banking performance. In contrast, Youssef and Qassem (2016)

and Al Amosh and Khatib (2021) identify the effect of electronic banking services on the financial performance of banks operating in Syria. The Syrian Real Estate Bank was chosen for the period between 1995–2013. The study findings concluded that electronic banking services did not have any effect on a bank's performance (rate of return on equity and rate of return on assets). As a result, the study recommended to increase the level of banking electronic services and applying the latest contemporary financial technologies.

Previous studies were similar in terms of research on the issue of electronic payment systems and means, but they differed in measuring the general performance of a bank and the special measurement represented in the financial performance of banks. What distinguishes this study is the focus on the financial performance of banks in the Palestinian case, knowing that it is one of the few studies on this subject within the Palestinian environment. Accordingly, it was necessary to study the role of E-payments in enhancing the financial performance of the most important national bank in Palestine – Bank of Palestine.

The hypotheses of the study have been explored in accordance with the general objective of the study that comes to test the relationship between electronic payment methods and the indicators of financial performance, based on the previous studies. Thus, the hypotheses can be formulated as follows:

$H_{a1}$ : *There is no statistically significant effect of E-payments on the Bank of Palestine financial performance.*

The main hypothesis will be measured through the following sub-hypotheses:

$H_{a1-1}$ : *There is no statistically significant effect of E-payments on the Bank of Palestine earnings per share.*

$H_{a1-2}$ : *There is no statistically significant effect of E-payments on the Bank of Palestine return on assets.*

$H_{a1-3}$ : *There is no statistically significant effect of the E-payments on the Bank of Palestine return on equity.*

## 2. METHODOLOGY

The study sample is represented by the Bank of Palestine as a case study, since it is the first national bank and due to the fast growth in its services during the period 2010–2019 (Palestine Monetary Authority, 2021; Awwad & Razia, 2021). The study is based on the annual reports of the bank (financial state, income statement, and statistics on the number of bankcard users) (Bank of Palestine, 2019).

The major problem of this study lies in attempting to recognize the role of E-payments represented by the percentage of the number of electronic cards (platinum, classic, signature, Amyali, Easy Life, cash card) in enhancing the financial performance of the Bank of Palestine. Three major factors were chosen to test whether they relate to E-payments, and if so, what is the relationship?

To answer the previous question, the paper estimated the following three simple regression models:

$$EPS_{i,t} = \alpha + \beta_1 PNEC_{i,t} + \varepsilon_i, \quad (1)$$

$$ROA_{i,t} = \alpha + \beta_1 PNEC_{i,t} + \varepsilon_i, \quad (2)$$

$$ROE_{i,t} = \alpha + \beta_1 PNEC_{i,t} + \varepsilon_i, \quad (3)$$

where  $EPS_{i,t}$  is dependent variable; earnings per share is the ratio of net income to the number of outstanding common shares for the Bank of Palestine ( $i$ ) in the year of ( $t$ );  $ROA_{i,t}$  is a dependent variable: Return on assets is the ratio of net income of Total assets for Bank of Palestine ( $i$ ) in the year of ( $t$ );  $ROE_{i,t}$  is a dependent variable; Return on Equity is the ratio of net income of total equity for Bank of Palestine ( $i$ ) in the year of ( $t$ );  $PNEC_{i,t}$  is an independent variable; percentage of the number of electronic cards measured by dividing electronic payment cards for the total customer cards for Bank of Palestine ( $i$ ) in the year of ( $t$ );  $\alpha$  is the constant;  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  is the slope of the independent variable,  $\varepsilon_i$  is a random error.

The selection of variables depends on the quantitative data and it is most suitable for achieving the study objective, and measuring the dependent variable (E-payments) is resembled by a percent-

age of the number of electronic cards. It is measured by dividing electronic payment cards for the total customer cards, financial performance is measured by earnings per share, return on assets, and return on equity). Table 1 shows the dependent variable and independent variables.

**Table 1.** The labels and measurement of variables

Variable	Label	Definition and measurement
Percentage of the number of electronic cards	<i>PNEC</i>	Electronic payment methods are expressed through the so-called electronic payment cards for the total number of customer cards, and this variable is measured through the equation: Capital Adequacy = electronic payment cards number / customer cards total
Earnings per share	<i>EPS</i>	Net income divided by the number of outstanding common shares
Return on Assets	<i>ROA</i>	The ratio of Net Profit after Interest and Tax to total assets
Return on Equity	<i>ROE</i>	The ratio of Net Profit after Interest and Tax to total equity

### 3. RESULTS

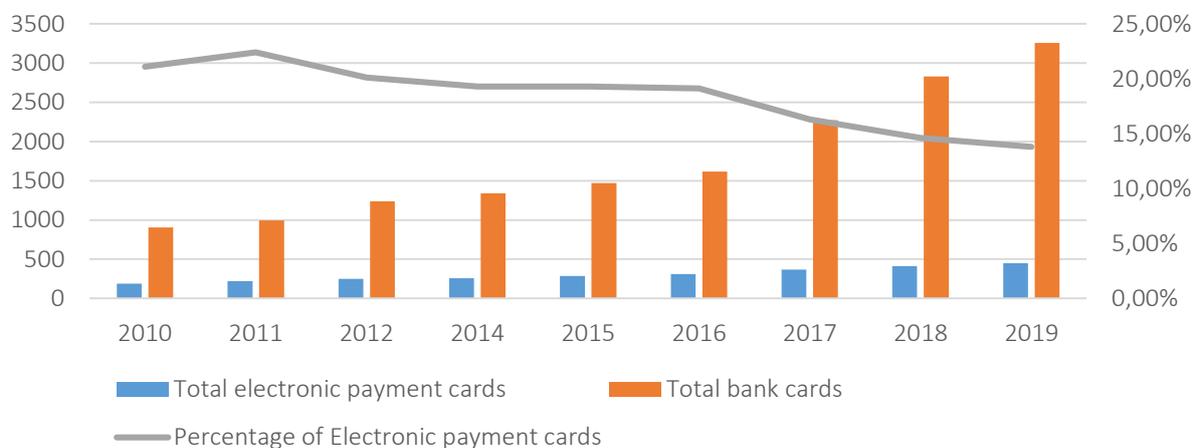
The study data were collected by reviewing the financial statements published on the Palestine Stock Exchange and via the website of the Bank of Palestine, and then transformed to an excel sheet to define the variables and use the SPSS program to test the model of the study and verify the study hypotheses. In this part of the study, two major issues will be discussed: Descriptive statistics and hypothesis testing.

Figure 1 shows the growth in using bankcards at the Bank of Palestine during the period 2010–2019: Despite the rapid growth of the total Bank of Palestine cards from 900,000 in 2010 to 3,254,000 in 2019, which was reflected in electronic payment cards, where it increased from 190,000 in 2010 to 449,000 in 2019, the percentage of electronic payment cards out of the total bank cards was decreasing from 21.10% 2010 to 13.80% in 2019. Accordingly, the following figures illustrate the aforementioned findings.

Figure 2 illustrates the performance of the Bank of Palestine during the period 2010–2019. The bank’s net profit grew from USD 30.1 million at the end of 2010 to USD 54.1 million at the end of 2018, which represents a growth rate about 80%. Then this rise has been followed by a noticeable decline in 2019 until the net profit reached about USD 38.9 million.

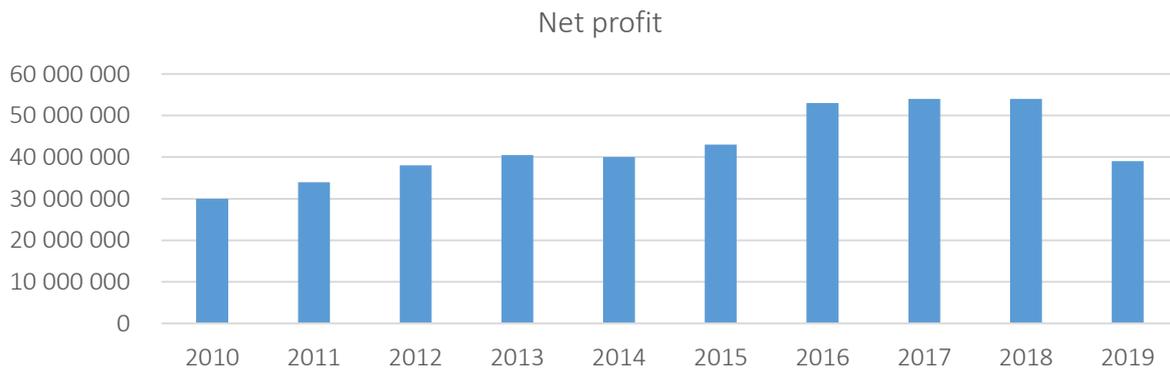
However, the bank’s performance indicators (the rate of return on assets, return on equity, and earnings per share) are illustrated in Figure 3 that shows that the Bank of Palestine achieved a slight decline during the study period from 2010–2019. The rate of return on assets decreased from 1.95% at the end of 2010 to about 0.74% at the end of 2019. This decline is attributed to an important reason that the increase in the volume of assets at a rate is greater than the increase in the bank’s profits. As for the return on equity, the percentage decreased by half from 18.44% at the end of 2010 to 9% at the end of 2019, while earnings per share decreases from its highest value of 30% in 2010 to 16% in 2019.

Source: Prepared by the researcher based on data from the Bank of Palestine.



**Figure 1.** Growth in using bankcards at the Bank of Palestine during the period of 2010–2019

Source: Prepared by the author based on data from the Bank of Palestine.



**Figure 2.** The bank’s net profit during the period of 2010–2019

After the initial presentation of data, Table 2 provides the statistical description of the data collected through the review of the Bank of Palestine annual financial reports during the period 2010 to 2019. The variable of this study is financial performance, which was measured by three variables: the rate of return on assets (ROA), the rate of return on equity (ROE), and earnings per share (EPS). The average return on assets is about 0.01514, and compared to the banking sector, it is evident that there is a decrease in the return on assets at the Bank of Palestine. The reason may be due to the Bank of Palestine’s acquisition of companies, which increased the size of their assets at higher rates than the increase in profits. As for the upper limit of the return on assets, it reached 0.02055 and the limit the lowest is about 0.00740. On the other hand, the average return on ownership was approximately 0.14499, the upper limit was approximately 0.18443, and the minimum was approximately 0.09041. It is fairly

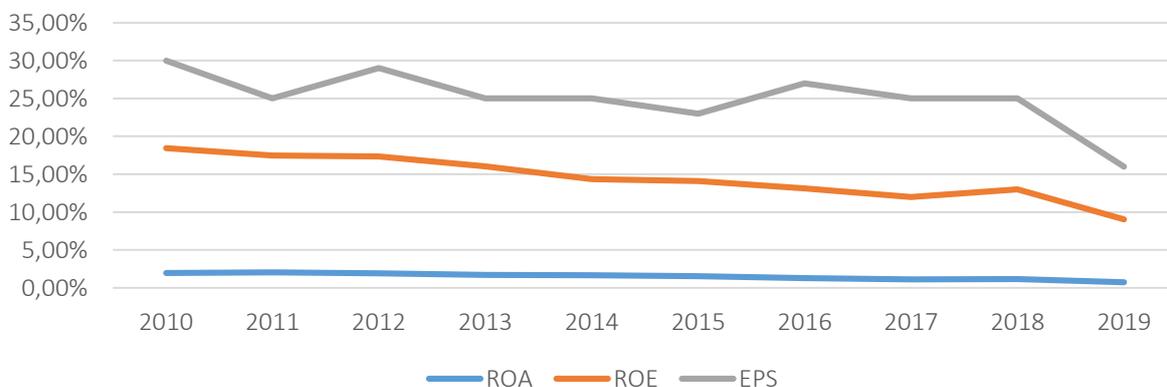
close to the average return on equity for the banking sector. While the average earnings per share for the Bank of Palestine during the period amounted to about USD 0.250 per share. The maximum profit per share was USD 0.300 per share, while the minimum was 0.1600. As for the percentage of electronic payment cards (REPC), the rate was 0.1786, the upper limit was approximately 0.22422, and the minimum was approximately 0.12694.

As for the normal distribution of data, the results for skewness and kurtosis (Table 3) indicate that the data are normally distributed.

Table 3 clarifies the results of the statistical analysis to test the hypotheses of the study.

Based on Table 3, the results indicate that there is no statistically significant effect at ( $\alpha \leq 0.05$ ) for the percentage of electronic payment cards on the financial performance as measured by the Bank of

Source: Prepared by the researcher based on data from the Bank of Palestine.



**Figure 3.** Financial performance indicators of the Bank of Palestine during the period 2010–2019

**Table 2.** Descriptive statistics

Variable	ROA	ROE	EPS	PNES
Mean	0.0151	0.1450	0.2500	0.1786
Median	0.0160	0.1424	0.2500	0.1920
Mode	0.00739 <sup>a</sup>	0.09041 <sup>a</sup>	0.2500	0.12693 <sup>a</sup>
Std. deviation	0.0043	0.0289	0.0380	0.0330
Variance	0.0000	0.0008	0.0014	0.0011
Skewness	-0.4836	-0.3974	-1.3662	-0.3787
Std. error of skewness	0.6870	0.6870	0.6870	0.6870
Kurtosis	-0.7303	-0.1952	3.4790	-1.2641
Std. error of kurtosis	1.3342	1.3342	1.3342	1.3342
Range	0.0131	0.0940	0.1400	0.0973
Minimum	0.0074	0.0904	0.1600	0.1269
Maximum	0.0205	0.1844	0.3000	0.2242
Percentiles	25	0.0115	0.1275	0.2450
	50	0.0160	0.1424	0.2500
	75	0.0192	0.1739	0.2750

Palestine ordinary share earnings, where the calculated t value was 0.478, which is less than the tabular t-value (1.96). The significance level was 0.633, which is higher than 0.05.

Therefore, the results show that there is a statistically significant effect at ( $\alpha \leq 0.05$ ) for the percentage of electronic payment cards on the Bank of Palestine financial performance measured by the return on assets. The calculated t value was

3.599, which is higher than the tabular t (1.96), and the significance level was 0.001. It is less than the significance level (0.05), where the null hypothesis is rejected, and the alternative hypothesis accepted that there is a statistically significant effect at the significance level ( $\alpha \leq 0.05$ ). The percentage of electronic payment cards on the financial performance is measured by the Bank of Palestine return on assets. The adjusted interpretation coefficient reached 10.9%, which means

**Table 3.** Results of simple linear regression analysis of hypotheses

Variables	B	T	Sig.
<b>EPS</b>			
(Constant)	0.084	10.495	0
PNES	0.001	0.479	0.633
R	-	0.043	-
(R2)	-	0.002	-
(Adjusted R <sup>2</sup> )	-	-0.006	-
F	-	0.229	-
T-Sig.	-	0.633	-
<b>ROA</b>			
(Constant)	0.03	5.078	0
PNES	0.007	3.599	0.001
R	-	0.345	-
(R2)	-	0.119	-
(Adjusted R <sup>2</sup> )	-	0.11	-
F	-	12.942	-
T-Sig.	-	0.001	-
<b>ROE</b>			
(Constant)	0.034	7.578	0
PNES	0.003	2.773	0.006
R	-	0.242	-
(R2)	-	0.058	-
(Adjusted R <sup>2</sup> )	-	0.051	-
F	-	7.687	-
T-Sig.	-	0.006	-

that the percentage of electronic payment cards represents 10.9% of Bank of Palestine the return on assets.

However, the presence of a statistically significant effect at ( $\alpha \leq 0.05$ ) for the percentage of electronic payment cards on the financial performance is measured by the return on ownership of the Bank of Palestine. The calculated *t* value was 2.77, which is higher than the tabular *t* (1.96), and the significance level was 0.006, which is less than the significance level (0.05). The null hypothesis is rejected, and the alternative hypothesis accepted that there is a statistically significant effect at ( $\alpha \leq 0.05$ ) for the percentage of electronic payment cards on the financial performance as measured by the Bank of Palestine return on ownership. The adjusted interpretation coefficient reached 5.1%. This means the percentage of electronic payment cards explains 5.1% of the Bank of Palestine return on assets.

## 4. DISCUSSION

Descriptive statistics of the results showed that the Bank of Palestine does not have sufficient awareness of the importance of applying the latest technologies and innovative means in electronic payment operations, especially those needed by customers. The indicators of financial performance are decreasing during the study period, especially in 2019, which may be attributed to the COVID-19 crisis.

Through the applied results of the case study, three variables were used to clarify their impact on elec-

tronic payment methods during the period 2010–2019. The study put forward three hypotheses to identify these variables.

The first hypothesis predicted that there is no significant effect of the percentage of electronic cards on the Bank of Palestine ordinary share profit. The findings agree with this hypothesis and showed that profit per share is not affected by the number of electronic cards. The findings also clarify that there are multiple internal and external factors other than the number of electronic cards that affect the profitability of the share. For this reason, the first null hypothesis is accepted.

What is more, the second and third hypotheses, on the first hand, predict that there is no effect of the percentage of electronic banking cards on the return on Bank of Palestine assets and the return on ownership. On the other hand, the review of the analysis results showed that there is a significant effect, and therefore the second and third hypotheses can be rejected and the alternative hypotheses accepted. The study findings then showed that they can interpret the return on assets and the return on ownership. For instance, they measure directly the bank's internal performance, and this reflects the volume of short and long-term investments. It is certain that electronic payment methods contribute to attracting new customers, which helps increasing the size of the bank's investments, in addition to reducing the costs and increasing profits. This result agrees with what was concluded in other related studies like Al-Raji and Al-Obaidi (2014), Sidrat and Ashouri (2019, cited, 2017), Mohsen and Habbaz (2019).

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## CONCLUSION

The study aims to clarify the impact of electronic payments on improving the financial performance of the Bank of Palestine. The study concludes about the impact of electronic payment methods and return indicators on assets and equity. It also finds an absence of the impact on earnings per share. It can be concluded from the results of the study that the Bank of Palestine is one of the most important banks operating in Palestine. This is due to the fact that its profit is growing rapidly compared to the size of its investments, despite the provision of many traditional banking services. However, there is a need to employ an up-to-date technologies and strengthen electronic payment mechanisms. There is also a need to expand its client base and increase the size of its assets. This step thus will be reflected in the indicators of return on assets and return on equity. Moreover, good financial performance is one of the most preferred factors that investors take in account when assessing earnings per share and making the appropriate investment decision.

The study recommends that Palestinian banks in general and the Bank of Palestine in particular should play an effective role in adopting various electronic payment methods such as the application of electronic payment methods, which is still shy. There is also an urgent need to provide an advanced technological infrastructure that is needed to adopt the application of electronic banking services, including electronic payment methods. There is also a need to conduct media campaigns in order to extend banking awareness and consolidate the culture of online banking among individuals. Supervisors and regulators (such as the Palestinian Monetary Authority) should then direct banks towards protecting and reducing risks to facilitate the use of electronic payment tools and enhance their role in improving the financial performance of banks.

The issue of electronic payment methods is a broad topic with different dimensions. Thus, those who want to delve deeper into it can, for example, address electronic control challenges, electronic contracts and know how to conclude them. In addition to dealing with the existing legal challenges that govern and regulate the work with electronic payment methods. It is also possible to study the future strategies of Palestinian banks, which include a banking project. This study can also be applied to all 13 banks operating in Palestine, including 7 local and 6 foreign banks.

## AUTHOR CONTRIBUTIONS

Conceptualization: Bahaa Sobhi Awwad.  
Data curation: Bahaa Sobhi Awwad.  
Formal analysis: Bahaa Sobhi Awwad.  
Investigation: Bahaa Sobhi Awwad.  
Methodology: Bahaa Sobhi Awwad.  
Resources: Bahaa Sobhi Awwad.  
Validation: Bahaa Sobhi Awwad.  
Visualization: Bahaa Sobhi Awwad.  
Writing – original draft: Bahaa Sobhi Awwad.  
Writing – reviewing & editing: Bahaa Sobhi Awwad.

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