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Impact of Online Banking on Financial Performance of Commercial Banks in Afghanistan

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ABSTRACT

This study's primary objective was to examine the effects of online banking on Kabul commercial banks' financial performance. While addressing financial performance and online banking, the following question can be pondered. What is the impact of online banking on the financial performance of commercial banks in Afghanistan? Furthermore, the primary data were examined by using SPSSv.24's descriptive and regression methods. In addition, different regression assumptions, estimating methods, specification checks, and other tests were performed on econometric models. According to the findings of random effect regression analysis, capital sufficiency and cost-effect were closely related to banks' financial performance. The study finds that online banking boosts the financial performance of commercial banks in Afghanistan. Inversely, there is no statistically significant correlation between the financial success of banks in Afghanistan and online banking or bank size. Additionally, there is a plethora of literature and studies on contemporary online banking and financial performance in different countries, However, there is no study on the implication of online banking on the financial performance of financial banks in Afghanistan. Furthermore, the present study found no banking law in Afghanistan to deal with financial technology, digital currency, and online banking. Hence, the present study is expected to enrich the knowledge of online banking and financial performance in the commercial bank of Afghanistan.

Keywords: *Internet banking, financial performance, multiply regression, and Commercial banks of Afghanistan.*

I. INTRODUCTION

The banking industry in Afghanistan has never used modern online banking techniques; all Afghan banks are behind the times when it comes to adopting new technology. They should

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schedule the development of their integration and technology. Numerous studies have been carried out in various regions of the world based on the empirical banking literature to determine the impact of internet banking on the financial performance of banks, such as a study in a US bank that revealed no evidence of a difference between the financial performance of internet and non-internet banking.

Compared to other existing channels, Internet banking has spread quickly throughout the world and is currently recognized as a very efficient and cost-effective method of delivering banking services. The first internet bank in the world was established in the USA in 1981, and several well-known financial institutions followed suit, including Citibank and Bank of America (Malak, 2007). By replacing paper-based and labor-intensive techniques with automated processes, online banking has become a vital tool for increasing efficiency, controlling operations, and reducing costs, which boosts productivity and financial performance (Malhotra, 2009). By substituting automated processes for paper-based and labor-intensive ones, internet banking has become a vital tool for increasing efficiency, controlling operations, and reducing costs, which boosts productivity and financial performance (Malhotra, 2009). Internet banking is a cutting-edge concept in banking that leverages technology to put the customer and the bank closer together.

The impact online banking has on the banks practicing and providing financial performance and stability to the banker. The study analyzed how financial performance was impacted by internet banking, bank liquidity, capital adequacy, bank size, cost-effectiveness, deposit-to-asset ratio, and inflation. This study used a deductive technique of inquiry, document analysis, panels, a quantitative approach, and an explanatory research design to gather secondary data. The study is expected to be useful for bank executives, policymakers of the banks and financial institutions to be aware of online banking as a product of electronic commerce to make strategic decisions. The study adds to existing literature and is an invaluable tool for students, academicians, institutions, corporate managers, and individuals that want to know more about electronic banking. To increase the financial performance of the bank, the banks should have placed more emphasis on adaptability, dependability, safety, privacy, and ease of navigation. Thus, banks in Afghanistan ought to adopt an open-access strategy to benefit everyone.

Internet banking: is defined as the use of internet and telecommunication networks to deliver a wide range of value-added products and services to bank customers (Steven *et. al.* 2002). Through the use of a system that allows individuals to perform banking activities at home or from their offices or over the internet. Internet banking through traditional banks enables customers to perform all routine transactions, such as accounts. transfers, balance inquiries, bill

payments, stop-payment requests, and some even offer online loan applications. Customers can access account information anytime, day or night, and this can be done anywhere. Internet banking has improved banking efficiency in rendering customer services (*Karuik, 2005*). Therefore, Money and its importance in today's world are undeniable, and one can simply not ignore its significance. *Hammonds (2006)* has also stated in this regard that those individuals that deny the importance of money are ignorant and often end up without any assets in hand. When one talks about money, banks which are also known as financial institutions, also arise with it. People either save their money by placing it anywhere safe or utilizing the services of these financial institutions considered even safer than the former ones. It is because of this reason that banks hold such a significant place in establishing the world's economy.

Increasing globalization and technological innovation have completely transformed the world's perspective and how organizations conduct their activities. This shift triggered by globalization and technology has also affected the banking sector greatly, according to *Dzaja (2017)*. From conventional to modernize services, the way banks used to work has changed dramatically. Banks now make good use of the advantages of technology by being accessible to their consumers virally and electronically. E-banking is one of the most robust methods adopted by these industries, and it has not only given them advantages but it also helped consumers as they can now conveniently log in and create purchases from anywhere in the world. Apart from that, there are also several other strategies that are now being practiced by this sector, and out of all these strategies majority have proven their successful outcome as well. Financial performance and stability are one of those successful strategies. When banks start providing exceptional services to their customers along with their usual banking services, then that service is collectively termed as financial services or bank services (*Jaffer, 2017*).

II. CONTEXTUAL BACKGROUND

The extent and the intensity of banking products and services offered online are likely to have a substantial impact on the bank's overall performance. Internet banking is used as a marketing strategy to attract new clients, keep existing ones, increase market reach, and enhance service quality. Most individuals still view online banking as a fantasy. Most people would instead use cash than accept technology in light of the countless examples of fraud that are recorded in our nation and including simple electronic banking tools like ATM cards.

Contrariwise, Afghanistan's banking sector faced enormous challenges since late 2001 after collapsing of the Taliban regime; New banking laws were passed in 2003 and in early 2004, mainly based on international best practices. Following decades of conflict, the financial and

banking systems of Afghanistan whereas devastated. As an example; the informal gray market for transferring and exchanging money still dominates financial services in the country, which causes Afghan private banks to face problems with transferring money from abroad to Afghanistan despite the approval of the anti-money laundering and counter-financing terrorism (AML/CFT) laws, as several foreign banks have reportedly refused to transfer money into Afghanistan being intermediaries.

Between 2002-2004, significant banks were initially operating and providing their essential services as; branch permitted institutions (4 Banks), private Afghanistan incorporate entities (4 Banks), and State-owned relicensed entities (3 Banks) with authorized, issued licenses by AISA and DAB. Hopefully, ending 2014, there will be 17 licensed banks, including three state-owned banks and five branches of foreign banks. Additionally, there were 89 licensed money service providers and 8 more in the process of being licensed. Also, 14 microfinance institutions, including 12 nongovernmental organizations, provide financial assistance for the business sector in Afghanistan. Of all over mentioned institutions, the pioneer Afghan private incorporated bank was Afghanistan International Bank (AIB), established on 22/03/2004.

E-banking technology has been expanded in recent years, which can be a promising start-up for efficient and effective financial setup and dealings. E-Banking services use new technologies to provide various conventional banking affairs directly to customers around the clock. Banks offer a wide range of these services that can be used by electronic tools, such as ATMs, POS, Master Cards, Maestro Cards, online banking, SMS banking, statement accessibility, wire transfer, payroll transfer, etc.

Now a day majority of banks are making adjustments in e-banking services to meet customer needs where banks can provide excellent service to customers and can have a significant influence in supporting economic development through efficient financial services. It is considered necessary for banks to offer services electronically to remain competitive and profitable. E-banking offers vast opportunities in every sphere of business. It can be counted as successful if a commercial bank takes into account clients' preferences, availability of resources, system security, suitable brand name, multiple integrated distribution channels, specific marketing tools, support from top management, and good customer services are vital factors for the success of e-banking. And to be successful, banks should take the initiative and offer e-banking facilities instead of being pushed into it by others.

With the help of the E-banking platform, customers can access any banking affair not only when they want but also with convenience, comfort, confidentiality, and security from their homes,

office, or any other place by using the internet or other networks, television, telephone/modems. Due to various aspects of technology, there is a need to monitor the efficiency of the banks to best judge their status in a global environment. The banks with adequate electronic bases are gaining momentum, whereas the others are fighting for survival. Recent years have seen a quiet revolution in how we choose to pay for things, as more and more transactions happen by cards and online instead of cash. Many of us lead busy lives; we rush to work, get the kids to school, and at the end of the day, we rush home only to brace ourselves for the next day. After a hectic day, the last thing you want to do is spend time waiting in line at the bank. That's where e-banking services and products will give you a supporting hand for any banking affairs. There are many advantages inherent with E-banking which allows you to conduct your banking transactions safely and securely without leaving the comfort of your home and office. Or uses of other services and products such as Master cards, ATMs, POS, SMS banking, mobile banking, and many more.

III. THE CONUNDRUM OF THE BANKING SYSTEM IN AFGHANISTAN

Afghanistan's banking sector has witnessed many changes since the beginning of e-banking. Banks' customers have efficient, fast, and convenient banking services. In line with rendering qualities and acceptable services, most banks in Afghanistan are investing large sums of money in information and communication Technology. While the rapid development of information technology has made some banking tasks more efficient and cheaper, technological investments are taking a larger share of banks' resources. Currently, apart from personnel costs, technology is usually the most significant item in the budget of a bank and the fastest growing one. Another problem associated with this financial innovation is plastic card fraud, particularly lost and stolen cards and counterfeit card fraud. Banks need to manage the costs and risks associated with electronic banking. It is, therefore, essential that online banking innovations are made by sound analysis of risks and costs associated to avoid harm to the bank's performance. On the one hand, bank performance is directly related to the efficiency and effectiveness of electronic banking. Still, tight controls and standards are needed to prevent losses associated with electronic banking. The banks must balance these two options to not impair their overall prosperity. This is only possible if the overall effects of electronic banking on the banks and their customers are understood. Despite the potential benefits of online banking and e-commerce, there is debate about whether and how their adoption improves bank performance. The findings of previous studies that have investigated the impact of electronic banking on bank performance contradicted. For example, studies by *Kariuki (2005)*, *Kamau (2010)*, and *Mbugua (2009)* showed the positive impacts of online banking on their banking performance using bank

turnover and profits as a measure of performance. On the hand, Davenport (2003) and Oshikoya (2007), and Jean-Azam (2006) suggest that the use of and investment in ICT requires complementary investments in skills, organization, and innovation and investment, and change entails risks and costs, which might reduce bank profits and turnover in the short run. All these studies used profit and turnover as measures of bank performance. Hence there is a need to use some of the relative measures, such as return on assets, to uncover the impact of online bank investment on banking performance.

IV. FINANCIAL PERFORMANCE OF BANKS

The study found that all the banks maintained sufficient capitalization but were among the largest in Sub-Saharan Africa regarding asset deterioration. Further, Addai and Asiedu (2015) argued that commercial institutions should pay particular attention to their current acid test and debt ratios.

To find out the financial performance of banks in Bahrain, Naser (2013) conducted a study. The study found a connection between the control of funds and the valuation of equity securities. The research also revealed that the future of banks could be predicted by financial ratios. Finch (2015) suggested that financial ratios are one of the commonly utilized methodological methods for managerial decision-making. The author stated that financial ratios compare different figures from a company's financial statements so that data can be determined from its performance.

The link between financial results and the characteristics of banks was tested by Bashir (2001). In determining the financial performance of Islamic banks, the study revealed the empirical role that sufficient capital ratios and loan portfolios play. Factors such as customer and short-term financing and non-interest earning assets contribute to the increase in the profit of Islamic banks. The study's results, controlled for the macroeconomic environment, the situation of the financial market, and the effect of taxation, show that higher financial leverage and significant loans on asset ratios lead to higher profitability. Again, the report claimed that small companies are more profitable for foreign-owned financial institutions.

Accordingly, Shihadeh (2020) by his study analyzed the relationship between the usage of online payment services in daily life in the Middle East, North Africa, Afghanistan, and Pakistan (MENAP). In the study, the data collected from the world bank's global index database in 2014 shows that online payment service is linked with user education level, age, gender, and income level. It directly affects the financial performance of the bank in the MENAP region and, as a result, also indicates that higher educated customers are more familiar with the usage of the

online service of the bank than the uneducated thus, the financial performance of the bank is impacted by the online payment service and policymakers consider. Similarly, *Almumani (2014)* conducted an analysis to evaluate and compare the output of Saudi banks listed for the period 2007-2011 using accounting ratios. The study shows that if reserves, operational expenditures, and sales costs grow, profit would also decline, while the increase in operating income would improve Saudi banks' profitability. Likewise, applied the ordinary least square test, and the data collected was from 2011 to 2017 total of 42 banks were selected, and the sample size. The result shows that online banking has a positive effect on the financial performance of banks. Further, the study recommends encouraging investment in online banking, mobile banking, and agency banking as these services will encourage the banking service and income of the bank.

Additionally, the determinants of financial performance for commercial banks have been evaluated in the literature using the CAMEL or CAMELS models. CAMEL stipulates the evaluation of financial institutions based on five critical dimensions: Capital adequacy, Asset quality, Management, Earnings, and Liquidity. Sensitivity to market risk, a sixth dimension, was added in 1997, and the acronym was changed to CAMELS (Opez, 1999). These components reflect financial performance, operating soundness, and regulatory compliance of financial institutions. In this section, the CAMELS model is reviewed as it contains the risk element that is the basis of this study. *Hernando and Nieto (2007)* examined the performance of multichannel banks in Spain between 1994 and 2002. The study found higher profitability for multichannel banks through increased commission income, increased brokerage fees, and (eventual) reductions in staffing levels. It concluded that the Internet channel complements physical banking channels. In contrast to earlier studies, the multichannel banks in Spain relied more on typical banking business (lending, deposit taking, and securities trading). The adoption of the Internet as a delivery channel had a positive impact on banks' profitability after one and a half years of adoption. It was explained by the lower overhead expenses, and in particular, staff and IT costs after the same period. *Furst et al. (2002)*, taking a financial view, established that banks adopting electronic banking outperformed non-e-banking banks in terms of profitability. However, offering e-banking didn't have a statistically significant impact on profitability.

Further, *Malhotra and Singh (2009)* examined the impact of Online Banking on banks' performance and risk. The results of multiple regression indicated no significant relationship between internet banking and profitability. This contrasts with the results by *Uppal (2011)*, who noted that I-banking posed a positive impact on the profitability of the banks and thus concluded

that there was a need for time to mitigate this risk. Murerwa (2015) studied the determinants of banks' financial performance in developing economies: evidence from Kenyan Commercial Banks. The conclusion drawn was that bank-specific factors that are under the control of the management and owners affected the performance of commercial banks in Kenya and in developing countries generally.

Likewise, Ongore and Kusa (2013) explored the determinants of the Financial Performance of Commercial Banks in Kenya. The findings showed that bank-specific factors significantly affect the performance of commercial banks in Kenya, except for the liquidity variable. But the overall effect of macroeconomic variables was inconclusive at 5% significance level. Also, Nyanga (2016) studied the determinants of the financial performance of commercial banks in Kenya. The study found that capital adequacy and exchange rates were negatively correlated with ROE, while liquidity, operating cost efficiency, size, risk, GDP, and inflation had a positive influence on ROE. A study of electronic banking by Mbugua (2009), with ten or more employees drawn from each of the five central banks, shows that those with high-profit growth are more likely to have more significant water numbers of advanced ICTs. He concluded that e-banking leads to higher profits though in the long term.

Conversely, A study by Awuondo (2006) established that the challenge in e-banking is designing products that balance competitive pricing and functionality, keeping abreast with the dynamism of customer needs and innovation, and lacking a proper legislative framework to support the growth of e-banking. Kamau's (2013) analysis shows the impact of ICTs and e-business strategies on bank performance are positive overall but that ICTs are not a panacea in themselves. This study showed the positive impacts of e-banking on their turnover and profitability and, to a lesser extent, on employment, most notably when e-commerce is part of more extensive business strategies of banks. Further, Kamau (2013) provides evidence that using e-banking can improve bank performance in terms of increased market share, expanded product range, customized products, and better response to client demand. Therefore, nowadays, banks are entering tough competition with each other in affairs like investment, and they have the role of providing currency and economic welfare. In one sentence, banks have a very prominent role in economic activities, and without them, the economic part of society will be damaged. E-Banking is one manifestation of the information and communication revolution.

V. ONLINE BANKING AND FINANCIAL PERFORMANCE OF BANKS

There are several longitudinal studies on the effects of e-banking adoption on financial performance. Some authors have seen beneficial results, others have seen detrimental effects,

and others have reached mixed conclusions from other researchers. Significant conclusions: using an analysis of 72 Spanish commercial banks and data for the period 1994-2002, *Hernando and Nieto (2017)* noted that it takes time for the effects of the introduction of the e-banking framework to contribute to bank performance, and after three years of the implementation of the e-banking method, the writers of the sample banks noticed a significant positive effect on financial profitability.

Onay et al. (2008) analyzed the impact of internet banking on the financial results of banks in the sense of Turkey by utilizing data from 1996-2005 on 13 banks. In addition to using the method of *Hernando and Nieto (2007)*, they used simple macroeconomic control variables in the analysis. They noted that e-banking has a beneficial impact on banks' ROE with a time lag of two years. While *Rahman (2014)* examined the effects of advanced technology on Bangladeshi banks' profitability and noticed that technology-adopted banks witnessed improved productivity when they approached maturity. The drawback of this analysis is that the author has only shown improvements in overtime efficiency but has not explained whether such changes are essential or not. And also, *Aduda and Kingoo (2012)* have established a favorable association between e-banking and the financial output of banks by utilizing the Pearson Product-Moment Correlation Coefficient Test. Using data from twenty-seven banks from 2006 to 2010, the authors observed that for Kenya-based banks, e-banking had a clear and meaningful marginal impact on asset returns.

Adding to the literature from neighboring Afghanistan which has similar financial conditions, *Karimzadeh et al. (2014)* analyzed the impact of e-banking on the profitability of a bank in Iran (2014). They found a strong positive association between the development of e-banking and the profitability of the sample bank, measured in terms of ROA, using quarterly data from 2004 to 2012. Use data collection from 10 banks from 2002 to 2012. Interestingly, *Rauf and Qiang (2014)* measured the impact of e-banking on the profitability of Pakistani commercial banks in terms of Return on Assets, Return on Equity, and Interest Margin. Their empirical review found that e-banking has a significant positive effect on the margins of recent adopters, ROA, and ROE. In contrast, early adopters have a significant positive impact on ROE and Margin, though slightly on ROA. Based on the findings, they say that banks should consider e-banking as a cost-saving mechanism to cope with domestic and foreign banks with the well-managed tracking and risk management involved.

The effect of e-banking on Jordanian banks' performance was examined by *Al-Smadi and Al-Wabel (2015)* using panel data from fifteen Jordanian banks from 2000-2010. In their study, the productivity of banks was determined by ROE, and two sets of control variables were used.

Using the pooled OLS regression approach, they found substantial negative impacts of e-banking on banks' financial performance. The main limitation of this study is that the writers did not look at ROE after a single year of e-banking acceptance. Since investments are needed to incorporate e-banking technology, it may take time to recover costs and profits.

The influence of internet banking on the efficacy and danger of Indian commercial banks in the Indian context was examined by Malhotra and Singh (2016). No significant association between competitiveness and the availability of internet banking was identified. Going further to an African state where have a similar banking status to Afghanistan. *Oyewole et al. (2013)* researched the impact of e-banking on bank performance in Nigeria. Using panel data from 1999-2010 for eight commercial banks, researchers observed that e-banking had a substantial positive effect on bank profitability, measured in terms of Return on Assets (ROA) and Net Interest Margin (NIM). No effect on ROE, however, was identified in the study.

Sadr conducted a cross-country study on four banks of chosen Asian nations (2016). Regulating bank-specific and macroeconomic variables utilizing a fully modified OLS, the author empirically found that internet banking contributed to an increase of ROE with a time lag of three years, while a negative impact is observed with one year lag.

Over the duration of 1990-2008, *Onay and Ozsoz (2013)* used panel data from 18 retail banks operating in Turkey. They revealed that Internet banking acceptance is positively associated with the sum of profits, deposits, and loans per branch. Their study has also shown that embracing internet banking after 2 years of implementation hurts bank profitability. Online banking enhances competitiveness, according to the authors, which results in lower interest income, which is the reason for this negative outcome.

England, et al., (1998) was the most critical report that measured the number of US banks offering internet banking and analyzed the architecture and productivity features of these banks. There is no evidence that, in terms of performance, stability or credit efficiency, the performance of the population of banks providing Internet banking operations is significantly different from that of those who do not offer those services. Transactional Internet banks, though, mainly differed from other banks by size.

Furst et al. (2002) observed, contrary to the results that banks were generally more profitable in all categories of Internet banking and tended to focus less heavily on traditional banking activities compared to non-Internet banks. The latest start-ups of Internet banks, which were less competitive and less profitable than non-Internet banking, were an exception to the Internet banks' dominant performance. The writers concluded that Internet banking was too small a

factor to be influenced by the viability of banks.

In the 10th Federal Reserve District, Sullivan (2014) noticed that click-and-mortar banks incurred slightly higher operating expenses but compensated for these losses with somewhat higher fee income. In this study, on average, no structural evidence was found that banks were either supported or harmed by the availability of the Internet delivery network. This study also found that de novo click-and-mortar banks performed slightly lower than de novo brick-and-mortar banks, similar to the conclusions of Furst et al.

Results of Hassan et al. (2015) studies suggest that Internet banking organizations performed marginally higher than non-Internet entities. The risk variables associated with the Internet population appeared to be lower than the non-Internet category. The effect of internet banking on financial outcomes in U.S. 2517 national banks was examined, according to Carlson (2001). The outcome suggests that there is no independent impact of internet banking on financial performance.

Abdu (2015) studied the effects of advanced technology on the profitability of Malaysian banks and noticed that technology-adopted banks encountered increased performance when they approached maturity. The drawback of this analysis is that the author has only shown improvements in overtime efficiency but has not explained whether such changes are essential or not.

Berger (2014) has developed a positive association between e-banking and the financial results of banks by using the Pearson Product-Moment Correlation Coefficient Test. Using data from twenty-seven banks from 2006 to 2010, the authors observed that for Kenya-based banks, e-banking had a clear and meaningful marginal impact on asset returns. In terms of Return on Investment, Return on Equity, and Interest Margin, Ceylon (2016) estimated the impact of e-banking on Turkey's commercial banks' profitability. Their empirical review found that e-banking has a significant positive effect on the margins of recent adopters, ROA, and ROE. In contrast, early adopters have a significant positive impact on ROE and Margin, though slightly on ROA. Based on the findings, they say that banks should consider e-banking as a cost-saving mechanism to cope with domestic and foreign banks with the well-managed tracking and risk management involved.

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banking on banks' financial performance. The main limitation of this study is that the writers did not look at ROE after a single year of e-banking acceptance. Since investments are needed to incorporate e-banking technology, it may take time to recover costs and profits.

In the Indian context, *Malhotra (2014)* studied the influence of internet banking on the effectiveness and danger of Indian commercial banks and found no significant connection between the competitiveness and availability of internet banking. *Malhotratra (2015)* has deliberated the impact of e-banking on bank progress in Nigeria. Using panel data from 1999-2010 for eight commercial banks, researchers observed that e-banking had a substantial positive effect on bank profitability, measured in terms of Return on Assets (ROA) and Net Interest Margin (NIM). The report finds no impact on ROE, however. Cross-country research was conducted by *Sadr* on four banks of selected Asian nations (2013). Regulating bank-specific and macroeconomic variables utilizing a fully modified OLS, the author empirically found that internet banking contributed to an increase of ROE with a time lag of three years, while a negative impact is observed with one year lag.

In the span of 1990-2008, *Sathya (2016)* used panel data from eighteen retail banks operating in Australia and showed that Internet banking adoption is positively associated with the sum of profits, deposits, and loans per branch. Their study has also shown that embracing internet banking after 2 years of implementation hurts bank profitability. Online banking enhances competitiveness, according to the authors, which results in lower interest income, which is the reason for this negative outcome.

Sanders (2017) observed that banks were generally more efficient in all Internet banking categories and tended to focus less heavily on traditional banking activities compared to non-Internet banks. The latest start-ups of Internet banks, which were less competitive and less profitable than non-Internet banking, were an exception to the Internet banks' dominant performance. The writers concluded that Internet banking was too small a factor to be influenced by the viability of banks.

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VI. IMPACT OF FEE AND COMMISSION ON PROFITABILITY

The technological development and digitalization of services have increased the competition among financial institutions, leading to decreased cost advantages for banks. As a result, the profitability of traditional activities of banks dropped, which consequently led to an expansion of banking activities into non-traditional fee and commission-bearing services (*Edwards & Mishkin, 1995; Rogers & Sinkey, 1999; Davis & Tuori, 2000*). In Europe, non-interest income (NIIs) increased from 26% to 41% of total income between 1989 and 1998 (*Lepetit, Nys, Rous, & Tarazi, 2005*). The most pronounced part of NII is a net fee and commission income (NFCI) which accounted on average for 58% of all NII between 1993 and 1998 in EU countries. Nevertheless, the composition of NII differs across European countries significantly. Whereas in the United Kingdom, NFCI represented more than 70% of NII in 1998, only 35% in Portugal and Sweden (*ECB, 2000*).

As banks have become more involved in non-traditional activities that generate fee and commission income, the number of literatures examining the standard features of banks expanding into non-traditional areas has grown. While there are more studies trying to document the determinants of non-interest income, NII, and share at the bank level, the literature studying the relationship between market concentration and the magnitude of net fee and commission income, NFCI, is limited. The first paper examining the correlation between HI and NII was by *Moshirian, Sahgal, and Zhang (2011)*. Based on data from 20 developed countries (109 banks), banks facing high concentration have lower levels of non-interest income activity. Moreover, they included a variable measuring the change in the market competition, which turned out to be significantly negative. Even though the concentration is a slowly moving variable, small changes significantly influence banks' income composition. This indicates that banks in highly competitive markets are more likely to engage in risky behavior, including expansion in nontraditional activities. Similarly, as the U.S. studies, *Moshirian et al. (2011)* conclude that large banks with smaller net interest margins (NIM) exhibit higher NII.

VII. EFFECTS OF CHEAPER INTERNET COSTS ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS

The rapid development of the technology infrastructure, in particular the growth in the number of personal computers, the increased quality of Internet connections, the more widespread use of the Internet in both homes and businesses, and the significant reduction in both the fixed and variable costs of the Internet connections in Kenya, have made it possible for the Internet to play a more central role in banks' business strategy *Delgado and Nieto (2004)*.

A study by *Hernando and Nieto (2007)* found that operating costs increment after appropriating

Online Banking. At that point, it continuously diminishes after some time and winds up huge three years after adoption. On the contrary, DeYoung (2001) found no evidence that the Internet channel is a low-cost substitute for physical branch delivery. Moreover, there is evidence showing that internet-related costs increase, for example, the cost for a call center that supports customers 24/7 or higher average wages for a more skilled labor force to run a more sophisticated delivery system.

Furst, Lang, and Nolle (2002) examined a more significant number of banks that offer the Internet channel and found that the return on equity (ROE) tended to be higher for banks with Online Banking. Implementation of online banking has, in most cases, increased the cost of production, and this has hurt commercial banks. *Khater, Almansour, and Mahmoud (2016)* studied the factors influencing Customers' Acceptance of Online Banking Services in Sudan. The results reveal that internet connection quality has a direct effect on the behavioral intention to use Online Banking in Sudan.

Hence, the study could remark that there are many studies on the financial performance of banks and other financial institutions on different variables such as internal factors, external factors, employee performance, and others. But there is a lack of studies to see the impact of internet banking on the financial performance of banks, primarily commercial banks in Afghanistan. This study measures the effects of online banking on the financial performance of commercial banks. The impact online banking has on Commercial banks practicing and providing financial performance and stability to its company will be studied through this research study. In the light of above literature and the factors identified, online banking has a positive impact on the financial performance of the banking. Technological innovations have contributed significantly towards the global transformation of traditional banking operations to contemporary online banking. Consequently, online banking has become an essential source of revenue for most banks operating in countries. These banks embrace technology but also place emphasis on human competencies and skills. Therefore, new banking has been found to support the better financial performance of banks in countries where online banking is growing larger. Online banking contains a lot of potential even for emerging countries because of the vast population and percentage of online users.

(A) Research Methodology

The research philosophy for this study is positivism since it is a deductive and quantitative study. In quantitative studies, positivist research philosophy is used. *According to Gay, Mills and Airason (2009)* the study cannot reach the full richness of individuals and environments;

moreover, according to *Wotherspoon (1998)*, the deterministic view of people is social products; thus, this study is based on positivism.

(B) Research Approach

The research approach for this study is deductive as it is based on positivism in primary data collection on the impact of online banking on the financial performance of commercial banks in Afghani. The research is from the observation specific to the generalized conclusion.

(C) Research Type

The type of this study is explanatory as the method is quantitative and primary data collection as the study investigates the impacts of online banking on the financial performance of commercial banks in the country. The study is conducted and ends with new data insights, and the outcome of this research is the answer to the question of why and how.

(D) The population of the Study

The population is the group to which the researcher would like the results of a study to be generalized. It includes all individuals with specific specified characteristics (*McNabb, 2017*). *Cooper and Schindler (2014)* state that a population consists of a more extensive set of observational elements, whereas a smaller set is referred to as a sample size. The population for this study consisted of employees of different branches of the banks in Kabul; managers and departmental heads were also included in the study and especially those who were in charge of implementing online banking. The population for this study was 3000, where the members had equal 1 chances to be selected, and the respondents were members of the banking sector of Afghanistan.

(E) Sample size

Sample size refers to the number of items selected from the universe to constitute a sample (*Oladipo, 2015*). The sample size is an essential feature of any empirical study in which the goal is to make inferences about a population from a sample. Considering that this was a census, the sample size for this study consisted of 324 respondents, representing the whole population. The sampling technique used for the study is probability sampling, and the number of respondents is selected based on the morgen sampling table.

A research sampling design is a part of the research plan that indicates how cases will be selected for observation (*Cooper & Schindler, 2014*). A sample design is a framework, or road map, that serves as the basis for selecting a survey sample and affects many other important aspects of a survey (*Lavrakas, 2008*). In a broad context, survey researchers are interested in obtaining some

type of information through a survey for some population, or universe, of interest. One must define a sampling frame representing the population of interest from which a sample is to be drawn.

- ***Sampling Technique***

Greener (2008) says that selecting just a small group of cases from out of a large group is called sampling. The study adopted the probability-sampling technique. Probability sampling techniques give the most reliable representation of the whole population. In contrast, non-probability techniques, relying on the judgment of the researcher or on accident, cannot generally be used to generalize about the whole population. As Greener (2008) suggests, stratified sampling specifies any characteristics that the researcher wishes to be equally represented among the sample. Since the sampling frame could easily be identified by these characteristics, strata were derived (Greener, 2008).

(F) Data Collection Tools

Primary sources and secondary data were used in data collection. Secondary data was obtained from the annual reports and publications of the company, while primary data was obtained through the administering of a semi-structured questionnaire. An advantage of using questionnaires is that it allows the researcher to educate the participants on how to read and fill out the questionnaires. The participants also get adequate time to fill out the questionnaires. The questions in the questionnaires were based on the objectives that had already been listed above. A five-point Likert scale of 1-Strongly Disagrees, 2-Disagree, 3-Neutral, 4-Agree, and 5-Strongly Agree was used. Close-ended questionnaires were administered to the target population.

- ***Data Collection Procedure***

Viswanathan (2005) posits that the data collection procedure is the plan for the activities involved in a given study. After approval of the proposal, the researcher sought authority from the University and Bank management to conduct the study. The researcher then used a survey questionnaire, interview schedule, and documents as data collection instruments to collect relevant data. A cover letter accompanied the survey questionnaire before it was administered upon approval by the bank's management.

This was to help the respondents familiarize themselves with the exercise. Questionnaires administered. The survey questionnaire into divided in three sections. Section A gathered demographic data regarding respondents, such as gender, age, years of service, and academic

qualification. Sections A, B, and C subsequently gathered information based on the three variables of the study. The researcher facilitated the interview personally to ensure clarity of the questions to be answered by the respondents and, where necessary, sought in-depth information about the questions to be asked.

(G) Method of Analysis

First, for method analysis, the study looks into Demographic Analysis; secondly, looking in Reliability Analysis for questionnaire validation; and thirdly, Regression analysis shows the method is suitable for the study.

(H) Limitations

There are certain limitations that are faced by the researcher while conducting this research. Firstly, time constraint was a significant hurdle as they restricted the researcher from conducting research on an extensive level as the requirement was to complete the research within the defined time period. The requirement of this research was to collect the required data, analyze it and compile the report within the specified time interval. This made the research follow the time-related limitations. Similarly, the limitations associated with budget and resources played a significant role during this study.

(I) Theoretical Discussion

The study concentrated on the effect of online banking on financial performance and on empirical data from Afghan commercial banks. Additionally, it is a valuable resource for future research, particularly those focused on the banking industry. First, because the study was limited to the banking industry, it cannot extrapolate its findings to other industries. To have a thorough understanding of the effects of internet banking, future studies can be conducted to expand coverage to include other sectors of financial institutions. These studies can also examine financial performance and use other measures of financial performance, such as the net profit margin and return on equity.

A modern banking idea is internet banking. The bank is closer to the customer thanks to technology. The term "internet banking" refers to systems that allow bank customers to access their accounts and general information about bank products and services through banks' websites without requiring or inconveniencing the sending of letters, faxes, original signatures, or telephone confirmations. Policymakers concentrate on increasing internet banking awareness, usage, and adoption in Afghanistan's banking sector due to the findings.

Afghanistan's banking and financial systems were destroyed over the three decades of war. Six

state-owned commercial banks that were primarily dormant and concentrated in Kabul, the country's capital, with few branches in the major cities, made up the Afghan banking sector. The Afghan banking system experienced a dramatic expansion in late 2001 following the military intervention of the United States and its allies. This was due to an influx of foreign aid, an expansion of public services, and the entry of local and foreign businesses, all of which needed banking services to support their operations.

With a cumulative experience of no more than ten years, the development of financial services in the contemporary banking sector of Afghanistan is in its early phases. This is viewed as both a difficulty and an opportunity. The two largest challenges to Afghan banks' productivity growth are security and banking culture. The banking sector in Afghanistan, meantime, is a young one with several technological, normative, practical, and legal issues. However, the present circumstance. The Afghan banking sector can be seen as a chance to develop a vision and work toward developing an inclusive financial system plan in Afghanistan by implementing worldwide standards with local consequences, where banking services should be able to reach the entire population.

In light of the rising instances of online banking fraud, banks must address security issues. The study suggests that a review of fraud legislation may help to lower risks associated with fraud in banks. Afghanistan's anti-fraud legislation is still lacking. To provide quick, convenient, and accurate services, bank management must increase investment in ICT goods. In particular, financial advances have given banks the resources they need to gain a competitive edge. Our study examines how financial innovation, as represented by Internet banking services, might improve the overall effectiveness of Afghan banks in this setting.

VIII. DATA ANALYSIS

the analysis part is done to achieve the study's objective; after demographic analysis, the reliability analysis, descriptive statistics, and correlation analysis have been covered.

(A) Analyzing the Demographic Information of the Respondents

Gender

The following table represents the gender that has responded to the questionnaire and was in our sample.

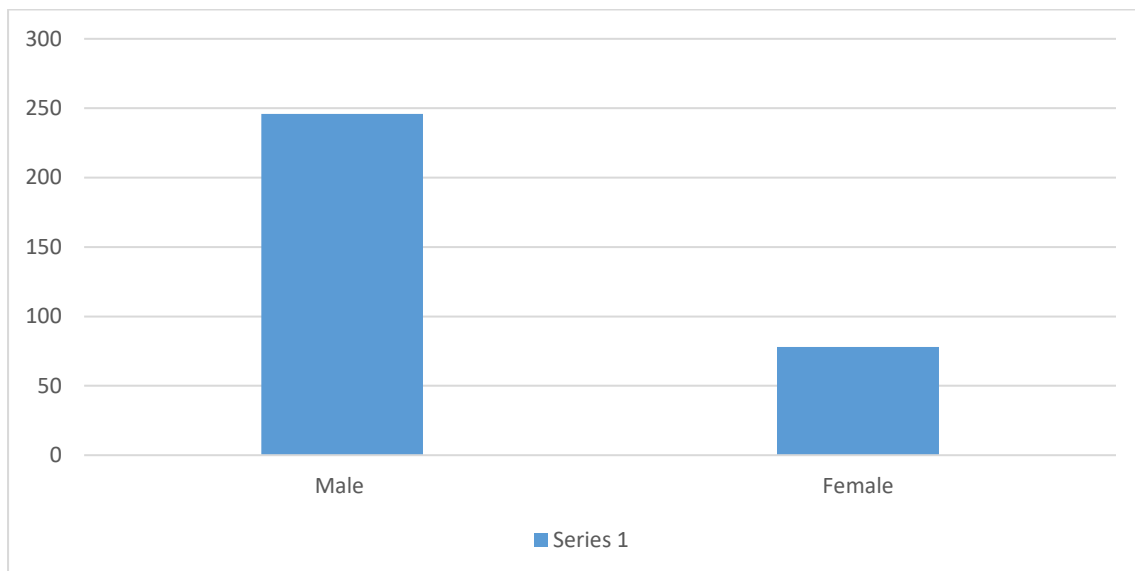
Table 1: Gender of the respondents

Attributes	Frequency	Percentage (%)
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Gender		
Male	246	75.9
Female	78	24.1
Total	324	100

Figure 1 -Source: Data Output (by the study through SPSSv.24)

Interpretation: The above table represents the number of genders that have responded to our questions. The total number of male respondents in our study is 246, which represents 75.9 percent of the sample. The total number of female respondents in our study is 78, representing 24.1 percent of our sample. This could also be depicted in the form of the following charts.



(B) Education

The following table represents the education of the respondents has four categories. The first category represents primary education, and the last category represents university education.

Table 2: Education of the respondents

Attributes	Frequency	Percentage (%)
Qualification		
High School Graduated	22	6.8
Bachelor	186	57.4
Master	109	33.6

Above Master	6	1.9
Total	324	100

Figure 2 -Source: Data Output (by the study through SPSSv.24)

Interpretation: The above table represents the respondents of the study. There are High School Graduates 22, which is 6.8 percent of the total respondents; bachelor response is 186, which is 57.4 percent, Master 109, which 33.6 percent and Master 6 respondents, which is 1.9 percent of the total respondents. The following graph represents another version of data for the purpose of discussion.

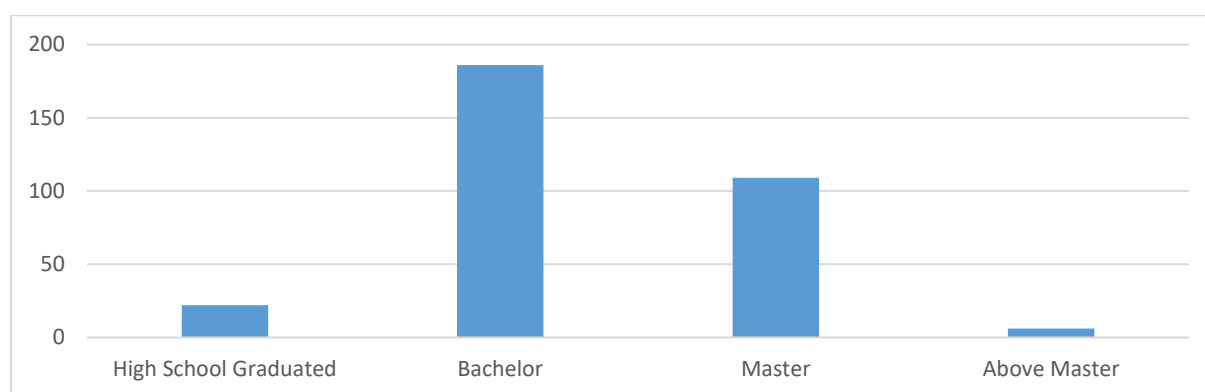


Table 3: Age of the respondents

Attributes	Frequency	Percentage (%)
Age of Respondents		
18-25	71	21.9
26-30	119	36.7
31-35	80	24.7
Above 35	54	16.7

Interpretation: The above table represents the respondents of the study regarding age. The age class starts from 18 and ends with above 35 out of 324 respondents, 71, which is 21.9 percent come under 1st class, and the 2nd class, 26-30, which represents 36.7 percent, is the highest number of participants in the study; the 3rd class 31-35 have 80 respondents who are 24.7 percent and lastly above than 35 respondents was the lowest number of respondents answer the survey.

(C) Reliability Analysis

The study utilized Cronbach Alpha in SPSS version 24 to test the reliability of variables.

However, considering the overall reliability, the author was confident to proceed with the rest of the test. Table 4.4 presents variables, Cronbach Alpha value, and the number of items in each variable. Table 4.4 shows that the Cronbach Alpha value for all the variables is more than 0.60. The instrument used for data collection is reliable, and the data collected through this instrument is fit for analysis.

Table 4: Reliability Analysis

S. No	Variables	Cronbach's α	No. of Items
1	Reliability	.733	4
2	Flexibility	.758	4
3	Privacy	.812	4
4	Safety	.689	4
5	Ease of Navigation	.692	4
6	Financial Performance	.829	5

Figure 3 - Source: Data Output (by the study through SPSSv.24)

(D) Correlation Matrix

Table 5: Correlation Analysis

	Reliability	Flexibility	Privacy	Safety	Ease of Navigation	Offinancial Performance
Reliability Pearson Correlation	1	.488**	.299**	.297**	.257**	.161**
Sig. (2-tailed)		.000	.000	.000	.000	.004
N	324	324	324	324	324	324
Flexibility Pearson Correlation	.488**	1	.595**	.349**	.415**	.228**
Sig. (2-tailed)	.000		.000	.000	.000	.000
N	324	324	324	324	324	324
Privacy Pearson Correlation	.299**	.595**	1	.553**	.271**	.209**

	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000
	N	324	324	324	324	324	324
Safety	Pearson Correlation	.297**	.349**	.553**	1	.357**	.157**
	Sig. (2-tailed)	.000	.000	.000		.000	.005
	N	324	324	324	324	324	324
Ease	Pearson Correlation	.257**	.415**	.271**	.357**	1	.398**
Of	Sig. (2-tailed)	.000	.000	.000	.000		.000
Navigation	N	324	324	324	324	324	324
Financial	Pearson Correlation	.161**	.228**	.209**	.157**	.398**	1
Performan	Sig. (2-tailed)	.004	.000	.000	.005	.000	
ce	N	324	324	324	324	324	324

** . Correlation is significant at the 0.01 level (2-tailed).

Figure 4 - Source: Data Output (by the study through SPSSv.24)

Correlation shows the relationship between two variables. This shows the direction and as well as the magnitude of correlation. The correlation coefficient between Flexibility and privacy is 48 percent. This implies that flexibility is positively correlated with privacy. If there is an increase in flexibility, this will cause to rise the privacy. Identically, the correlation coefficient between privacy and reliability is 48 percent. This implies that privacy is positively correlated with Reliability. If there is an increase in financial performance, Similarly, the correlation coefficient between Safety and Financial performance focus is 15.7 percent. This implies that safety is positively correlated with financial performance. If there is an increase in safety focus, this will cause to rise the financial performance.

(E) Model Summary

Table 4.5 shows the model summary, which shows two critical terms, i.e., R-square and Durbin Watson. R-square is about the changes in the dependent variable because of all the independent variables. R-square from table 4.5 is .373, which means that 37.3% of the changes in the dependent variable (financial performance) are because of all the independent variables used in this study. The remaining 62.7% changes might be because of other variables not included in

this study. The Durbin-Watson value is about the auto-correlation problem where the value is 1.850, almost equal to 2, showing no autocorrelation problem among the variables used in this study.

Table 6: Model Summary

Model Summary					
<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted Square</i>	<i>RStd. Error of the Estimate</i>	<i>Durbin-Watson</i>
1	.416 ^a	.373	.360	.75092	1.850

a. Predictors: (Constant), Ease of Navigation, Reliability, Privacy, Safety, Flexibility

b. Dependent Variable: financial performance

Figure 5 -Source: Data Output (by the study through SPSSv.24)

(F) Analysis of Variance (ANOVA)

Variance analysis was performed to test whether the model was adequate to predict the outcome compared to devise use. The F-ratio indicates the ratio of improvement in the estimate, resulting in an accurate model. The F-ratio is 13.327 and significant ($p < .05$). This model significantly improved the ability to assess the effects of online banking on financial performance. In precise, one can say that F-statistics measure the overall validity of the model. As the probability is lower than the significance level, the overall model is reasonably fit.

Table 7: ANOVA

Anova^a						
<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	<i>Regression</i>	37.574	5	7.515	13.327	.000 ^b
	<i>Residual</i>	179.315	318	.564		
	<i>Total</i>	216.889	323			

a. Dependent Variable: financial performance

b. Predictors: (Constant), Ease of Navigation, Reliability, Privacy, Safety, Flexibility

Figure 6-Source: Data Output (by the study through SPSSv.24)

(G)Regression Result

The regression result shows the effects of independent variables on the dependent variable of the study. The estimated coefficient of Reliability (.050), Flexibility (.007), Privacy (.122), Safety (-.065), and Ease of Navigation (.402). All these coefficients show a positive impact on financial performance except where the coefficient value is negative. These positive values indicate a positive relationship between online banking and financial performance. There is an insignificant relationship between reliability and financial performance. Online banking is an insignificant ($p = .425$) estimate coefficient, where $p > 0.05$, so we rejected the alternative hypothesis and accepted the null hypothesis.

Accordingly, there is also an insignificant relationship between Flexibility and online banking. A significant ($p = .918$) coefficient was found, where $p > 0.05$, so we reject the alternative hypothesis and accept the null hypothesis.

Similarly, table 4.6 shows a significant relationship between Privacy and online banking. The estimate's coefficient ($p = 031$) is $p < 0.05$, so the research here turned out to be $p < 0.05$. We rejected the null hypothesis and accepted the alternative hypothesis, stating that there was a significant impact of privacy on financial performance. The coefficient is 0.122, which is positive and means that with one unit of increase in privacy, financial performance increases by 0.122 units accordingly.

Lastly, there is a significant relationship between Ease of Navigation and online banking. The coefficient of the estimate ($p = 000$) is $p < 0.05$, so the research here turned out to be $p < 0.05$, so we rejected the null hypothesis and accepted the alternative hypothesis, stating that there was a significant positive impact of 'ease of navigation and financial performance of the banks.

Table 8: Coefficients Estimation

Coefficients^a				
<i>Model</i>	<i>Unstandardized Coefficients</i>	<i>Standardized Coefficients</i>	<i>T</i>	<i>Sig.</i>
	<i>B</i>	<i>Beta</i>	<i>Std. Error</i>	

<i>I (Constant)</i>	1.538	.228		6.750	.000
<i>Reliability</i>	.050	.062	.047	.798	.425
<i>Flexibility</i>	.007	.070	.008	.103	.918
<i>Privacy</i>	.122	.047	.131	2.595	.031
<i>Safety</i>	-.065	.069	-.060	-.941	.347
<i>Ease of Navigation</i>	.402	.062	.375	6.458	.000

a. Dependent Variable: financial performance

Figure 7 -Source: Data Output (by the study through SPSSv.24)

(H) Conclutory Remark

As a result of the analysis, it is concluded that after descriptive annals of demographic variables, the reliability analysis is checked where the Cronbach Alpha in SPSSv24 the data tested and found out .733 Cronbach's and 4 items and all the variables is more than 0.60 it means that instrument used for data collection is fit for analysis. This shows the direction and as well as the magnitude of correlation. The correlation coefficient between Flexibility and privacy is 48 percent. This implies that flexibility is positively correlated with privacy. If there is an increase in flexibility, this will cause to rise the privacy. Identically, the correlation coefficient between privacy and reliability is 48 percent. This implies that privacy is positively correlated with Reliability. If there is an increase in financial performance, Similarly, the correlation coefficient between Safety and Financial performance focus is 15.7 percent. Variance analysis was performed to test whether the model was adequate to predict the outcome compared to devise use. The F-ratio indicates the ratio of improvement in the estimate, resulting in an accurate model. The F-ratio is 13.327 and significant ($p < .05$). This model significantly improved the ability to assess the effects of online banking on financial performance. In precise, one can say that F-statistics measure the overall validity of the model. There is an insignificant relationship between reliability and financial performance. Online banking is an insignificant ($p = .425$) estimate coefficient, where $p > 0.05$, so we rejected the alternative hypothesis and accepted the null hypothesis. There is also an insignificant relationship between Flexibility and online banking. A significant ($p = .918$) coefficient was found, where $p > 0.05$ so we reject the alternative hypothesis and accept the null hypothesis. There is a significant relationship between Privacy and online banking. The estimate's coefficient ($p = .031$) is $p < 0.05$, so the research here

turned out to be $p < 0.05$. We rejected the null hypothesis and accepted the alternative hypothesis, stating that there was a significant impact of privacy on financial performance. The coefficient is 0.122, which is positive and means that with one unit of increase in privacy, financial performance increases by 0.122 units accordingly.

IX. EPILOGUE

The study examines the impact of online banking on the financial performance of commercial banks in Afghanistan; the research question is, what is the impact of online banking on the financial performance of commercial banks in Afghanistan? and the objective of the research for this study used is to find the impact of online banking on the financial performance of commercial banks in Afghanistan. overall study finished with five chapters. The problem was faced by the banking sector of Afghanistan in the context of rapid service of the bank, and technology is one of the main factors in responding to fast service with minimum time.

Similarly, the literature review is conducted in relevant areas from the financial performance view of the banks, online banking, financial performance, the impact of fees and commissions on the bank's profitability, and the effect of cheaper internet costs on the financial performance of the commercial banks. Where the gap of the study is also highlighted from the literature that money studies on financial performance have been done before, but this study is novel in the context of Afghanistan. After reviewing the literature, five key areas are taken from the literature, which explains that independent variables are reliability, flexibility, privacy, ease of navigation, and salty of the online banking system. Dependent variable financial performance is measured by ROE and ROA return on equity and research return on assets. The results of this study revealed that financial performance has little impact on the internet banking of Afghan commercial banks. Because modern online banking is a new technology in the Afghan commercial banking industry, the outcome of internet banking is not as expected as commercial banks of Afghanistan. All banks in Afghanistan are too old to keep up with technological development, and customers are not aware of the uses and advantages of internet banking technology. As a result, banks educate customers about the new Internet banking technology, promote it to them, and expand the services available to them.

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