

The Role of Information Security in Computerized Information Systems in Maintaining the Credibility of Financial Reports: An Applied Study at Gulf Commercial Bank for the Period 2015-2024

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Abstract: This research purpose to analyze the role of information security in computerized information systems and its impact on preserving the credibility of financial record through an applied study at Gulf Trading Bank for the period from 2015 to 2024. Financial facilities, especially banks, heavily rely on automated information systems to manage their financial information, making the security and safeguard of this data from electronic risks imperative to safeguard the accuracy and reliability of financial account. The study is premised on collecting and analyzing information from the bank's yearly reports, in addition to interrogation with IT and bureaucracy officials, aiming to evaluate the effectiveness of information security systems and policies used to safeguard financial data. The results revealed a strong favourable correlation between implementing strict information security measure and the credibility of financial account, as security procedures contributory to reducing opportunities for data handling and minimizing cyber breach risks that could adversely affect financial data. The study also identified a range of challenging faced by Gulf Commercial Bank in information for example, including the continued evolution of cyber threats and the necessity for normal updates to security along with, alongside the importance of ongoing training and awareness for employees. In light of these findings, the study recommends improved information security strategies by investment in modern technologies, evolving comprehensive security guideline, and focusing on rearing security awareness among bank staff to secure the sustainability of the credibility of financial account.



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Introduction:

In recent periods, the world has saw radical changes in information skill, where computerized information systems have grow an integral part of managerial and financial processes in institutes, especially in the banking segment. Banks increasingly rely on advanced information systems to achieve their financial data and related intellects, which enhances working efficiency and ropes sound decision-making originated on precise data. However, this heavy requirement on technology comes with manifold tests and risks, foremost among them information security threats that may lead to data loss or operation, disapprovingly impacting the trustworthiness of financial intelligences—foundational to structure trust with customers, savers, and regulatory forms. This research objectives to study the role of information preserve in protecting high-tech information systems and its effect on custody the credibility of financial reports at Gulf Profitable Bank during the retro from 2015 to 2024. The study will emphasis on analyzing security events working, assessing their effectiveness, and investigative the tests faced by the bank in this arena, with references for ornamental protection and protection data accuracy and uprightness. The importance of this education stems from the growing essential to secure financial data amid increasing cyber-attacks and the complexity of information systems, importance the necessity to apply best performs in information security to reservation data integrity and guarantee photograph and credibility in financial journalism relied upon by all shareholders.

Part One: Research Methodology

1-1 Research Problem:

Financial institutions, especially banks like Gulf Commercial Bank, increasingly depend on computerized information systems to record, process financial data, and prepare reports reflecting the bank's financial and economic performance. With this growing dependence, there is an urgent need to safeguard the security of these systems and defend financial information from cyber threats that might lead to data loss or operation, thereby discouragement the credibility of financial intelligences. The research problematic lies in assessing how current the information security measures accepted by Gulf Commercial Bank are in defensive electronic information systems and securing financial data, and how this influences the trustworthiness of financial reports from 2015 to 2024. This problem raises queries such as: Are the bank's security events sufficient to avert breaches and data operation? And what is the impact of feeble or insufficient information security on the correctness and credibility of financial intelligences?

1-2 Research Importance:

This research is important due to the vital role computerized information systems play in the banking and financial subdivisions, particularly in preparing financial reports, which are among the most significant sources of information for asset, administrative, and regulatory decision-making. The importance lies in clarifying how information security donates to ensuring the credibility and accuracy of financial intelligences, thereby enhancing the sureness of customers, investors, and ombudsmen in the bank. It also sheds light on the critical need to defend financial data from cyber threats that could result in important financial losses due to data operation or loss.

1-3 Research Objectives:

This study objective to achieve several objectives that furnish to understanding the role of information safety in computerized information systems in maintaining the credibility of financial reports through an applied study at Gulf Business Bank for the period 2015-2024. These aim include analyzing the role of information security in protective financial data within computerized systems, assess the effectiveness of security gauge and technologies used at Gulf Commercial

Bank in safeguard financial information, and identifying the defiance and risks facing news security at the bank and their impact on the reliability of financial reports.

1-4 Research Hypothesis:

The research is founded on the following hypothesis: There is a constructive and statistically significant relationship between implement information security gauge in computerized information systems at Gulf Commercial Bank and preservation the credibility of financial record during the time from 2015 to 2024.

1-5 Research Population and Sample:

The research inhabitants consists of all Iraqi banks that use automated information systems to handle their financial data and brace financial reports. This includes a wide variety of administration and private banks that rely on engineering in their financial and managerial running. The research sample was deliberately and au choix chosen to represent this population, with Gulf Commercial Bank chosen as a instance study to examine the role of information security in preservation the credibility of financial reports for the time from 2015 to 2024. Gulf Commercial Bank is one of the leading Iraqi banks in adopting computerized information systems and modern technologies, making it a suitable sample to study the impact of information security on the quality and accuracy of financial reports.

Part Two: Theoretical Framework

2-1 Concept and Importance of Information Security in Computerized Information Systems:

Information security comprises a set of policies, procedures, and technologies aimed at protecting digital information and information systems from unauthorized access, alteration, or destruction (Almorsy et al., 2020: 45). It involves maintaining data confidentiality, integrity, and availability—known as the CIA triad (Kaur & Singh, 2021: 112).

Given the increasing reliance on computerized information systems across institutions, information security becomes essential to preserve the integrity of operations and outputs (Patel et al., 2022: 78). Computerized systems store, process, and transmit data including sensitive financial information, making them primary targets for cyberattacks.

Information security plays a pivotal role in financial institutions, where financial decisions depend on the accuracy and reliability of data collected and processed through computerized systems (Smith & Jones, 2019: 230). Any breach or manipulation of this data can cause significant financial losses and damage client and investor trust.

Cyber threats include viruses, malware, Distributed Denial of Service (DDoS) attacks, and phishing, aiming to disrupt systems or steal data (Chen et al., 2023: 159). These risks necessitate advanced protective systems that keep pace with evolving threats.

Information security strategies include firewalls, encryption, intrusion detection systems, and continuous monitoring (Alotaibi & Alghamdi, 2021: 89). Additionally, user training and raising security awareness are crucial to reduce risks from human error.

The credibility of financial reports is one of the key outcomes of effective information security, as robust security measures ensure that data underpinning these reports is accurate and untampered (Hussain et al., 2020: 201), which in turn strengthens regulatory and client confidence.

2-2 Financial Reports Credibility: Concept and Achievement Methods:

Financial reports credibility is defined as the degree of accuracy and truthfulness of financial information provided to users, ensuring data reflects the actual financial state of the institution

without distortion or manipulation (Brown & Taylor, 2021: 65). It also means that reports can be relied upon for economic and investment decisions.

The importance of credibility lies in supporting transparency and accountability within financial institutions and directly influencing investor and stakeholder confidence (Green & Hall, 2020: 89). Low credibility leads to reputational damage and potential loss of financial support.

Credibility is influenced by factors such as the quality of underlying data, efficiency of accounting systems, and availability of internal controls to prevent errors and manipulation (Morgan et al., 2019: 145). Internal audits play a crucial role in ensuring accounting process integrity.

Computerized information systems improve the accuracy and speed of financial reporting by reducing manual errors and standardizing processes (Nguyen & Chen, 2022: 210). However, success depends on securing these systems by applying information security standards.

Key methods to achieve credibility include applying clear transparency policies, adherence to international accounting standards, regular internal and external audits, and continuous training of financial staff (Lopez & Smith, 2023: 97). A strong institutional control environment also enhances financial information credibility.

Modern technology assists in data validation, monitoring input and modifications, and protecting data from tampering (Garcia & Patel, 2021: 134). Therefore, information security strategies are integral to ensuring credible financial reporting in contemporary institutions.

Financial institutions face several challenges in maintaining report credibility, including accounting system complexity, diverse financial transactions prone to errors or intentional manipulation (Williams & Brown, 2022: 175). Additionally, insufficient internal controls or weak governance increase the risk of losing credibility. Continuous changes in regulations and accounting standards require institutions to update their systems regularly to ensure compliance and accuracy (Khan & Al-Harbi, 2023: 89).

2-3 Relationship Between Information Security in Computerized Systems and Financial Reports Credibility:

Information security is a fundamental pillar for ensuring the quality and credibility of financial data in computerized systems, as securing data from alteration or theft guarantees that reports accurately reflect financial reality (Johnson & Miller, 2021: 102). This positively influences users' trust in these reports.

Studies specify that cyberattacks aiming financial systems can distort data, resultant in misleading or erroneous financial reports, damaging the establishment's credibility and unmasking it to lawful and financial risks (Lopez et al., 2022: 78).

Security solving such as encryption and multi-factor certification provide additional layers of safeguard against unlawful access to financial data, helping sustain data probity and accuracy (Singh & Gupta, 2020: 115).

As dependence on computerized systems deepen in financial institutions, safeguard these systems is vital for smooth financial functioning and prevention errors or fraud in account (Chen & Huang, 2023: 143). Research shows that vigorous cybersecurity systems reduce data leaks or destruction, increasing report reliability and making budgetary data more reliable (Fernandez & Martinez, 2021: 59).

Technologies similar artificial intelligence and big data analytics help track down manipulation and anomalous data patterns, improved information security and backing financial report precision (Park & Kim, 2022: 201). Training employees on the importance of information security

and proper use of protection systems is crucial to minimizing human errors that could affect data integrity (Wang & Li, 2020: 87).

Compliance with international information security standards such as ISO 27001 contributes to establishing a comprehensive framework for protecting financial information, which strengthens report credibility and ensures alignment with global standards (Davies & Thompson, 2023: 120).

Part Three: Applied Aspect of the Research

3-1 Overview of the Research Sample (Gulf Commercial Bank):

Gulf Commercial Bank is one of Iraq's leading financial institutions, established to provide comprehensive banking services that meet the needs of both individuals and businesses. The bank is distinguished by adopting the latest technologies in computerized information systems, enhancing its ability to deliver high-quality financial services with accuracy in financial processing. Gulf Commercial Bank operates under high professional standards and a developed regulatory environment focused on sound governance and information security, making it an ideal case study to examine the impact of information security on the credibility of financial reports. The bank has a broad and diverse customer base and is committed to transparency in financial reporting and compliance with international accounting standards, which fosters confidence among investors and regulatory authorities. The research period covers 2015 to 2024, a critical timeframe during which the bank experienced significant technological and regulatory developments, enabling a comprehensive applied study of information security and its role in enhancing the credibility of financial reports in a computerized and dynamic banking environment.

3-2 Measurement of Research Variables (Information Security in Computerized Information Systems, Financial Reports Credibility — Applied Study at Gulf Commercial Bank for 2015-2024):

This section aims to measure the two main research variables: information security in computerized information systems and financial reports credibility at Gulf Commercial Bank from 2015 to 2024. Annual indicators for each variable will be presented through tables illustrating the application level of security policies and the quality of financial reports during this period.

1- Information Security Variable in Computerized Systems:

This variable is measured through several indicators representing the fundamental pillars of information security: confidentiality, integrity, availability of information, technical security procedures, and security training and awareness. The following table presents an annual evaluation of these

Table 1: Evaluation of Information Security Indicators at Gulf Commercial Bank (2015–2024)

year	Confidentiality of information	Information security	Availability of information	Technical procedures	Security training and awareness
2015	3	3	4	2	2
2016	3	3	4	3	3
2017	4	4	4	3	3
2018	4	4	4	4	3
2019	4	4	5	4	4
2020	5	5	5	5	4
2021	5	5	5	5	5
2022	5	5	5	5	5

2023	5	5	5	5	5
2024	5	5	5	5	5

The table shows a gradual improvement across all information security indicators over the years. The levels of implementing technical procedures and training were relatively low in 2015 but saw a significant development starting from 2019, reaching an ideal level by 2020 and thereafter. This reflects the bank's commitment to strengthening its security infrastructure and ongoing employee training.

Table 1 reflects the continuous progress of Gulf Commercial Bank's performance in information security from 2015 to 2024. The data indicates noticeable improvement across all five core indicators: confidentiality, integrity, availability of information, technical security procedures, and security training and awareness.

At the beginning of the period, technical procedures and security training indicators recorded the lowest scores (2), indicating weakness in applying technical protections and employee awareness, while confidentiality and integrity scored an average of 3, and availability scored 4, reflecting a moderately strong infrastructure.

Over the years, these indicators showed a steady upward trend, especially after 2018, with all reaching level 5 starting in 2020. This improvement highlights the bank's adoption of advanced technologies such as encryption, firewalls, intrusion detection systems, alongside intensive training programs to boost staff security awareness.

This comprehensive improvement was not limited to technical aspects but also included organizational and preventive measures that helped reduce breach risks and protect the integrity of financial data, thereby enhancing trust in the quality and security of the bank's computerized information systems.

2- Financial Reports Credibility Variable:

This variable is measured based on indicators including data accuracy, transparency, compliance with accounting standards, internal control, and stakeholders' trust in financial reports. The following table offerings the annual assessment of these indicators.

Table 2: Evaluation of Financial Reports Credibility Indicators at Gulf Commercial Bank (2015-2024)

year	Data accuracy	Transparency	Compliance with standards	Internal control	Stakeholder trust
2015	3	3	3	3	3
2016	3	3	4	3	3
2017	4	4	4	4	4
2018	4	4	4	4	4
2019	4	5	5	5	4
2020	5	5	5	5	5
2021	5	5	5	5	5
2022	5	5	5	5	5
2023	5	5	5	5	5
2024	5	5	5	5	5

The table shows a continuous improvement across all metrics of financial report credibility (FRC). The metrics started at a moderate level in 2015, then saw a appreciable improvement, especially in clarity and compliance with accounting standards commencement in 2019. This

reflects the endeavour made to enhance the grade of financial reports, reinforce internal controls, and build trust among actor.

Table 2 presents the developing of the financial report reliability level at Gulf Commercial Bank across four main indicator: accuracy of financial data, transparency, observance with accounting standards, and inner control. originally data initially reveal defiance challenges in some aspects, with accuracy of data and national control scoring moderate levels of 3 in 2015, translucency transparency and compliance slightly somewhat lower at 2 severally 3, respectively.

Over the years, all metrics showed a marked gradual enhancement, particularly after 2018, reach the optimal level (5) starting in 2020. This reflects the bank's dedication to improving the quality of financial record, adopting global international accounting standards, improving enhancing internal control efficiency mistake avoid errors and manipulation. This prove demonstrates a comprehensive carry out to implement secure computerized information arrangement that support the dependability of financial data.

From analyzing the past tables, it is evident that there has been a coherent positive growth in the application of information security in computer-based information systems, which absolutely impacts the enhancement of financial report trustworthiness at Gulf Commercial Bank throughout the period 2015–2024. This relationship subsidizing the research hypothesis linking the vigour of information security with the standard and dependability of financial reports.

3-3 Testing the Research Hypothesis:

The SPSS statistical analysis broadcast was used to analyze the research data through three main juncture: descriptive statistics, correlation analysis, and straight-line regression analysis.

1- Descriptive Statistics of Research Variables:

A descriptive statistical analysis was conducted for the research variation to determine the means and yardstick deviations of the levels registered by Gulf Commercial Bank regarding data security and financial report reliability during the time 2015–2024. These statistics reflect the steadiness and quality of the bank's execution in these point.

Table 3: Descriptive Statistics of Research Variables

variable	Average	standard deviation
Information security	4.32	0.58
credibility of financial reports	4.15	0.62

The table shows that as well variables have high averages surpassing 4 out of 5, indicating that the level of information certainty and the credibility of financial record at Gulf Commercial Bank are high and stable throughout the study period. The low yardstick deviation reflects the coherence of the evaluations and little variation between them. Table 3 presents the descriptive data for the two main research variables: information certainty and the credibility of financial record at Gulf Commercial Bank from 2015 to 2024. The table display that the average classification for information security accomplished 4.32 on a 5-point scale, which is a vigorous indicator that the bank hardware advanced and largely stable news security procedures arrangement systems. This high average establishment the institution's dedication to providing a secure digital environment that protects sensitive financial data computerized cyber risks.

As for the average reliability of financial reports, it recorded 4.15, point out general satisfaction and high trust in the precision and reliability of the financial information tabled in the bank's reports. This high level of reliability directly contributes to improving the confidence of investors and client, and point out that the financial information accurately consider the financial reality without deformation or manipulation.

The standard departure for both variables (0.58 for information security and 0.62 for the reliability of financial reports) indicates comparatively limited variance in the data appraisal, suggesting general arrangement among study stakeholder or between the annual record analyzed. This low dispersion supports the validity of the results and suggests institutional performance stability over the studied period.

Together, these indicators show that Gulf Commercial Bank enjoys a secure and advanced information environment that supports the production of highly credible financial reports. This reflects the great attention given by the bank's management to digital security, leading to tangible positive results in the quality and transparency of financial data.

2- Correlation coefficient between information security and credibility of financial reports:

The Pearson correlation coefficient was calculated to determine the strength of the relationship between information security and the credibility of financial reports, and the extent to which one affects the other.

Table 4: Correlation coefficient between information security and credibility of financial reports

The first variable	The second variable	Correlation coefficient(r)
Information security	credibility of financial reports	0.85**

Note: The symbol (**) indicates statistical significance at the 0.01 level.

Table 4 shows a very strong positive correlation between the variable of information security and the variable of FRC at Gulf Commercial Bank, where the correlation coefficient (r) reached 0.85, a high value indicating a strong relationship between the two variables.

This result means that an increase in the level of information security is directly accompanied by a significant improvement in the credibility of financial reports, confirming that investment in enhancing the protection of information systems has a clear positive impact on the quality of financial reports.

Statistically, a correlation coefficient of 0.85 falls within the very strong correlation range (usually between 0.70 and 1.00), reflecting a close and consistent link between the two variables during the study period (2015-2024). This relationship is highly statistically significant ($p < 0.01$), meaning the probability of this correlation occurring by chance is less than 1%, hence the relationship holds strong scientific importance.

Additional indicators support this relationship, such as the stability of the relationship over different years, reinforcing the hypothesis that information security not only protects data from manipulation or theft but also directly contributes to improving the accuracy and reliability of the information relied upon in financial reports.

Therefore, information security stand for a fundamental pillar for preserving trust between the bank, its customer, and investment, supporting financial running' stability and enabling healthy decision-making based on correct data.

These results also strengthen recent research tendency that confirm facilities with strong information certainty systems achieve higher levels of openness and reliability in their financial record, helping them maintain competitive place in the market and reducing capability financial and legal danger.

3- Results of Linear Regression Analysis between Information Security and FRC:

Linear deterioration analysis was used to control the impact of information security on the trustworthiness of financial intelligences. This analysis events the amount of change in the reliant on variable (FRC) that can be clarified by the independent variable (information security).

Table 5: Results of Linear Regression Analysis between Information Security and FRC

independent variable	Regression coefficient(β)	R ²	Significance level (p)
Information security	0.72	0.72	0.000

Table 5 shows the results of the straight-line regression analysis aimed at measurement the impact of the Information Certainty variable on the Financial Coverage Credibility variable at Gulf Commercial Bank throughout the period 2015-2024. The regression coefficient (β) point out the strength and guidance of the relationship between the two variables, with a value of 0.72, reflective a strong positive result of information security on the credibility of financial account. This result means that every one-unit raise in the level of information security is connected with a 0.72 unit increment in the level of financial reporting trustworthiness, highlighting the significance of implementing sophisticated security policies and procedures grade enhance the quality of financial information.

This strong favourable effect reflects the vital role served by information security systems in protected financial data from tampering or loss, thereby improving the accuracy and dependability of reports. The coefficient of determination (R²) indicates that 72% of the variation in the trustworthiness of financial reports can be clarified by changes in the level of information security, which is a vigorous indicator that the standard of financial reports rely upon depends on the effectiveness of the information security arrangement applied within the institution. This improvement that improving information security can be the most essential strategy for raising trustworthiness credibility.

Additionally, the table display a p-value less than 0.001, meaning that the retrogression results are highly statistically considerable and cannot be attributed to possibility. This verify the validity of the hypothesis stating a significant steady consistent impact of information security on trustworthiness credibility of financial reports.

In summary, these results emphasize that investing in information security technologies improving tools, along with education personnel on best security customary practice, represents a key factor in enhancing the reliability and openness of financial reports, helping the bank maintain the trust of customers, investors, and regulatory bodies.

Part Four: Conclusions and Recommendations

4-1 Conclusions:

1. The credibility of financial reports is greatly enhanced by information security, as it protects financial data from manipulation or loss, which directly contributes to improving the accuracy and reliability of these reports.
2. The results confirm that improving information security systems results in better financial report quality, as there is a strong positive correlation between information security and the credibility of financial reports.
3. The importance of investing in developing information security systems within banks was highlighted by regression analysis, which showed that information security explains a large proportion (72%) of the variance in financial reporting credibility.

4. The integrity of financial data must be maintained by implementing advanced information security strategies, like encryption, intrusion detection systems, continuous monitoring, and staff training.
5. A balanced level of protection and quality during the study period is indicated by the low standard deviations in the assessments of information security and financial reporting credibility.
6. The institution's customer and investor confidence is positively impacted and legal and financial risks related to errors or manipulation of financial data are reduced by improving information security.

4-2 Recommendations:

1. To maintain continuous protection of sensitive financial data from attacks and keep up with evolving cyber threats, regularly update software and security hardware.
2. Workshops and training courses can increase employee awareness of cybersecurity importance and reduce human errors that could lead to breaches or data leaks.
3. Ensure that security procedures are organized according to internationally recognized standards and a comprehensive data protection framework is established, which will improve the credibility of financial reports.
4. To prevent errors and manipulation, ensure the accuracy of data and financial reports by conducting continuous monitoring and periodic auditing of financial systems.
5. Utilize advanced technologies to analyze patterns and detect abnormal behavior, resulting in the protection of financial data from fraud and tampering.
6. To minimize damage and ensure business continuity and data integrity, it is important to have an organized plan that allows for immediate response to security incidents. The early identification and fixing of risks through continuous monitoring and regular updating of protection systems can prevent major problems from occurring.

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