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Title in English

"Empowering Risk Assessment and Decision-Making: Unveiling the Modern Technological Advancements at the Zakat, Tax, and Customs Authority"

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"تمكين تقييم المخاطر واتخاذ القرار: الكشف عن التقدم التكنولوجي الحديث في هيئة الزكاة والضرائب والجمارك"

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Chapter one: Introduction

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1.1. Introduction

In the contemporary landscape of rapid technological advancement, the symbiotic relationship between modern technology and risk assessment, as well as decision-making, has appeared as a transformative force across industries and sectors. The fusion of cutting-edge technologies with these fundamental processes has unlocked unprecedented capabilities, allowing organizations to navigate an increasingly complex and uncertain world with greater precision and insight (Smith, & Johnson, 2020).

Modern technology has become the linchpin for organizations looking to expect, manage, and mitigate risks while making informed decisions that drive success. Whether in finance, healthcare, environmental management, or countless other domains, the adoption of technological tools and methodologies has redefined the parameters of risk assessment and decision-making. This transformation encompasses a wide array of innovations, including big data analytics, artificial intelligence, machine learning, predictive modeling, and data visualization (Patel, 2019).

This exploration delves into the multifaceted realm of modern technology's impact on risk assessment and decision-making, offering a comprehensive view of its far-reaching implications. It delves into how these technologies empower organizations to better understand and respond to risks, make data-informed decisions, and foster resilience and agility in a world characterized by unpredictability (Chang et al., 2018).

Through real-world examples and case studies, we will examine how modern technology has disrupted traditional approaches, enabling businesses, governments, and individuals to confront and manage risk with greater efficacy and efficiency. From the dynamic world of financial markets, where algorithmic trading

strategies are deployed to find and capitalize on opportunities, to the healthcare sector, where predictive analytics and machine learning assist in diagnosing and treating diseases, the impact of technology is omnipresent (Wang, 2017).

Moreover, the integration of modern technology in risk assessment and decision-making transcends individual organizations and sectors; it carries significant implications for society as a whole. By harnessing the power of data and technology, governments can better respond to public health crises, natural disasters, and national security threats. Likewise, environmental organizations can employ satellite data and machine learning to check and combat climate change, while educational institutions can tailor learning experiences to the individual needs of students (Gonzalez & Martinez, 2016).

In this era of unprecedented connectivity, data proliferation, and technological innovation, the role of modern technology in enhancing risk assessment and decision-making is a transformative narrative that touches every side of our lives. The pages that follow will unveil the remarkable ways in which these innovations are reshaping our approach to risk and decisions, offering a glimpse into a future where knowledge, insight, and adaptability will be the driving forces behind successful and sustainable endeavors (Anderson, 2015).

1.2. Study Problem

The integration of modern technology in risk assessment and decision-making processes has heralded a new era of efficiency and precision. However, as organizations across sectors increasingly rely on technology-driven solutions, a complex and multifaceted problem appears how to harness the full potential of these technological advancements while addressing the challenges and risks associated with their application. This problem statement underscores the need to critically examine the role of modern technology in enhancing risk

assessment and decision-making and the inherent dilemmas it poses. (Brown et al.,2014) While technology offers the promise of more correct predictions, better-informed decisions, and increased organizational resilience, it also introduces concerns related to data privacy, algorithmic bias, cybersecurity threats, and the potential obsolescence of human ability. The overarching problem is how to use modern technology's potential while mitigating its inherent risks and challenges. Addressing these issues is vital for organizations and policymakers looking to harness the transformative power of technology in the domains of risk assessment and decision-making effectively. Failure to do so could lead to costly errors, ethical dilemmas, and an erosion of public trust in technology-driven decision processes.

1.3. The importance of the research

Research on the role of modern technology in enhancing risk assessment and decision-making is important for several reasons:

1- Theoretical importance

- ✓ **Advancement of Knowledge:** Research in this area contributes to the advancement of theoretical knowledge by expanding our understanding of how modern technology is reshaping the fundamental processes of risk assessment and decision-making. It explores the underlying principles and mechanisms, shedding light on the evolving dynamics of these concepts.
- ✓ **Theoretical Frameworks:** This research helps in the development of theoretical frameworks that can be applied across disciplines. It supplies the basis for creating models and concepts that can be used to analyze and understand the broader impact of technology on decision-making, risk management, and organizational behavior.

- ✓ **Interdisciplinary Insights:** Theoretical exploration in this field fosters interdisciplinary insights, drawing from fields such as data science, artificial intelligence, psychology, economics, and sociology. It encourages the cross-pollination of ideas and approaches, enriching our theoretical understanding of complex systems.

2- Practical importance:

- ✓ **Operational Efficiency:** The practical significance lies in the tangible benefits derived from incorporating modern technology in risk assessment and decision-making. Organizations can streamline operations, reduce costs, and enhance overall efficiency by using technology to automate processes and analyze vast datasets.
- ✓ **Risk Mitigation:** Modern technology aids in finding, assessing, and mitigating risks more effectively. This is crucial across industries, from finance and healthcare to disaster management and environmental protection. It allows organizations to proactively manage uncertainties and minimize potential negative impacts.
- ✓ **Data-Driven Decision-Making:** The use of technology enables data-driven decision-making, ensuring that choices are based on correct, real-time information. This, in turn, leads to more informed and strategically sound decisions, resulting in improved outcomes and competitive advantages.
- ✓ **Innovation and Competitiveness:** Embracing modern technology can drive innovation and bolster an organization's competitive edge. Companies that integrate advanced technology into their risk assessment and decision-making processes are better positioned to adapt to changing circumstances and seize emerging opportunities.
- ✓ **Societal and Environmental Impact:** In a broader context, the practical importance of this research extends to the societal and environmental realms. For instance, technology-enabled risk assessment

and decision-making can play a pivotal role in addressing global challenges like climate change, public health crises, and resource management.

1.4. Objective of the study

This study aims to identify.

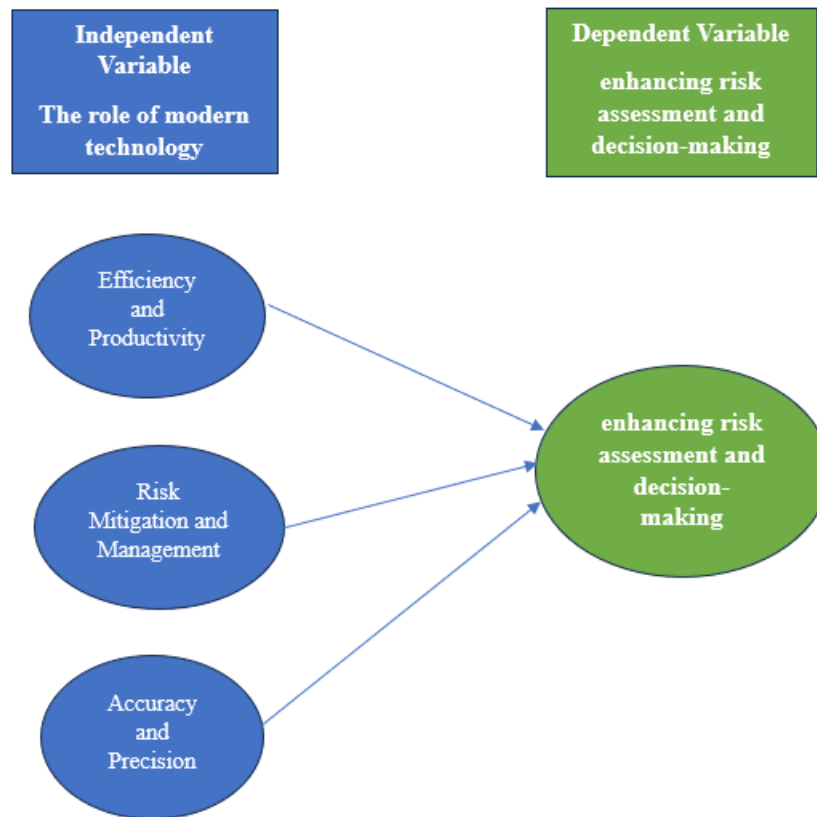
- 1- Identify the reality of the role of modern technology in enhancing risk assessment and decision-making.
- 2- Know the challenges facing the application of modern technology to enhance risk assessment and decision making?
- 3- Study the impact of the role of modern technology in enhancing risk assessment and decision-making.

1.5. Study Questions

the current Study tries to answer the following question:

1. To which degree the risk assessment and decision-making can be improved by modern technology?
2. What are the challenges facing the application of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) to enhance risk assessment and decision-making?
3. What is the impact of the role of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) in enhancing risk assessment and decision-making?

1.6. Theoretical premises of study



It is clear to us from the earlier figure, that the current research attempts to study the impact of operations strategy on project management.

1- **The independent variable:** The independent variable for research is represented in.

- **The role of modern technology** (Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision)

2- **The Dependent variable:** The dependent variable for research is represented in:

- **Enhancing risk assessment and decision-making**

Therefore, the current research is based on the following hypotheses.

- There is a statistically significant effect of the role of modern technology in enhancing risk assessment and decision-making.

1.7. Study limitations.

1. **Time limits:** This study will be conducted during the first semester of the 2023-2024 academic year.
2. **Spatial boundaries:** Customs, taxes and zakat sector to identify the reality of the role of modern technology (Efficiency and Productivity, Risk Mitigation and Management, Accuracy and Precision) in enhancing risk assessment and decision-making, Know the challenges facing the application of modern technology to enhance risk assessment and decision-making, Study the impact of the role of modern technology in enhancing risk assessment and decision-making.
3. **Human limits:** The application will be applied to the number of workers in customs, taxes and zakat.

Chapter Two: Modern Technology

Chapter Two: Modern Technology

2.1. Definition of modern technology

Modern technology is the advanced and innovative application of scientific and engineering principles to create new tools, processes, and systems that address modern challenges and enhance human capabilities. It encompasses a wide range of disciplines(Božić, 2023)

2.2. Advantages and Disadvantages of Using Modern Technology in Risk Management

Modern Technology has the potential to revolutionize risk management by providing organizations with a more sophisticated and efficient approach to identifying, assessing, and mitigating risks. However, it is important to consider both the advantages and disadvantages of using Modern Technology in risk management before implementing it.

2.3. Advantages of Using Modern Technology in Risk Management

- Modern Technology can analyze vast amounts of data to identify patterns and trends that humans may miss, resulting in more accurate risk assessments. This can help organizations make better decisions about how to allocate resources and mitigate risks.

- Modern Technology can automate many of the time-consuming and repetitive tasks associated with risk management, allowing risk managers to focus on higher-level tasks. This can free up time for risk managers to focus on more strategic initiatives and improve their overall productivity.
- Modern Technology can provide real-time insights into risks and help risk managers make informed decisions quickly. This can be critical for organizations that need to respond to risks quickly, such as in the case of a natural disaster or cyberattack.

2.4. Disadvantages of Using Modern technology in Risk Management

- Modern Technology models can be complex, and it may be difficult to understand how they arrive at their conclusions. This lack of transparency can make it challenging for risk managers to trust and interpret AI outputs. This can lead to poor decision-making if risk managers do not fully understand the reasoning behind AI recommendations.
- Modern Technology models can be biased if they are trained on data that is not representative or unbiased. This can result in inaccurate risk assessments and poor decision-making. For example, if a Modern Technology model is trained on data that is predominantly from one demographic group, it may not be able to accurately assess risks for members of other demographic groups.

- Using Modern Technology in risk management requires a high level of technical expertise, and not all organizations may have the resources or expertise to implement and maintain AI models. This can be a barrier to adoption for organizations that lack the necessary expertise.
- Study by (Brown-Liburd et al.,2015). Title: **Behavioral implications of Big Data's impact on audit judgment and decision making and future research directions.**

The aim of this paper is to investigate the information processing challenges and constraints that can hinder the efficient use and analysis of Big Data within an audit context. By synthesizing insights from both psychology and auditing literature, the paper explores the behavioral consequences of Big Data on audit judgment, focusing on issues such as information overload, information relevance, pattern recognition, and ambiguity. The study also delves into the difficulties auditors face when integrating Big Data into audit procedures and examines the diverse analytical tools currently employed by organizations for Big Data analysis. In conclusion, the paper not only highlights these challenges but also poses questions for future research that pertain to the effective integration of Big Data in auditing practices.

- Study by (Höchtel, et al., 2016). Title: **“Big data in the policy cycle: Policy decision making in the digital era”**

The aim of this article is to address the relatively overlooked relationship between technological change, specifically in the era of Big Data, and political change within the field of political science. While earlier studies have predominantly focused on the improvement of existing government activities through technology, particularly in the realm of e-government and e-governance, this article seeks to go beyond the conventional service delivery approach. To achieve this, the article proposes bridging the gap between e-governance and theories of public administration. It suggests exploring how policy decision-making processes can be conducted using Information and Communication Technology (ICT) and Big Data, with the policy cycle serving as a foundational model for policy processes and development. By adopting this perspective, the article aims to shed light on new possibilities and approaches for using ICT and Big Data in policy decision-making. It emphasizes the potential of these technologies to enhance and transform the policy cycle, offering insights into how data-driven approaches can inform policy development and improve decision-making processes.

The article looks to contribute to a deeper understanding of the intersection between technological advancements, particularly in the realm of Big Data, and political change within the field of political science. It encourages a broader exploration of the impacts and implications of technology in policymaking beyond the traditional scope of e-government research.

- Study by (Zou, et al., 2017). Title: “A review of risk management through BIM and BIM-related technologies”

The aim of this study is to address the global challenge of risk management in the Architecture, Engineering, and Construction (AEC) industry. Inadequate risk management not only affects project success but also influences future urban planning and design. With the rapid adoption of Building Information Modeling (BIM) and related digital technologies, the research trend is shifting towards using these tools for risk management. This paper supplies a comprehensive overview of traditional risk management and reviews the latest developments in risk management technologies, including BIM, automatic rule checking, knowledge-based systems, and IT-based safety systems. The findings suggest that BIM can serve not only as a systematic risk management tool but also as a central data source for other BIM-based tools to conduct in-depth risk analysis. Most of the current efforts have focused on technical advancements, particularly in the realm of construction personnel safety. However, due to technical limitations and a lack of testing concerning the human factor, BIM-based risk management is not yet widely employed in practical settings. To bridge this gap, the study proposes future research directions, emphasizing a multidisciplinary system approach, the investigation of implementation methods, the integration of traditional risk management with emerging technologies, and

support for the development process. This research aims to enhance risk management in the AEC industry by using the potential of BIM and other innovative technologies.

- **Study by (Rostamzadeh et al., 2018). Title: "Evaluation of sustainable supply chain risk management using an integrated fuzzy TOPSIS-CRITIC approach"**

The aim of this study is to address the underrepresentation of sustainability issues in the context of supply chain risk management and to develop a framework for evaluating sustainable supply chain risk management (SSCRM). In traditional risk management, the focus has been on finding, analyzing, and mitigating risks in the economic and production cycle, often overlooking sustainability considerations. To achieve this goal, the study proposes an integrated fuzzy multi-criteria decision-making (MCDM) approach, using the "Technique in Order of Preference by Similarity to Ideal Solution" (TOPSIS) and the "Criteria Importance through Inter-Criteria Correlation" (CRITIC) methods. The researchers reviewed the existing literature to find potential criteria for SSCRM and then filtered these criteria through expert panel input. The final SSCRM framework includes seven main criteria and forty-four sub-criteria. Notably, the most influential sub-criteria in each category were identified as machines and equipment risks, key supplier failures, demand fluctuations, government policy risks, IT security, economic issues, and the absence of proper sewage infiltration. In the context of a real case company, A2 (Nouri complex) appeared as the top performer based on the framework's

evaluation. This study successfully applies the proposed method and supplies a comprehensive account of the implications and **limitations** of the research. It serves as a significant step towards incorporating sustainability considerations into supply chain risk management, offering a structured approach to assess and improve sustainability practices within the supply chain.

- **Study by (Shrestha et al., 2019). Title: “Organizational decision-making structures in the age of artificial intelligence “**

The aim of this study is to explore how the introduction of artificial intelligence (AI)-based decision-making algorithms influences organizational decision-making processes. The article finds five critical contingency factors that differentiate human and AI-based decision-making: the specificity of the decision search space, interpretability of the decision process and outcomes, the size of the alternative set, decision-making speed, and replicability. By comparing human and AI-based decision-making across these dimensions, the article sets up a new framework that suggests how both forms of decision-making can be integrated to perfect the quality of organizational decision-making.

- **Study by (Lin et al.,2022). Title: “Risk evaluation of excavation based on fuzzy decision-making model”**

This study presents a novel risk evaluation model specifically designed for excavation systems. The model incorporates a unique combination of the Technique for Order Preference by Similarity to an Ideal Solution (TOPSIS) and hybrid fuzzy sets, specifically Pythagorean and triangular fuzzy sets. The model is divided into three key phases to facilitate the risk evaluation process. In the Decision Hierarchy Construction phase, a structured hierarchy of decisions is established to streamline the subsequent risk assessment. The model incorporates various data sources, including expert judgments and monitoring data, to ensure a comprehensive evaluation of risk factors. The High-Risk Factor Identification phase aims to identify high-risk factors within the excavation system using integrated data. To enhance the reliability of the results, an expert confidence index is incorporated, assigning appropriate importance to the judgments provided by consulted experts. To validate the model's performance, real-world data from an excavation engineering project in Tianjin, China, is utilized for evaluation. The results of this evaluation demonstrate the model's effectiveness in identifying high-risk factors within excavation projects. This model serves as a valuable decision-making tool for project managers and construction professionals involved in excavation systems. It aids in the analysis and evaluation of risks associated with such projects, offering a structured approach to enhance risk assessment and support more informed decision-making in the construction industry.

- Study by (Ionescu& Diaconita2023). Title: “Transforming Financial Decision-Making: The Interplay of AI, Cloud Computing and Advanced Data Management Technologies”

The objective of this paper is to examine how modern financial institutions are tackling the challenges posed by complex financial transactions and large volumes of data by leveraging advanced data management technologies, specifically artificial intelligence (AI) and cloud computing. The study provides a comprehensive analysis of the transformative impact of these technologies on financial decision-making across various domains and applications. The research methodology follows the PRISMA 2020 guideline, encompassing both foundational and recent advancements in the field. The findings demonstrate that a significant number of major financial institutions are increasingly adopting AI-driven solutions to enhance real-time risk assessment, transactional efficiency, and predictive analytics. These solutions offer benefits such as accelerated decision-making and reduced operational costs. However, they also present challenges related to data security and integration complexities, which necessitate further research and development. Looking ahead, the paper envisions a future financial ecosystem characterized by greater integration, responsiveness, and security. This ecosystem is anticipated to leverage the convergence of AI, cloud computing, and advanced data storage to further enhance the efficiency and effectiveness of data-driven financial services. The synthesis emphasizes the crucial role of contemporary data management solutions in shaping the trajectory of the financial industry and provides guidance for stakeholders operating within this evolving domain

Chapter Three : Risk Assessment and Relationship between Variables

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3. Introduction:

Currently, risk management is one of the most important sciences in project management. It undertakes to identify and measure risks to which enterprises are exposed, whether these risks are industrial, commercial or even financial. However, risk management differs from one enterprise to other due to the nature and privacy of the field in which it is active. Individuals and institutions are exposed to various types of risks in all life spheres. Furthermore, risk management has become one of the necessary priorities for economic institutions because of the effective role they play. Therefore, attention should be paid to studying risks and their sources and working on reducing losses that result from the existence of these risks by finding sufficient means to control them. Risk management is about practising an effective selection process for several alternatives and ways in order to reduce threats an institution faces; whether it is about this institution's internal or external environment. Considering the increase and variety of these risks' seriousness, these risks acquire economic, financial, regulative, legal and social nature. Within this chapter, we will get into risk management, including:

1. Introduction to risk management and its history of emergence
2. Risk management strategies, objectives and phases.

3.1. Risk definition:

Risk is defined by many definitions in one language, the common one is supervising destruction. Risk is the singular form of risk, which means supervising destruction. Moreover, the term "risks" is used in all domains, referring to profit and loss. The term "risks" also derives from "risk" (Jenty, 2019:7).

Risks can be defined as "a future potential that may expose an organization to unexpected and unplanned losses which may affect achieving and implementing its objectives successfully. In case of losing control of these risks and their effects, they may lead to the elimination of the organization" (Hussain, 2013:45).

3.2. Risk management definition:

Risk management is defined as "a rational series of practices which is considered agents' decision to maintain implementing the project in certain circumstances. Decision makers need to identify, analyze and assess risks in each phase of the project" (Rodrigues-da-Silva, L. H., & Crispim, J. A. 2014:944).

Risk management is also defined as "the process through which risks are monitored, identified, measured, supervised, and controlled in order to ensure a full comprehension of this concept, and that it is inside the acceptable limitations" (Asmaa, Abdulraziq, 2013:60).

It is also described as "the process through which the institution which uses practical ways to deal with risks is managed, and ways and procedures are set to reduce the potential of losses; as these ways and procedures are the approaches can be followed to recognize work policies, identify the potential risks, and understand their nature and the ways to control them" (Al-Mukhtar, Abdulkadir, 2019:9).

Travis Pritchett" has defined it as "the accredited scientific method to identify the potential risks and classify them according to the possibility of achieving them, then choose the most appropriate means to face these risks with the lowest possible cost. That means that risk management is conducted by using the scientific method, whether it was procedures, laws or instructions; to limit the frequency rate of loss, alleviate loss with the lowest possible costs, or to achieve both objectives" (Almari, 2022:1109).

Risk management is also defined as: "unpredictable event management from which potential losses may result at the institution level if it wasn't dealt with appropriately" (Tiba, Shakib, 2019:303).

Risk management: "is a process of measuring and assessing risks, and developing strategies to manage them. These strategies include transferring risks from one authority to another, avoiding them, reducing their negative effects, and accepting some or all their consequences (Youssef, 2017:126).

3.3. A historical overview of risk management:

In light of the significant development of technology and production means, and the growth of medium projects to large enterprises, labor social division has delved between enterprises and economic sectors into risks arising from technological development, as well as the increased awareness of society and public opinion of these type of risks. Industrial enterprises have started to become more interested in the risks they face and the costs of treating them. Moreover, industrial enterprises have realized the need to exchange experiences, among themselves, about the risks they face, ways for treating them and financing these ways. In 1929, the largest industrial companies gathered in Boston in the American United States to discuss insurance topics with a common interest. This meeting led to the establishment of an insurance department in the American Management Association in order to promote the mission of exchanging information and experiences among association members according to the relation of the issue with risks faced by various industries. While in 1932, Risk Research Institute has been founded; and in 1950, the National Association of Insurance Buyers has been founded, which subsequently has been called the American Association for Insurance Management, including in its membership more than 1800 industrial enterprises. However, at the theoretical level, the term "risk management" didn't make its way one time but made gradually. Instead of the traditional addresses of insurance books, the term "risk" started to make its way beside the term "insurance"; as books of both insurance and risk have been issued. Thus, these addresses were the beginning of risk management concepts spreading (Tarek, Khalifa, 2017:16,15).

The transition from insurance management to risk management has occurred over a period of time and ran parallel to the development of academic risk management science. As business schools have done a change their curriculums and added new courses such as operation research and management science which is the issue that caused a switch over the interest in qualitative courses to theoretical courses which are based on sound basics for making decisions. From this simple beginning, risk management science has emerged, which is based on the idea of management can avoid losses and reduce their effect to the minimum extent, after recognizing and assessing the risks it faces. Risk management has been spread when Insurance Buyers' Association decided to change its name to "Risk and Insurance Management Society RIMS" in 1975. That was after innovations that Risk Management Tools have known; as the 1960s witnessed a revolution in financial innovations, then tools for risk management were found which have enabled to redistribute financial risks according to invests' preferences to risks (Kwashy, 2014:60).

3.4. Risk factors:

There are many factors of risks which as follows (Baquer et al., 2020:59,60).

A risk Factor is defined as a common category that includes all potential threats that may affect the success and results of the project performance. There are various classifications of risk factors due to the nature of threats the institution or project is exposed to, and their increased number. Interpretation of risk management is based on the perspective from which the risk category is assessed. Risk factors groups are divided into:

- Making decision
- Engineering experience, techniques, equipment, and performance.
- Professional knowledge and activity direction.
- Economic and social effect.

- Gross system and quality.
- Political instability, corruption, legislation problems, regulations, policies, and variance in demand in markets.
- Obstacles associated with materials, equipment and employees' remaining.

3.5. Risk characteristics:

There are many features for risk represented in interference and complication because of the authorities included in these risks or treating them. Risk development, acceleration, inability to control its results, and unpredictability of its risky consequences are some of the features that contribute to risk occurrence. Thus, institutional managers have to consider them in order to take the appropriate actions to prevent risks. Features are represented in what was mentioned by (Al Habaheba, 2020:17,18).

1. Rapid, interfering, complicated, and hard to control them and their details.
2. Threat individuals from all aspects reducing objectives achievement.
3. Result from changing relations and concerns.
4. A surprise drives individuals to plan to utilize these risks results.
5. Overtax all institutions by their material cost and significant abstract potential.
6. Results of the lack of information and confusion at work.
7. Escalating events, a radical solution is absent in them.

3.6. Classification of risks:

There are many and various classifications for risks due to researchers' overviews and the approaches through which they have discussed risks. Some classified risks into external and internal risks due to their environment, some classified them according to their nature into static and dynamic risks, and some classified them according

to their results and effects into financial and non-financial risks, and pure and speculator risks. Risks were also classified according to their causes into public and private risks. Moreover, they were classified due to their elements into personal, equity, and liability risks, as well as risks resulting from others' failure. Risks were also classified into strategic, financial, and operating risks based on the environment that creates them (Al Anzy, 2015:572).

3.7. Types of risks:

There are many types of risks which are as follows_Garcia, P., & Garcia, F. J. P. 2017:31.32)):

1. **Market risks:** Market risks are uncertainty of all the economic and financial variables which affect the company or the organization's results. There are other types of market risks including Interest rate, exchange rate and goods.
2. **Credit risks:** In general, credit risks are when a client does not pay for the products, he/she ordered. These risks are not usually the most significant risk in industrial companies, especially in companies in which work is based on the final client.
3. **Counterparty risk:** Derivative credit risks, known as counterparty risks, are associated with credit risks. When a contract of derivatives of hedge against risks is concluded, another risk arises. This risk appears in case of the non-compliance of the counterparty, with whom the contract was concluded. In this type of process, the product price is not paid by the client.
4. In addition to the stated risks, there are many other risks (liquidity risks, operation risks, organizational risks, and reputation risks).

3.8. Importance of risk management:

Risk management protects and assesses the institutions in the right scientific way. In addition, it implements various strategies that support the institution's objectives and faces its risks. The importance of these strategies is represented in (Raqty& Karkar, 2022:27).

- Developing methods of decision-making, planning for them, and setting priorities through a comprehensive and organized awareness of institutions' activities.
- Highlighting gaps and recognizing negative and positive opportunities available for projects; to avoid future losses and set a tool to implement the strategy, as it provides the institution with a better overview of the institution's future.
- It measures the sufficiency of capital and the capacity to fulfil its obligations in order not to face the risk of lack of liquidity.
- Helps to make decisions.
- Promoting competitive advantages and controlling risks as they are the main factors in profitability and increased competitiveness.

Benefits of risk management return to the concerned stakeholders; as a clear understanding of the potential risks in the institution contributes to managing risks better through the appropriate mitigation techniques. When conducting risk management effectively, it reduces surprises. It also helps to increase the level of control in the whole project and the most efficient problems solving processes that may be supported on more realistic basics.

The benefits of risk management are achieved provided to exist an approach to be effective from the aspect of planning and implementation according to a certain culture of the organization and include: (Zahra, 2021:66).

- Raising awareness of high-degree risks to help in the effective planning for resources.

- Setting a work plan for effective management of the significant risk.
- Assessing the liability and accountability.
- Helping on achieving the strategy and planning businesses.
- Promoting focus on the internal audit, and assessing needs and planning.
- Solving problems early to reduce the cost of dealing with risks.
- Preparing emergency plans.
- Protecting the senior management and board members against falling under legal liability.
- The ability to continue operating with the availability of licenses subject to supervision.
- Limiting the operational cost by reducing losses and improving the executive processes' efficiency.
- Trustworthy prediction for new work plans, based on more accurate information on risk management.
- Improving work performance because of the taken measures through working by recommendations and modifications.

3.9. Principles of risk management:

The international organization ISO determined the following principles for risk management, which are represented in the following points (Sayeh, 2016: P.66).

- **Create a value:** Risk management contributes to clearly achieving and improving objectives, e.g. workers' safety and security, legal and organizational compliance, environment protection, financial performance, product quality, and efficiency in processes.
- **Risk management is an integral part of organizational processes:** Risk management is a part of management liabilities and an integral part of normal organizational processes, in addition to all management projects and processes.

- **Risk management is part of decision-making:** Risk management helps the decision-maker to make deliberate decisions. It helps in prioritizing the procedures and distinguishes between alternative courses of action.
- **Risk management explicitly addresses uncertainty:** Risk management deals with those aspects of decision-making that are uncertain, the nature of the uncertainties, and how they can be addressed.
- **Risk management is systematic, structured, and timely:** Risk management conducted in a systematic, structured and timely manner increases efficiency and consistency, and results are comparable and reliable.
- **Risk management takes human factors into account:** Risk management takes into account the capabilities, perspectives, and intentions of external and internal people that may facilitate or hinder the achievement of the company's objectives.
- **Risk management is transparent and inclusive.:** The participation of stakeholders in an appropriate and timely manner, especially decision-makers, and at all levels of the enterprise ensures that the management of relevant risks is timely.

3.10. Risk management rules:

Several rules can be taken into account when dealing with risks, the most prominent of them is evident (Bgo, 2013: 22, 23).

1. Abnormal risk rule:

The risk management director should take into account abnormal risks "despite the possibility of a loss element" in making a decision. There are some abnormal risks that, if achieved, lead to significant losses, although the incident is one million. Risk consequences can be taken if the loss resulting from its occurrence is

severe. The risk director must then transfer the risk to another party that is better able to cope with it, such as insurance or a method of preventing loss.

2. The rule of not risking more than endurance:

The most important element in this rule is risk assessment. It requires specific action toward the potential loss from exposure to a high particular risk that will result in an intolerable loss. keeping is not realistic and the potential severity should be reduced to a manageable level, but if the severity cannot be reduced and the risk transferred, they should be avoided and some losses can be covered by cash flow while others require drawing from cash reserves.

3. The rule of not risking a lot for little:

According to this rule, an insurance policy should not be purchased if the insurance premium is relatively large compared to the amount of compensation that can be obtained when the insured risk occurs, i.e there is no large potential loss compared to the price of the transferred risk.

4. The rule of thinking about possibilities

An individual who can determine the possibilities of a loss is in a better position in dealing with the risk. However, the possibility or absence of a loss is less important than the potential severity. Knowing whether the occurrence of the loss is weak, moderate or high can help the manager decide the appropriate action about certain risks.

3.11. Risk management steps:

The risk management process is a scientific approach to dealing with risks, which includes a logical series of steps as follows (Shaimaa, Warda, 2020:15).).

1. **Identify objectives:** The first step how to manage risks is identifying the objectives and the enterprise's needs for risk management programs. Risk management aims to obtain the maximum possible return for

the expenses to implement the program that it has developed and to review this program in light of the prescribed goals. Despite the importance of the cost in developing any risk management system. This element should come in second to its real objectives because any failure in developing the system in terms of cost will lead to financial losses that may exceed the savings in cost. Thus, the aim should be to maintain the continuity of the enterprise and those responsible for preparing its program should:

- Avoid devastating risks or huge losses and try to cover them completely in order to protect the enterprise from bankruptcy.
- Protect employees of the enterprise from personal injuries such as accidents, industrial accidents, death, and illness, which may affect the productivity of the enterprise.

2. Discover and define the risk:

The different aspects of the enterprise activity are studied such as production, storage, marketing, buying and selling, and training of employees on how to discover the risks to which the enterprise is exposed, whether it is insurable or non-insurable risks. It requires data and information related to the aspects of the activity in the enterprise, where risk management decisions regarding the risks to which the enterprise is exposed depend on its ability to discover and limit the risks related to the current and expected activities of the enterprise. This requires studying the aspects of the enterprise's activity and the nature of its operations. In addition to the management plans such as expansion or the development of other activities, those responsible for designing the risk management program can verify the identification and limitation of the risks to be covered by the following means:(Shaimaa, Warda, 2020:15).

- Seeing what insurance companies publish and post about the various risks to which enterprises are exposed, and the appropriate coverages provided by the insurance policies issued by these companies.

- Preparing lists of risk analysis to which the enterprise is exposed, and presenting them to employees in the form of survey lists that has several questions for managers and workers in different departments and divisions.
 - Using systems analysis methods and analyzing the production stages in the enterprise.
 - Financial statements and closing accounts.
 - Inspection of sections and departments in the enterprise.
3. **Risk assessment:** Risk management assesses the risks that have been discovered and defined. Risk assessment means measuring the probability of a particular loss. This assessment requires prioritizing risks with a significant impact, as the risks are classified as: (high risks, medium risks, and low risks), or as (very important risks, important risks, and non-important risks) (Isa, et al., 149:2023).
4. **Risk control:** After completing the previous three steps, identifying, analyzing, and assessing the risks, the fourth step is the methods necessary to deal with the risks, (Al-Najjar, 2017: 24, 23).
- **Risk Aversion:** Risk aversion is stopping the activities that lead to the risk, for instance: Stopping buying a property or resuming a business to avoid legal responsibility. This method is usually used if the risk is great. Moreover, this method can be used for all genres of risks. However, this method has its disadvantages as it prevents the decision-maker from satisfying some needs or limiting the progress of the project or activity. This method has no cost because it is away from risk, and it should be noted that this method makes the degree of risk in the activity zero.
 - **Risk transfer:** Transferring pure risk from one party to another, such as using insurance contracts or transferring the required task to a third party who carries out the task, and thus this party bears all the risk. This method appears if the risk is very high with a low probability of this risk occurring.

5. **Risk monitoring:** The concept of risk is dynamic and needs periodic and continuous review. Therefore, identified risks must be monitored regularly and new risks and their impact on the enterprise can be taken into consideration. This step requires a description of how treatment outcomes are measured, where success milestones, criteria, and warning signs of failure must be defined. The review period is determined by the operating environment including legislation and the review needs to verify that the risk and documentation management process is still in place and that the review also needs to take into account the current organizational environment. In order to effectively control risks, it is necessary to analyze the risk interactions. (Berg, H. P. 2010:91)

3.12. Risk management rules:

Risk management has several important objectives that can be categorized as follows: (Al-Baldawi, 2018: 77). (Al-Baldawi, 2018: 77).

1. **Economic** Where means that the enterprise should prepare estimates of potential losses in an economical manner as possible, and this includes an analysis of the expenses and costs of the safety program, insurance premiums, and costs associated with different methods of dealing with losses.
2. **Reduction of anxiety and risk:** Reduction of anxiety and risk: As the units subject to loss can cause concern to the risk manager, for example, the fear of a large and concentrated issue of bad products can cause great fear to the risk manager, and the risk manager tries to alleviate this anxiety and fear associated with the units subject to lose, and this is a more complex goal.
3. **Fulfilling any legal obligation:** This objective means that the enterprise must meet the imposed requirements of external parties, such as government requirements that require the enterprise to have safety measures to protect workers from hazards.

4. **Facility Duration:** The first and most important goal that follows the loss is the Facility Duration, and duration means that after loss, the enterprise can resume at least partial operations within a reasonable period of time, as risk management aims to put a maximum limit on the costs that the project is exposed to and that threaten its duration.
5. **Continuity of operations:** In some enterprises, the ability to carry out work after achieving a severe loss is considered one of the most important goals, as the enterprise loses part of its customers and suppliers and its competitiveness decreases.
6. **Revenues stability:** Every enterprise wants to keep its profits on shares after the realization of the loss, and stable income levels are maintained by limiting the decrease in cash flows or income due to the realization of risks at acceptable limits, and this goal is entirely related to continuity of operations goal.

There were many and varied opinions of many different organizations or institutions in defining the risk management objective, due to the diversity and difference in their activities and tasks that they carry out, and despite this diversity, there is a set of common goals that are not in dispute, and there are those who emphasized that risk management can be clarified by supporting the organizational goals through the following: (Musil, Harb, 2021:366).

- Providing an organization framework, with the aim of supporting the implementation of future activities in a coordinated and controlled manner.
- Preparing methods for decision-making and setting priorities through a comprehensive awareness of the opportunities, risks, and changes facing the organization's activities.
- **Contributing to the allocation and effective use of the organization's resources.**
- **Reducing non-essential changes in organizational activities.**
- Protecting and developing the organization's resources and assets.

- HR support and organization database.
- Maximizing operational efficiency.

And that the main objective of risk management is preserving and developing the organization's values and making it permanently productive and profitable by identifying the total risks affecting the various strategies in order to control and maintain a certain minimum level of potential loss, and this is by searching for all factors and causes that may lead to negative impact, also identifying the degree of their impact on the work process within the institution (Aqoun, 22:2014).

Successful risk management requirements:

The success of risk management depends on a usefulness and management framework that lays the foundations for incorporating the enterprise risk management process and traditional risk management involves identifying, measuring, controlling, and reporting risks with few formal or structural procedures, However, risk management has evolved from a traditional approach based on risk control and insurance practices of operational activities to assessing exposure to potential risks and the impact these exposures can have across the enterprise's business activities.

Enterprise risk management is a structured approach aimed at evaluating and managing all sources of risk that could negatively affect the achievement of organizational goals. Enterprise risk management includes directing and controlling the risk management system in the enterprise, where responsibilities, authority, and accountability are defined, rules and procedures for decision-making are defined, and enterprise risk management requires those organizations that face risks comprehensively and coherently (Vergotine, H., & Thomas, 2016: 678).

Enhanced risk management features:

There are several features of risk management, which are as follows (Iso, 2009:22.23))

1. **Continuous improvement:** Where the focus is on continuous improvement of risk management by defining organizational performance objectives, measurement, review, and subsequent modification of processes, systems, resources, capabilities, and skills, and this can be indicated by the existence of explicit performance objectives through which the organization performance and the individual manager is measured.
2. **Full accountability for risk:** Enhanced risk management includes comprehensive, defined, and fully accepted accountability for risks, controls, and risk remediation tasks. Designated individuals fully accept accountability, and they have the appropriate skills and sufficient resources to verify controls, monitor risks, improve controls, and communicate effectively about risks and their management to external and internal stakeholders.
3. **Continuous Communication:** Enhanced risk management includes ongoing communications with external and internal stakeholders, including comprehensive and frequent reporting on risk management performance.

3.13. Risk management strategies:

Several strategies and arrangements are used to reduce risks and these arrangements and strategies, such as (Al-Juhaimi, et al., 2018: 100, 101).

1. **Insurance:** Insurance nowadays covers many risks, such as physical risks like fire and theft, in addition to insurance on the lives of people and various properties. As for companies, loss of revenue or loss can be insured.
2. **Use of long-term arrangements:** The company or enterprise can obtain offers from suppliers before entering into supply bids with others, and this can be in long-term contracts, especially in the case of high

costs and high inflation rates. The enterprise may enter into long-term contracts to supply raw materials whose position may deteriorate in the future at prices arranged in advance.

3. Use of different indicators: Such as inflation rates and interest rates. Knowing these indicators helps the management in facing the risks of uncertainty resulting from them. Inflation leads to an increase in prices, and thus the worker's demand for increased wages. The best thing for the organization, in this case, is to use labor contracts because labor costs are fixed and are not affected by the increase in the event of a rise in these rates.
4. **Developing information:** Risks can be reduced by obtaining more information about the proposed project, and this information is continuous, in the sense that it keeps pace with the development that is taking place in various fields, and is up-to-date, as obtaining and analyzing information is an essential factor in reducing risks to which projects are exposed.
5. **Working on the acquisition of marketing opportunities in the future:** For example, if the company has marketing opportunities in the future to supply its products at a specific price during the next year, then the company here is exposed to the risks of uncertainty as the prices of raw materials are not fixed and keeping stocks of these resources is costly. In order to avoid this and at the same time to seize the marketing opportunities, the organization must work to find a supplier for the main production inputs that directly affect the cost, through a contract at a fixed price and for a specified period, thus avoiding the risks of uncertainty resulting from price fluctuations.

3.14. Reasons for ineffective risk management:

Sometimes the risk management process does not achieve its objective and is not at the required level of effectiveness, for several reasons, (Al-Othman, 2017:57).

- The error in identifying and knowing the real source of risk

- Weak forecasting and evaluation result from an ineffective methodology.
- Insufficient and biased interest in risk and project evaluation.
- Failure to identify the material losses resulting from the occurrence of the risk leads to difficulty in determining whether the cost of dealing with this risk is effective and deserved.
- failure to document everything related to risks and their management and the reasons for their failure leads to the difficulty of benefiting from previous experiences in this field and the inability to avoid future problems.
- Failure to follow an appropriate methodology for identifying effective risk response methods and not properly documenting them in the risk register, as well as not linking different types of risks.
- Dealing with the risks separately, according to the event resulting from it, instead of linking the risks resulting from a specific scenario and dealing with them as one package.
- Not paying enough attention to the risks and mistakes that previous projects went through and ignoring them.
- Failure to follow up the process of implementing risk management effectively and continuously, which leads to failure to implement risk response methods as planned.

Not noticing changes in risks and new ones during the life cycle of the project

Chapter Four: Methodological procedures

Chapter Four: Methodological procedures

4. Introduction

During this chapter, the methodology of the study that was followed during the research will be presented by presenting the methodology used as well as a description of the sample that was applied to it, in addition to a comprehensive and accurate description of the tool that was used and the method used in its preparation and displaying the extent of its validity and reliability, in addition to clarifying the statistical methods and treatments used. It was mainly relied upon in analyzing the hypotheses of the study in order to reach reliable scientific results.

4.1. Methodology

This study was conducted to answer the questions that were raised, and therefore the study relied on the quantitative approach in order to identify Empowering Risk Assessment and Decision-Making: Unveiling the Modern Technological Advancements at the Zakat, Tax, and Customs Authority.

4.2. The Research Sample

The random sampling method was used to select the study sample. Where the questionnaire was applied electronically via social networking sites to obtain the study sample, and the study sample consisted of (131) individuals from doctors and pharmacists in the Kingdom of Saudi Arabia, and the following table shows the characteristics of the sample:

Table 1 Showing the Characteristics of the research sample

Characteristics	Sub Characteristics	N	%
Age	25- 35	58	44.3

	36- 45	67	51.1
	46 To Above	6	4.6
Gender	Male	52	39.7
	Female	79	60.3
Educational	High	44	33.6
	Master	77	58.8
	Doctorate	10	7.6
Seniority at work	less than 5 years	68	51.9
	From 5 to 10 years	45	34.4
	From 11 to 15 years	18	13.7
Total		131	100%

4.3. Study Tools

4.3.1. Tool Description

The study tool consisted of a questionnaire applied electronically, and the questionnaire consisted of two main parts:

- The first part: contains the basic data of the study sample.
- The second part: related to the items of the questionnaire, and it was divided into Three sub-axes, as follows:
 - To which degree the risk assessment and decision-making can be improved by modern technology? It consists of 8 items.

- What are the challenges facing the application of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) to enhance risk assessment and decision-making?: It consists of 8 items.
- What is the impact of the role of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) in enhancing risk assessment and decision-making? : It consists of 8 items.

The questionnaire will be used in order to collect data through the five-point Likert scale, which can be expressed through the following table:

Table 2 The five- point Likert scale

Term	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Answer degree	5	4	3	2	1

4.3.2. The Validity

Internal consistency was used to measure the validity of the tool by assessing the extent to which each item of the questionnaire is consistent with its corresponding construct. Pearson correlation coefficient was used to measure the correlation between each item and the total score of the construct it belongs to, as shown in the following table:

Table 3 Shows the results the validity of the tool.

AX1	AX2	AX3
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No	Pearson correlation	Sig.(2-tailed)	No	Pearson correlation	Sig.(2-tailed)	No	Pearson correlation	Sig.(2-tailed)
1	0.455	0.000	1	0.621	0.000	1	0.682	0.000
2	0.561	0.000	2	0.376	0.000	2	0.540	0.000
3	0.536	0.000	3	0.675	0.000	3	0.634	0.000
4	0.695	0.000	4	0.474	0.000	4	0.544	0.000
5	0.678	0.000	5	0.716	0.000	5	0.652	0.000
6	0.594	0.000	6	0.426	0.000	6	0.632	0.000
7	0.530	0.000	7	0.660	0.000	7	0.681	0.000
8	0.593	0.000	8	0.675	0.000	8	0.679	0.000

Through this table, it is evident that all items have correlation coefficients ranging from 0.376 to 0.716, and all of them were significant at a significance level of (0.000), indicating that the questionnaire has a high level of reliability.

4.3.3. The Reliability

To calculate the questionnaire's reliability coefficient, we used Cronbach's alpha coefficient to determine the degree of stability of the tool. The following table shows the reliability coefficient.

Table 4 Shows the results of Cronbach's alpha coefficient

The dimension	Number of phrases	Axis stability
AX1	8	0.78
AX2	8	0.74

AX3	8	0.75
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The previous table shows that the questionnaire has a high level of reliability, where the Cronbach's alpha coefficient values for the questionnaire's axes ranged from 0.74 to 0.78. This indicates that the scale has a high level of stability, meaning that the results are consistent each time the scale is applied. Therefore, this questionnaire can be relied upon to generalize the results.

4.4. Study Procedures

In the beginning, the questionnaire was designed by looking at the previous studies on the subject of the research, and through the theoretical frameworks that were collected. After designing the questionnaire, it was presented to a number of arbitrators, and the necessary amendments were made through deletion and addition.

Then both the validity and reliability criteria of the tool were calculated. After that, the questionnaire was prepared electronically and distributed the use of social networking sites such as Facebook and WhatsApp, and after application, data were collected in order to reach reliable scientific results.

4.5. The Statistical Methods used

The data collected from the sample were entered using the program (SPSS-V.22). The statistical methods that were used to process the data varied, including:

- Cronbach's Alpha coefficient to ensure consistent performance.
- Use frequencies and percentages to determine the significance of the sample's responses to the questionnaire items.

- Correlation coefficient for the calculation of honesty.
- Regression analysis.

Chapter Five: Field Results

Chapter Five: Field Results

5. Introduction:

This chapter discusses the statistical analysis of the collected data. It consists of a set of analytical processes that are followed to obtain clear and meaningful scientific information and results that meet the objectives of the study and answer its research questions.

5.1. Statistical Analysis and Results Interpretation

5.1.1. To which degree the risk assessment and decision-making can be improved by modern technology?

Table 5 Explains degree the risk assessment and decision-making

No	phrases	Mean	SD	Order
1	Modern technology helps collect and analyze data more accurately, leading to a more accurate risk assessment	3.85	0.799	1
2	Modern technology automates many tasks associated with risk assessment, which leads to increased efficiency and reduced costs.	3.63	1.069	3
3	Modern technology helps make the risk assessment process more transparent	3.85	0.881	2
4	Modern technology provides a wide range of risk models that can be used to evaluate the probability of a harmful event occurring and its potential impact on the company	3.35	1.088	8

5	Modern technology has contributed to identifying and mitigating potential risks	3.44	1.131	6
6	The use of modern technology in risk assessment and decision making has improved risk management practices	3.62	0.976	4
7	Using technology in risk assessment helps enhance productivity	3.56	1.061	5
8	The integration of modern technology improves the efficiency of risk assessment processes	3.43	1.144	7

The previous table shows the results of the axis of the questionnaire that measures "**the risk assessment and decision-making can be improved by modern technology**". It is evident that item (1), which states "Modern technology helps collect and analyze data more accurately, leading to a more accurate risk assessment," obtained the highest mean value of (3.85) and a standard deviation of (0.799). This is followed by item (3), which states "Modern technology helps make the risk assessment process more transparent," with an average mean value of (3.85) and a standard deviation of (0.881). Then, item (2), which states "Modern technology automates many tasks associated with risk assessment, which leads to increased efficiency and reduced costs," obtained an average mean value of (3.63) and a standard deviation of (1.069). Finally, item (6), which states "The use of modern technology in risk assessment and decision making has improved risk management practices," obtained an average mean value of (3.62) and a standard deviation of (0.679).

Furthermore, These results indicate that the respondents perceive the use of modern technology as highly beneficial for risk assessment and decision-making, particularly in terms of data accuracy and transparency. The

relatively lower standard deviations suggest that there is a relatively high level of agreement among the respondents for each item.

5.1.2. What are the challenges facing the application of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) to enhance risk assessment and decision-making?

Table 6 Show challenges facing the application of modern technology

No	Phrase	Mean	S. D	order
1	Regulatory requirements and compliance standards influence the selection and implementation of technology for risk assessment	3.63	1.024	4
2	Concerns about data security and privacy hamper the adoption of advanced technological tools for risk management	3.65	0.976	3
3	Represents the slow pace of steps taken to ensure technological solutions are compatible with industry regulations and legal frameworks	3.51	1.091	7
4	Resistance to change at leadership levels hinders the adoption of modern risk management technology	3.60	1.087	5
5	The reliability of technology vendors and the level of support provided influence the successful implementation of risk assessment tools	3.44	1.145	8

6	Difficulty integrating modern technology seamlessly into existing risk assessment and decision-making processes	3.81	1.024	1
7	The hurdles I faced were aligning technological solutions with the overall organizational infrastructure	3.65	1.176	2
8	The rapid pace of technological advancement affects the long-term sustainability and importance of adopted risk assessment techniques	3.55	1.178	6

The previous table shows the results of the second axis of the questionnaire that measures " **the challenges facing the application of modern technology**(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) to enhance risk assessment and decision-making." It is evident that item (6), which states " Difficulty integrating modern technology seamlessly into existing risk assessment and decision-making processes," obtained the highest mean value of (3.81) and a standard deviation of (1.024). This is followed by item (7), which states " The hurdles I faced were aligning technological solutions with the overall organizational infrastructure," with an average mean value of (3.65) and a standard deviation of (1.176). Then, item (2), which states " Concerns about data security and privacy hamper the adoption of advanced technological tools for risk management," obtained an average mean value of (3.65) and a standard deviation of (0.976). Finally, item (1), which states " Regulatory requirements and compliance standards influence the selection and implementation of technology for risk assessment," obtained an average mean value of (3.63) and a standard deviation of (1.024).

Therefore, These results indicate that the respondents perceive the integration of modern technology into existing processes, alignment with organizational infrastructure, and concerns about data security and privacy as the primary challenges in enhancing risk assessment and decision-making with modern technology. . The relatively high standard deviations suggest a more varied range of responses and potentially lower agreement among the respondents for each item.

4.1.3. What is the impact of the role of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) in enhancing risk assessment and decision-making?

Table 7 Explains the impact of the role of modern technology

No	Phrase	Mean	S. D	Order
1	Modern technology enables monitoring of risk factors in real time, allowing for timely interventions and modifications	3	0.866	3.82
2	The use of technological tools helps identify specific areas of concern within the risk landscape	6	1.019	3.62
3	Automated processes and decision support systems have contributed to faster and more accurate decisions in risk scenarios	4	0.929	3.76
4	Modern technology has facilitated the seamless integration of risk management into overall business management	1	0.843	3.93
	Modern technology provides scalability and flexibility to adapt to changing risk environments	7	1.222	3.36

5				
6	Modern technology has improved accuracy and accuracy in identifying potential risks	5	0.931	3.75
7	The use of advanced analytics and data-driven insights impacts the quality of risk assessment decision-making	2	0.838	3.89
8	The adoption of modern technology impacts cybersecurity measures and vulnerabilities in risk management processes	8	1.212	3.33

The previous table shows us the results of the responses to the question " **the impact of the role of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) in enhancing risk assessment and decision-making** " It is evident that item (4), which states " Modern technology has facilitated the seamless integration of risk management into overall business management," obtained the highest mean value of (3.93) and a standard deviation of (0.843). This is followed by item (7), which states " The use of advanced analytics and data-driven insights impacts the quality of risk assessment decision-making," with an average mean value of (3.89) and a standard deviation of (0.838). Then, the item (3) that states " Modern technology enables monitoring of risk factors in real time, allowing for timely interventions and modifications " obtained an average mean value of (3.82) and a standard deviation of (0.866). Finally, the item (4) that states "Automated processes and decision support systems have contributed to faster and more

accurate decisions in risk scenarios" obtained an average mean value of (3.76) and a standard deviation of (0.929).

Therefore, These results indicate that the respondents perceive modern technology as highly impactful in enhancing risk assessment and decision-making, particularly in the seamless integration of risk management into overall business management and the use of advanced analytics and data-driven insights. The relatively low standard deviations suggest a relatively high level of agreement among the respondents for each item.

Chapter Six: Results and Proposal Analysis

Chapter Six: Results and Proposal Analysis

6.1. Discussion:

Modern technology plays a significant role in enhancing risk assessment and decision-making processes by providing organizations with tools and capabilities that were previously unavailable. The advancements in data collection, analysis, real-time monitoring, simulation, automation, and visualization have revolutionized the way risks are identified, evaluated, and mitigated. By harnessing the power of technology, organizations can make more informed and effective decisions, leading to improved risk management and business outcomes.

One of the key contributions of modern technology is its ability to collect and analyze vast amounts of data. With the advent of big data and advanced analytics techniques, organizations can gather information from diverse sources and gain valuable insights. By leveraging artificial intelligence and machine learning algorithms, patterns and trends can be identified, enabling a more accurate assessment of risks. This data-driven approach enhances decision-making by providing a solid foundation of information and reducing reliance on intuition alone.

Real-time monitoring and early warning systems are another significant contribution of technology to risk assessment. Through the use of sensors, IoT devices, and advanced monitoring systems, organizations can detect risks as they emerge, enabling proactive decision-making. For example, in the field of cybersecurity, real-time monitoring of network traffic and behavior analysis can help identify potential threats before they cause significant damage. By detecting risks early, organizations can take prompt action and prevent or minimize the impact of adverse events.

Simulation and modeling technologies empower organizations to simulate different scenarios and assess their potential risks and outcomes. By creating virtual environments and running simulations, decision-makers can evaluate the consequences of various options without incurring real-world consequences. This approach allows for a more comprehensive understanding of risks and supports informed decision-making. Industries such as aviation, energy, and finance heavily rely on simulation and modeling to assess risks associated with complex systems and make critical decisions.

The automation of routine tasks and the use of predictive analytics also contribute to enhancing risk assessment and decision-making processes. Automation technology frees up human resources from repetitive tasks, allowing them to focus on more strategic aspects. Predictive analytics leverages historical data and algorithms to forecast potential risks and outcomes, enabling decision-makers to anticipate and plan accordingly. By automating processes and applying predictive analytics, organizations can improve efficiency, accuracy, and timeliness in risk assessment and decision-making.

6.2. Recommendation:

To fully leverage the potential of modern technology in enhancing risk assessment and decision-making, organizations should consider the following recommendations:

1. To ensure accurate risk assessment, organizations should focus on collecting high-quality data and establishing robust data governance practices. This includes data validation, cleansing, and ensuring data privacy and security.
2. Risk assessment and decision-making processes should involve a diverse set of stakeholders, including domain experts, data scientists, and technology specialists. Encouraging interdisciplinary collaboration fosters a comprehensive understanding of risks and leads to more holistic decision-making.

3. As technology evolves rapidly, organizations should invest in training their workforce to keep up with the latest tools and techniques. This ensures that employees have the necessary skills to effectively use technology in risk assessment and decision-making processes.
4. Consider ethical implications: While technology provides significant benefits, organizations must also address the ethical implications associated with its use. This includes ensuring transparency, fairness, and accountability in algorithmic decision-making and considering the societal impact of risk mitigation strategies.

6.3. Contribution:

Modern technology significantly contributes to enhancing risk assessment and decision-making by providing organizations with unprecedented capabilities. It enables data-driven insights, real-time monitoring, simulation, automation, and improved visualization, leading to more informed and effective decisions. By embracing technology, organizations can identify risks more accurately, mitigate them proactively, and improve overall business outcomes.

6.4. Conclusion:

Modern technology has transformed risk assessment and decision-making processes across various industries. By leveraging data analytics, real-time monitoring, simulation, automation, and visualization, organizations can enhance their ability to identify, assess, and mitigate risks. However, it is important to remember that technology should be used as a complementary tool alongside human expertise and judgment. Organizations should invest in data quality, interdisciplinary collaboration, skills development, and ethical considerations to fully harness the potential of modern technology in risk assessment and decision-making. By doing so,

organizations can make more informed decisions, improve risk management practices, and ultimately achieve better outcomes.

Appendix

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Appendix

Dear Employee,

The purpose of our current research is to investigate " Empowering Risk Assessment and Decision-Making: Unveiling the Modern Technological Advancements at the Zakat, Tax, and Customs Authority" in order to obtain a master's degree. We will collect data by asking you to answer questions in a questionnaire. Your responses are crucial in achieving the objectives of the study, and we value your practical experience. It is important that you answer the questionnaire items clearly and impartially as this will help us to obtain reliable scientific results. We assure you that your answers will be kept strictly confidential and will only be used for scientific purposes. Your contribution to this study is greatly appreciated.

Thank you.

1. Demographic data

Please answer the following questions

Age:			
Gender:			
Department:			
Educational level:	High education	Master's degree	Doctorate degree
Seniority at work:	less than 5 years	From 5 to 10 years	From 11 to 15 years

2. Questionnaire terms

Please, mark with (✓) on your selection.

1. To which degree the risk assessment and decision-making can be improved by modern technology?						
No	Term	Strongly agree	Agree	Neutral	disagree	Strongly disagree
1	Modern technology helps collect and analyze data more accurately, leading to a more accurate risk assessment					

2	Modern technology automates many tasks associated with risk assessment, which leads to increased efficiency and reduced costs.					
3	Modern technology helps make the risk assessment process more transparent					
4	Modern technology provides a wide range of risk models that can be used to evaluate the probability of a harmful event occurring and its potential impact on the company					
5	Modern technology has contributed to identifying and mitigating potential risks					
6	The use of modern technology in risk assessment and decision making has improved risk management practices					
7	Using technology in risk assessment helps enhance productivity					
8	The integration of modern technology improves the efficiency of risk assessment processes					
1. What are the challenges facing the application of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) to enhance risk assessment and decision-making?						
1	Regulatory requirements and compliance standards influence the					

	selection and implementation of technology for risk assessment					
2	Concerns about data security and privacy hamper the adoption of advanced technological tools for risk management					
3	Represents the slow pace of steps taken to ensure technological solutions are compatible with industry regulations and legal frameworks					
4	Resistance to change at leadership levels hinders the adoption of modern risk management technology					
5	The reliability of technology vendors and the level of support provided influence the successful implementation of risk assessment tools					
6	Difficulty integrating modern technology seamlessly into existing risk assessment and decision-making processes					

7	The hurdles I faced were aligning technological solutions with the overall organizational infrastructure					
8	The rapid pace of technological advancement affects the long-term sustainability and importance of adopted risk assessment techniques					
2. What is the impact of the role of modern technology(Efficiency ,Productivity, Risk Mitigation ,Management, Accuracy , Precision) in enhancing risk assessment and decision-making?						
1	Modern technology enables monitoring of risk factors in real time, allowing for timely interventions and modifications					
2	The use of technological tools helps identify specific areas of concern within the risk landscape					
3	Automated processes and decision support systems have contributed to faster and more accurate decisions in risk scenarios					
4	Modern technology has facilitated the seamless integration of risk management into overall business management					
5	Modern technology provides scalability and flexibility to adapt to changing risk environments					

6	Modern technology has improved accuracy and accuracy in identifying potential risks					
7	The use of advanced analytics and data-driven insights impacts the quality of risk assessment decision-making					
8	The adoption of modern technology impacts cybersecurity measures and vulnerabilities in risk management processes					

English Abstract

The research aims to study the empowerment of risk assessment and decision-making: revealing modern technological developments in the Zakat, Taxes and Customs Authority by identifying the reality of the role of modern technology in enhancing risk assessment and decision-making. Know the challenges facing the application of modern technology to enhance risk assessment and decision-making and study the impact of the role of modern technology in enhancing risk assessment and decision-making. The researcher used the descriptive analytical method by creating a questionnaire as a research tool that will be applied to the selected sample in order to create reliable statistical results and indicators. These results indicate that participants view integration of modern technology into existing processes, alignment with organizational infrastructure, and concerns about data security and privacy as key challenges in enhancing risk assessment and decision-making using modern technology. . Relatively high standard deviations indicate a more diverse range of answers and perhaps less agreement between respondents for each item. These results indicate that participants view modern technology as having a significant impact in enhancing risk assessment and decision-making, particularly in the seamless integration of risk management into overall business management and the use of advanced analytics and data-driven insights. Relatively low standard deviations indicate a relatively high level of agreement between respondents for each item.

Keywords : risk management, decision-making, technology business management, seamless integration

Arabic Abstract

يهدف البحث إلى دراسة تمكين تقييم المخاطر واتخاذ القرار: الكشف عن التطورات التكنولوجية الحديثة في هيئة الزكاة والضرائب والجمارك من خلال التعرف على واقع دور التكنولوجيا الحديثة في تعزيز تقييم المخاطر واتخاذ القرار. التعرف على التحديات التي تواجه تطبيق التكنولوجيا الحديثة لتعزيز تقييم المخاطر واتخاذ القرار ودراسة تأثير دور التكنولوجيا الحديثة في تعزيز تقييم المخاطر واتخاذ القرار. واستخدم الباحث المنهج الوصفي التحليلي من خلال إنشاء استبانة كأداة بحث سيتم تطبيقها على العينة المختارة من أجل خلق نتائج ومؤشرات إحصائية موثوقة. تشير هذه النتائج إلى أن المشاركين ينظرون إلى دمج التكنولوجيا الحديثة في العمليات الحالية، والمواءمة مع البنية التحتية التنظيمية، والمخاوف بشأن أمن البيانات والخصوصية باعتبارها تحديات رئيسية في تعزيز تقييم المخاطر واتخاذ القرار باستخدام التكنولوجيا الحديثة. تشير الانحرافات المعيارية العالية نسبيًا إلى نطاق أكثر تنوعًا من الإجابات وربما اتفاق أقل بين المستجيبين لكل عنصر. تشير هذه النتائج إلى أن المشاركين يرون أن التكنولوجيا الحديثة لها تأثير كبير في تعزيز تقييم المخاطر واتخاذ القرارات، لا سيما في التكامل السلسل لإدارة المخاطر في إدارة الأعمال الشاملة واستخدام التحليلات المتقدمة والرؤى المستندة إلى البيانات. تشير الانحرافات المعيارية المنخفضة نسبيًا إلى مستوى عالٍ نسبيًا من الاتفاق بين المستجيبين لكل عنصر.

الكلمات المفتاحية: إدارة المخاطر، اتخاذ القرار، إدارة أعمال التكنولوجيا، التكامل السلسل