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Risk assessment in insurance: contemporary methods and techniques applied at the Iraqi al-tadhamun insurance company

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Abstract

This study aims to assess risks in insurance by analyzing the effectiveness of current risk assessment models, the use of modern technologies, and dealing with emerging risks, in addition to customer satisfaction with these models. The descriptive analytical methodology was based on a sample of 100 individuals from the Iraqi Solidarity Insurance Company, and a questionnaire was used as a tool for collecting data. The results showed that there is a noticeable effectiveness of risk assessment models, with a heavy reliance on modern technologies such as artificial intelligence, despite challenges related to lack of data and resources. The study also showed high customer satisfaction with the coverage provided, but indicated the need to improve transparency in explaining the results of the risk assessment. Based on these results, the study recommends improving risk assessment models, enhancing the use of modern technologies, developing human resources, and providing clear mechanisms for communicating with customers.

Keywords: Risk assessment, insurance, risk management, insurance company

Introduction

Risk assessment is a critical component of insurance policies. It is the process of assessing the likelihood of an event occurring and the potential impact it could have on the insurance company. Insurance scoring, a tool used by insurance companies, takes into account a wide range of factors to determine the risk level of a policyholder. These factors may include credit history, driving record, and claims history. In this section, we will discuss the basics of risk assessment in insurance scoring.

Risk assessment involves evaluating the likelihood of an event occurring and its potential impact. In the insurance industry, risk assessment is used to determine the level of risk associated with insuring a particular individual or entity. Insurance scoring is the process of using statistical models to assess the risk level of a policyholder. Insurance companies use this information to determine the cost of the policy and to decide whether to provide insurance coverage.

Insurance scoring takes into account a wide range of factors to determine the risk level of a policyholder. These factors may include credit history, driving record, claims history, and other variables. For example, an individual with a poor credit history may be considered more at risk than someone with a good credit history. Similarly, an individual with a history of accidents or claims may be considered more at risk than someone with a clean driving record. (Zaid, 2015) [2].

Research Problem

Insurance companies face increasing challenges in accurately assessing risks as the economic and technological environment becomes more complex. With the emergence of new risks such as cyberattacks, global pandemics, and climate change, it has become difficult to predict potential risks and estimate their financial impacts in traditional ways. Many companies rely on outdated or outdated valuation models, leading to inefficient valuations and an increased likelihood of failure to properly cover risks. This valuation gap can expose companies to significant losses and negatively impact their customers by not receiving adequate compensation.

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The research problem is how to develop and improve risk assessment mechanisms in insurance companies to keep pace with modern and complex risks. This requires the adoption of advanced technologies such as artificial intelligence and big data analysis to analyze available data more accurately and effectively, ensuring the provision of insurance policies that reflect the current risk landscape and protect the interests of both insurers and customers in a balanced manner.

Thus, we arrive at the following questions:

1. How can insurance companies improve risk assessment models to keep pace with modern challenges such as cyberattacks and climate change?
2. What is the role of advanced technologies such as artificial intelligence and big data analysis in enhancing the accuracy and effectiveness of risk assessment processes in insurance companies?
3. How does inaccurate risk assessment affect the sustainability of insurance companies and customer satisfaction in terms of financial compensation coverage?

Research Objectives

1. To analyze and evaluate the effectiveness of current risk assessment models in insurance companies and their ability to meet modern challenges.
2. To explore the role of advanced technologies such as artificial intelligence and big data analysis in improving the accuracy and efficiency of risk assessment.
3. To provide recommendations to insurance companies on how to develop risk assessment strategies that ensure a balance between reducing financial losses and increasing customer satisfaction.

Research Importance

This research contributes to the literature on risk assessment in the insurance field by exploring the modern challenges facing insurance companies in light of economic and technological transformations. It also highlights how traditional risk assessment models can be developed to address emerging risks such as cyberattacks and environmental disasters, enhancing theoretical understanding of the relationship between risk assessment and the effectiveness of insurance systems. The research aims to provide a new theoretical framework that future researchers can build upon to analyze insurance strategies in changing environments.

The research is expected to provide practical solutions to the challenges facing insurance companies in modern risk assessment by reviewing advanced tools and technologies such as artificial intelligence and big data analysis. These solutions can help companies improve assessment processes and make more accurate insurance decisions, reducing the likelihood of financial losses. Additionally, the research seeks to provide practical recommendations that can contribute to increasing the efficiency of insurance coverage operations and enhancing customer confidence in insurance services, which helps achieve business sustainability in this sector.

Previous Studies

Study (Al-Musalaha, 2024) ^[1] entitled: "The Impact of Working Capital Management on Risk Assessment"

Investment Risks in Jordanian Insurance Companies

This study aimed to identify the impact of working capital management on the assessment of investment risks in Jordanian insurance companies. The average collection period, average repayment period, and cash conversion period were used to measure working capital management, while investment risk was measured by both volatility in investment returns and volatility in interest rates. The study followed a descriptive analytical approach. The study population consisted of (23) Jordanian insurance companies, and the study sample included all insurance companies representing the study population. To analyze data and test hypotheses, descriptive statistics and regression analysis were used, using the E views program. The study concluded that working capital management had an impact on volatility in investment returns in Jordanian insurance companies, while no impact was found on interest rate volatility in Jordanian insurance companies. The study recommended that insurance company management implement strategies aimed at improving working capital management, including the collection period, repayment period, and cash conversion period, to ensure maximum value from the investment. Investments.

A study (Faqeer, 2020) ^[9] entitled: "The Role of Internal Audit in Risk Management in Insurance Companies":

Insurance companies are exposed to numerous risks, whether from internal or external sources, that threaten their ability to achieve their objectives related to operations, financial reporting, and compliance with laws. Management must identify and address these risks through a risk assessment, which represents management's procedures for identifying, analyzing, and addressing each risk. The risk assessment process involves identifying, evaluating, managing, and controlling potential events and existing conditions to provide reasonable assurance and guarantees toward achieving the company's objectives. Risk management provides a clear and organized approach to identifying, measuring, and prioritizing risks in order to take appropriate action to mitigate losses. Practicing risk management does not prevent risks, but rather reduces them. However, implementing compliance indicates that the company is committed to improving operational efficiency.

A study (Muhammad, 2019) ^[10] entitled: "The Role of Internal Audit in Assessing the Risks of Insurance Contracts.

Libyan Companies: A Field Study

The aim of this study is to demonstrate the role of internal audit in assessing insurance contract risks. The insurance sector is witnessing significant developments, especially during this period, which requires significant work and a significant role from internal audit and risk management to mitigate these risks. To achieve this goal, the role of internal audit in assessing risk management in insurance companies was identified. The opinions of internal audit personnel, senior management, and financial professionals in insurance companies were also identified, along with the requirements for activating the role of internal audit in assessing risk management in these companies. The study concluded that the role of internal audit can contribute to reducing the risks faced by insurance companies. There was a statistically significant difference in the role of internal auditors in

assessing risks in insurance contracts in Libyan companies. There was also a statistically significant difference between providing internal audit requirements and activating its role in assessing insurance contract risks. It was demonstrated that risk-based internal audit represents an independent activity that provides objective assurance to management by providing confirmation of the effectiveness of risk management within the unit, by addressing key risks appropriately to achieve the unit's objectives. The study recommends the necessity of providing the necessary requirements for risk management in insurance companies, given its effective and influential role in implementation. Proper risk assessment is essential. Furthermore, risk management in insurance companies must be aware of the nature of the risks faced by all employees and officials within these units. It is also necessary to activate the role of internal audit in insurance companies in line with developments in risk management-based internal auditing, provide an appropriate environment and financial resources, and provide an independent organizational structure.

Mahmoud (2018) ^[4] study, entitled "The Impact of Underwriting Risks on Reinsurance Agreements":

The study examined the impact of underwriting risks on reinsurance agreements. The problem of the study was to determine the impact of risk management on reinsurance agreements. What is the impact of underwriting risks on reinsurance agreements? The study aimed to determine the impact of underwriting risks on reinsurance agreements in Sudanese insurance companies. The study focused on demonstrating the impact of underwriting risks in insurance companies and the need to consult risk management before underwriting and issuing insurance policies to ensure adherence to the principles of sound underwriting, which in turn leads to quality reinsurance agreement results. The study concluded that good risk management leads to accurate assessment during underwriting and good business results. The efficiency of risk management is demonstrated in sound underwriting, which leads to achieve profitable business results for reinsurance companies and provide better services to direct insurance companies, the study recommended the need to establish an evaluation basis for correct underwriting to achieve good results, and the need for the underwriting department to determine the appropriate type of coverage and the adequacy of the insurance amount before issuing the insurance policy.

The Concept of Risk in Insurance

Definition of Risk

Risk in insurance is defined as uncertain events that could lead to financial losses or damages. In this context, risks are considered multifaceted, as they can manifest in a range of dimensions, such as financial risks related to fluctuations in financial markets, or operational risks arising from an insurance company's internal operations. Furthermore, they include market risks related to changes in the supply and demand for insurance products, which impact companies' ability to generate sustainable profits. Understanding these different types of risks helps insurance companies develop effective risk management strategies and achieve financial stability (Baqloush, 2013) ^[6].

Sources of Risk

The sources of risk facing insurance companies vary and are

divided into internal and external sources. Internal sources include factors related to the company's daily operations, such as weak management systems, a lack of qualified personnel, or inefficient evaluation processes. These risks may directly impact a company's financial performance and market reputation. On the other hand, external sources include those coming from the surrounding environment, such as economic changes, new laws and regulations, or natural disasters. These external factors can lead to market instability, making it more difficult to predict risks and requiring a rapid and effective response from insurance companies (Zuwaina, 2020) ^[7].

Risk assessment: The process of analyzing and identifying potential risks that individuals or businesses may face, to determine the likelihood of those risks occurring and their financial impact on the insured and the insurance company (Baqloush, 2013) ^[6].

Insurance: A system that provides financial protection for individuals or institutions against potential risks in exchange for regular premium payments. The insurance company bears the financial costs when the risk agreed upon in the insurance contract occurs (Zouina, 2022) ^[11].

Risk management: The framework that includes identifying, assessing, monitoring, and mitigating the potential impact of risks on individuals and businesses, with the goal of reducing financial damage and increasing resilience to risks (Zuwaina, 2020) ^[7].

The Impact of Risks on Insurance Companies

Risks significantly impact insurance companies, as they can lead to significant financial losses, a decline in customer confidence, and impact market competitiveness. Failure to manage risks effectively can lead to financial difficulties that can lead to inability to pay insurance claims, resulting in loss of customers and damage to reputation. Therefore, it is essential for insurance companies to have clear risk management strategies that include a thorough assessment and comprehensive analysis of various sources of risk, both internal and external, in order to maintain stability and achieve their objectives (Baqloush, 2013) ^[6].

Definition of Risk Management

Risk management in insurance is defined as the systematic process companies follow to identify, evaluate, and address risks that may affect their ability to achieve their objectives. This process includes developing strategies to reduce or completely avoid the negative impact of these risks, ensuring the company's sustainability and ability to provide the required insurance coverage to customers. Risk management relies on the application of a set of principles and methods that include quantitative and qualitative analysis, which helps in making informed decisions about how to manage risks (Zuwaina, 2020) ^[7].

Objectives of Risk Management in Insurance Companies

Risk management in insurance companies aims to achieve several key objectives, including protecting the company's financial assets, ensuring business continuity, and improving the company's reputation in the market. This management also seeks to reduce the costs associated with risks and enhance the company's ability to provide its services effectively and reliably. By identifying and assessing risks, insurance companies can take data-driven

preventative measures, contributing to positive long-term results. Furthermore, risk management enhances trust among customers and investors, leading to enhanced growth and profitability (Mahmoud, 2018)^[4].

Stages of Risk Management

The risk management process consists of four main stages: risk identification, risk assessment, risk management, and monitoring. The first stage begins with identifying potential risks that the company may face, through a comprehensive analysis of all aspects of the business and the surrounding environment. This is followed by the risk assessment stage, where the likelihood of each risk occurring and its impact on the company's operations and financial results are measured (Zaghni, 2022)^[8].

Risk Treatment and Monitoring

After risk assessment, the next stage is risk treatment, which involves taking appropriate actions to mitigate or manage risks. These actions could include amending insurance policies, implementing preventive measures, or even transferring risks through reinsurance. Finally, the fourth stage involves continuous risk monitoring, ensuring that management strategies are effective and up-to-date. This stage requires periodic review and data analysis to ensure the company is able to adapt to any changes in the internal or external environment, enhancing its ability to manage risks effectively (Zaid, 2015)^[2].

Risk Assessment Models

Traditional Risk Assessment Models

Traditional risk assessment models are among the primary tools used by insurance companies to analyze potential risks. This model relies on the analysis of historical data, where companies collect and analyze information related to risks they have encountered in the past. This data provides valuable insights into the likelihood of risks reoccurring, enabling companies to more accurately estimate future risks. Furthermore, risk assessment relies on past experience, drawing on the knowledge of insurance professionals and experts to identify potential risks and estimate their impact. This traditional approach contributes to building a knowledge base that enables companies to make informed decisions about insurance coverage and appropriate pricing (Zaghni, 2022)^[8].

Modern Techniques in Risk Assessment

With the advancement of technology, new technologies have emerged that contribute to improving risk assessment models. One of the most prominent of these technologies is the use of artificial intelligence, which provides the ability to analyze massive amounts of data quickly and accurately. AI can recognize patterns and trends in historical data that may be invisible to the human eye, allowing companies to assess risks in a more comprehensive and objective manner. Additionally, big data analysis allows companies to access a variety of information from different sources, enhancing assessment accuracy (Faqr, 2020)^[5].

Advanced Risk Assessment Tools

There are also advanced risk assessment tools, such as simulation and forecasting models that are used to anticipate future risks and assess their impact. These tools use advanced statistical techniques such as predictive analysis,

enabling companies to map out multiple scenarios of how risks might develop in the future. Thanks to these tools, insurance companies can improve their risk management strategies, leading to reduced potential losses and increased decision-making efficiency. Thus, these modern models represent a qualitative shift in how risks are assessed, enhancing companies' ability to adapt to increasing market challenges (Mohammed, 2019)^[3].

The Role of Internal Audit in Risk Assessment

Internal audit is a vital component of the risk assessment system within insurance companies, ensuring the quality and effectiveness of risk assessment processes. Internal audit plays a fundamental role in ensuring companies adhere to established standards and policies, which help accurately identify and analyze risks. Through auditing, analysts can identify weaknesses in the risk management system and make recommendations to improve performance. Internal auditing also contributes to enhancing confidence among senior management and investors, confirming that the company follows good practices in risk management and assessment. Internal auditing uses a range of mechanisms and methods to ensure the effectiveness of risk assessment. Prominent among these methods is document and data analysis, where financial records and operational reports are reviewed to ensure their accuracy and compliance with established standards. Audit mechanisms also include the use of tools such as checklists and questionnaires, which help gather information from various departments within the company. In addition, internal auditing may rely on data analysis techniques to help identify patterns and trends that may indicate potential risks. Using these tools and methods, internal audit can provide a comprehensive and objective assessment of a company's risk management system, enhancing the ability to make appropriate decisions (Zuwaina, 2020)^[7].

Practical Framework

This research relies on a descriptive-analytical approach, analyzing the reality of risk assessment in insurance companies through a review of previous literature and field data collection. Questionnaires are used as the primary tool for gathering information from the research sample. The data is then analyzed to determine the effectiveness of current risk assessment models and explore possible ways to improve them using modern technologies such as artificial intelligence and big data analysis.

Research Population

The research population consists of employees at the Iraqi Solidarity Insurance Company, focusing on companies that rely on risk assessment processes to determine insurance costs and coverage. The research aims to understand how these companies deal with modern risks such as cyberattacks, natural disasters, and economic changes.

Research Sample

The research sample includes 100 employees at the Iraqi Solidarity Insurance Company, encompassing a diverse group of employees from various management levels and specializations related to risk management and insurance. The sample was selected to accurately represent companies operating in various insurance sectors.

Research Tool

A questionnaire was used as the data collection tool for this study. The questionnaire contains a set of closed and open

questions aimed at measuring the effectiveness of risk assessment models in Iraqi insurance companies and identifying the challenges these companies face in dealing with emerging risks. The data will be analyzed using appropriate statistical methods to arrive at conclusions.

Statistical Analysis

| Standard deviation | Arithmetic mean | Statement |
|--------------------|-----------------|--|
| 1.1 | 3.8 | Current risk assessment models are accurate in determining the likelihood of a risk occurring. |
| 1.4 | 3.5 | Risk assessment models are continually updated to reflect emerging risks. |
| 1.1 | 4.0 | The company relies on robust historical data to estimate future risks. |
| 1.1 | 4.2 | Environmental and economic variables are taken into account when assessing risk. |
| 1.2 | 3.5 | The risk assessment models used contribute to reducing the company's financial losses. |

The results of the analysis of the effectiveness of risk assessment models show a good level of accuracy and effectiveness in current models. The arithmetic mean for the accuracy of models in determining the probability of a risk occurrence was 3.8 with a standard deviation of 1.1, indicating reasonable satisfaction with these models. However, the results point to a need to improve model updating to keep pace with emerging risks. The statement regarding model updating recorded an arithmetic mean of 3.5 with a standard deviation of 1.4, indicating a divergence in opinions regarding the effectiveness of this aspect. Additionally, companies rely heavily on historical data to

The SPSS statistical analysis program was used to conduct a descriptive analysis of questionnaire statements, calculating arithmetic means and standard deviations for each statement.

Research Results

Effectiveness of Risk Assessment Models

estimate future risks, with an average score of 4.0, reflecting confidence in the methods used. The serious consideration of environmental and economic variables when assessing risks also achieved the highest average (4.2), indicating a comprehensive awareness of the importance of these factors. Overall, the results indicate good effectiveness of the risk assessment models used, with areas for improvement, particularly in updating them to keep pace with the rapid changes in the risk environment.

Second Topic: Modern Techniques in Risk Assessment

| Standard deviation | Arithmetic mean | Phrase |
|--------------------|-----------------|--|
| 1.0 | 4.2 | The company uses big data analytics techniques in risk assessment. |
| 0.8 | 4.6 | Artificial intelligence helps improve the accuracy of risk assessment. |
| 1.0 | 4.4 | Advanced software is used to analyze and predict new risks. |
| 1.2 | 3.9 | Modern technologies contribute to improved insurance decision-making. |
| 0.9 | 3.8 | Challenges exist in adopting modern technologies in the risk assessment process. |

An analysis of the results of the second axis, regarding modern technologies in risk assessment, reveals a positive trend toward the use of these technologies in companies. The statement about the use of big data analytics technologies received an arithmetic mean of 4.2 with a standard deviation of 1.0, indicating good satisfaction with the implementation of these technologies. The reliance on artificial intelligence to improve the accuracy of risk assessment received the highest mean (4.6) with a low standard deviation (0.8), reflecting the effectiveness of artificial intelligence in enhancing the accuracy of the models used. Furthermore, the results indicate the use of advanced software to analyze and predict new risks, with a

mean of 4.4, indicating significant benefit from these tools. However, the statement regarding the impact of modern technologies in improving insurance decision-making received a mean of 3.9, indicating some doubts about their full impact in this field. Challenges in adopting modern technologies were also identified, with a mean of 3.8, indicating that there are obstacles to overcome. Overall, the results reflect a great openness toward the use of modern technologies, but they also indicate the need to address the challenges associated with their implementation to ensure the desired benefits are achieved.

Axis Three: Dealing with Emerging Risks

| Standard deviation | Arithmetic mean | Phrase |
|--------------------|-----------------|---|
| 1.2 | 3.6 | The company effectively addresses emerging risks, such as cyberattacks. |
| 1.2 | 3.6 | Environmental risks, such as natural disasters, are carefully assessed. |
| 1.1 | 3.7 | The company quickly adapts to changing market risks. |
| 1.3 | 3.7 | Clear protocols are in place for handling unexpected risks. |
| 1.0 | 4.1 | The company is able to provide appropriate coverage for emerging risks. |

Analysis of the results of the third axis, dealing with emerging risks, reveals some challenges in companies' ability to address modern risks. The statement related to effectively dealing with new risks, such as cyberattacks, had a mean of 3.6 with a standard deviation of 1.2, indicating a medium level of confidence in the company's ability to deal with these threats. Similarly, the statement related to assessing environmental risks, such as natural disasters, had the same mean, indicating a need to improve strategies in

this area. However, there were positive signs regarding the speed of adapting to changing risks in the market, with this statement receiving a mean of 3.7, indicating a reasonable capacity to adapt. Furthermore, clear protocols for dealing with unexpected risks are in place, reflecting a good level of organization. The statement related to providing appropriate coverage for emerging risks had the highest mean (4.1) with a standard deviation of 1.0, indicating the company's ability to effectively address new challenges. Overall, the results

indicate that companies are facing difficulties in dealing with some emerging risks, but they also demonstrate a level of improvement in providing appropriate coverage for these

risks.

Axis 4: Customer satisfaction with risk assessment

| Standard deviation | Arithmetic mean | Statement |
|--------------------|-----------------|--|
| 0.9 | 4.3 | Customers are satisfied with the coverage provided based on the risk assessment. |
| 1.1 | 3.8 | The results of the risk assessment are clearly explained to customers. |
| 0.9 | 4.3 | Customers trust the company's ability to protect them from risks. |
| 0.6 | 4.7 | The insurance coverage provided fairly reflects the risks faced by the customer. |
| 0.8 | 4.5 | A clear mechanism is available to communicate with customers in the event of a risk. |

Analysis of the results of the fourth axis, regarding customer satisfaction with risk assessment, indicates a high level of satisfaction and confidence among customers regarding the insurance services provided. The statement related to customer satisfaction with the coverage provided based on the risk assessment received an arithmetic mean of 4.3 with a standard deviation of 0.9, reflecting good satisfaction with the coverage. Confidence in the company's ability to protect customers from risks also showed a similar mean (4.3), indicating that customers feel reassured by the procedures followed. The statement related to the fairness of the insurance coverage provided based on the risks faced by the customer received the highest mean (4.7) with a low standard deviation (0.6), indicating a very positive

evaluation by customers regarding the proportionality of the coverage to the risks. The existence of a clear mechanism for communicating with customers in the event of a risk event also averaged 4.5, reflecting the company's commitment to strengthening communication channels. However, the statement related to explaining the results of the risk assessment to customers received an average of 3.8, indicating room for improvement in the way information is communicated. Overall, the results indicate high customer satisfaction with insurance services, with some areas that could be enhanced to achieve a better customer experience.

Axis V: Challenges in Risk Assessment

| Standard deviation | Arithmetic mean | Phrase |
|--------------------|-----------------|--|
| 0.8 | 4.0 | There are difficulties in assessing future risks due to the limited availability of data. |
| 1.0 | 4.1 | New risks require additional financial and human resources to properly assess. |
| 1.1 | 3.9 | There is a shortage of qualified personnel to apply the latest risk assessment techniques. |
| 1.2 | 3.7 | The company faces challenges in predicting long-term risks. |
| 1.3 | 3.4 | Some emerging risks are not adequately assessed due to complexity. |

Analysis of the results of the fifth axis, regarding challenges in risk assessment, reveals a range of difficulties facing companies in this area. The statement indicating difficulties in assessing future risks due to the lack of available data received an arithmetic mean of 4.0 with a standard deviation of 0.8, reflecting a marked concern about the lack of data needed to improve assessment processes. The statement related to new risks that require additional financial and human resources to obtain an accurate assessment also received an average of 4.1, indicating that companies recognize the need for greater investment to address the challenges associated with emerging risks. The statement related to the lack of qualified personnel to apply the latest risk assessment techniques received an average of 3.9, indicating challenges in attracting and training employees on modern technologies. Additionally, the results revealed challenges in predicting long-term risks, with an average of 3.7, reflecting the complexity of assessment over extended time frames. The statement related to the inadequacy of assessing some emerging risks due to complexity had the lowest average (3.4), indicating that there is a degree of underestimation or lack of full appreciation of the complexities associated with these risks. Overall, the findings indicate increasing challenges in risk assessment that require improved strategies and resources to overcome.

Conclusions

1. Effectiveness of Risk Assessment Models: The results indicate that current risk assessment models are effective in identifying potential risks. However, there is room for improvement in updating these models to keep pace with emerging and changing risks.

- 2. Use of Modern Technologies:** The results reflect a significant reliance on modern technologies, such as big data analytics and artificial intelligence, to improve the accuracy of risk assessments. However, the challenges associated with adopting these technologies must be addressed more effectively.
- 3. Addressing Emerging Risks:** Despite a willingness to adapt to changing risks, the company faces difficulties in accurately addressing modern risks such as cyberattacks and assessing environmental risks.
- 4. Customer Satisfaction:** Customer satisfaction with insurance coverage reflects high confidence in the services provided, demonstrating the companies' success in meeting their needs. However, the explanation of risk assessment results should be improved to increase transparency.
- 5. Challenges in Risk Assessment:** Companies face significant challenges, such as a lack of data and resources, and a shortage of qualified personnel, which negatively impacts their ability to accurately assess future risks. Priority should be given to developing strategies to enhance human capacity and necessary resources.

Recommendations

- 1. Improving risk assessment models:** It is recommended that existing risk assessment models be regularly updated to keep pace with changes in the economic and technological environment, enhancing the ability to more accurately anticipate emerging risks.
- 2. Enhancing the use of modern technologies:** Companies should invest more resources in modern

technologies such as artificial intelligence and big data analytics, and provide adequate training for employees on using these technologies to improve the effectiveness of risk assessment.

3. **Expanding the database:** It is recommended to develop strategies for collecting historical and future risk-related data, whether through partnerships with other organizations or through the use of technological platforms that facilitate access to information.
4. **Developing human resources:** Emphasis should be placed on developing human resources skills through specialized training and workshops, contributing to building a team qualified to implement the latest risk assessment techniques.
5. **Improving transparency with customers:** It is recommended to enhance communication channels with customers to clearly explain risk assessment results, which helps build trust and increase customer satisfaction with the services provided.
6. **Establish risk management protocols:** Clear protocols should be developed for handling unexpected risks, including defining roles and responsibilities within the company, which enhances the speed of response and crisis management.
6. **Continuous evaluation:** It is essential to conduct periodic evaluations of risk assessment processes and management mechanisms, which helps identify weaknesses and opportunities for continuous improvement.
7. **Communicate with experts:** It is recommended to communicate with experts and consultants in the field of risk management to obtain professional and up-to-date advice on best practices in risk assessment and management.

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