



*6<sup>th</sup> Sharm Rendezvous 2024\_ Scientific Competition (Azza Arfeen Competition)*

*Dealing with an increasingly digital and AI-driven world*

**Proposed Topic:**

***How would the Arab insurance sector utilize modern technology and the AI revolution to address emerging risks and achieve their governments' goals for 2030?***

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## **Introduction: Technology revolution and recent emerging risks**

**Modern technologies** have become indispensable in our daily lives, significantly influencing various facets of society. This pervasive influence enhances communication, facilitates information gathering, transforms work environments, revolutionizes learning methods, modernizes healthcare delivery, optimizes transportation systems, and enriches entertainment experiences. The technological revolution extends beyond individual activities to reshape corporate business operations across all industries. Increasingly, organizations approach several initiatives to rely on digital platforms and automation to streamline processes, enhance efficiency, and reduce reliance on traditional, manual workflows. These initiatives not only capitalize on technological advancements but also aim to unlock numerous benefits, improve individual satisfaction, and elevate overall welfare.

The integration of technology has ushered in an era marked by efficiency, accessibility, and innovation. Remote working tools exemplify this shift, enabling unprecedented flexibility and collaboration in today's digital landscape. Businesses are transforming every facet of their operations, from customer interactions to intricate supply chain management, by leveraging digital drivers and cutting-edge technologies. Automation, driven by AI algorithms and robotic systems, optimizes workflows, minimizes errors, reduces operational costs, and liberates human resources to concentrate on strategic initiatives.

This strategic alignment is pivotal for businesses aiming to expand their global footprint and foster a culture of continuous innovation necessary to thrive in the increasingly competitive digital age.

Consequently, as technology continues to reshape our world, governments and associations are compelled to prioritize proactive adaptation and strategic investments in digital infrastructure. Embracing the global trend of digitalization not only enhances economic competitiveness but also aligns with consumer welfare priorities.

However, the global economy faces numerous challenges and obstacles impacting economies, society, and business results. One major challenge is **Emerging Risks**, including the depletion of natural resources, pollution, overpopulation, agricultural land degradation, and limited access to clean drinking water. These issues contribute to rising energy prices and the occurrence of catastrophic events such as global warming and climate change. (AXA Future Risks Report 2022) Additionally, cybersecurity threats, political instability, shifts in consumer behaviour, and financial market volatility influenced by factors like pandemics, trade disputes, and geopolitical conflicts pose significant risks.

*Therefore, several initiatives have been taken to address the impact of emerging risks on the environment, future generations, and social and business outcomes involve developing and implementing strategies, policies, and reforms by approach **the 17 Sustainable development goals** which provide a comprehensive framework to tackle these challenges. The **SDGs** encompass a range of measures aimed at ensuring the well-being of present and future generations while safeguarding the environment. This approach has influenced sustainability practices across various business sectors, leading to the rise of **Sustainable Insurance**, **Sustainable Finance**, **Sustainable Investment**, **Sustainable Technology**, **Sustainable Construction**, and **Waste Management and Recycling**.*

*These practices are top priority for many Arab governments, who are committed to achieving their goals towards **Vision 2030**. They focus on fostering digital literacy, enhancing technological capabilities, and promoting sustainable, green economic growth through innovation and digital transformation to effectively respond to emerging risks.*

### **Insurance engagement of the technology revolution and its impact towards address SDGs**

The insurance industry stands out among non-financial sectors profoundly impacted by the technology revolution, ushering in an era marked by innovation, efficiency, and improved customer engagement. This transformation spans digitalization across all operational facets, from product development and underwriting to claims processing and customer service. Central to this shift is the rise of "**Insurtech**", integrating modern technology with insurance practices to innovate successful business models that aims to respond emerging risks and address SDGs. A clear example of this transformation is seen in financial inclusion initiatives, which offer tailored products covering SMEs, informal workers, credit mortgage portfolios, and emerging industries. These initiatives often involve collaborations with banks, investment firms, and other financial institutions, promoting sustainable finance and investment practices. Notably, green bonds and gender bonds provide financing for eco-friendly initiatives and women's empowerment (Mohamed Mahrous Saadouni, 2021).

Moreover, this integration enables insurers to specialize in Infrastructure Development by offering dedicated programs for renewable energy, green buildings, energy-efficient transportation, and resilient infrastructure. Insurers promote sustainable construction practices and manage climate-related risks, supporting environmentally friendly projects (UN Environment Programme; Nadine Gatzert, Philipp Reichel & Armin Zitzmann, 2020).

Additionally, through partnerships with Agriculture and Food Industries, insurers encourage sustainable farming practices, reduce environmental impacts, and enhance food security by providing insurance products that incentivize sustainable agricultural practices and mitigate climate change risks affecting food production.

*Eventually, insurers extend specialized programs towards address the emerging risks. This technological integration enables the insurance industry to promote social inclusion, increase public awareness of insurance, expand business opportunities through new products, enhance climate risk resilience, eliminate discrimination, and foster equal opportunities which prioritize sustainability, in line with the SDG's and the visions of Arab governments towards Vision 2030.*

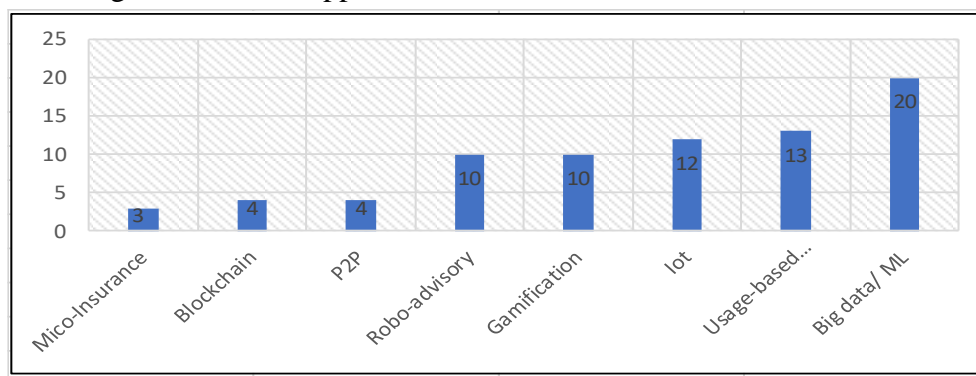
### **New key technology drivers that have positive impact towards achieve SDG's**

Recent technological innovations in IT are significantly transforming the insurance industry by improving key areas such as underwriting, claims management, marketing, and sales. These advancements also provide a critical infrastructure for advancing SDGs. Key technologies driving this change include the Internet of Things "IoT", which enables usage-based insurance by connecting devices to promote sustainable behaviours especially for the motor and life business line which reflect on premium adjustments ; cloud storage and computing, which enhance disaster recovery and business continuity; big data analytics, which refine risk assessment and product development; and artificial intelligence "AI" and machine learning

"ML", which optimize operations and customer service and create new business solutions. (Sam Jones, Becky Humphreys, and Mark Woolnough, 2018) (General Arab Insurance Federation newsletter, 2023)

This technological collaboration contributes to reshaping the insurance industry, expanding its range of uses and offering new products. It also introduces new techniques for handling work and business models aligned with business goals and 2030's vision.

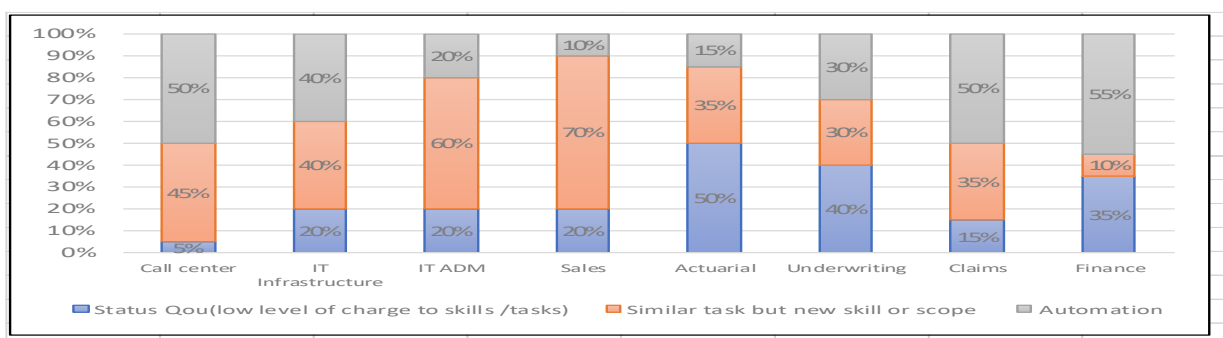
Furthermore, a 2020 study by McKinsey & Company highlighted that Insurtech companies are actively adopting emerging technologies and innovative concepts, with a particular focus on big data and machine learning. The study revealed that 20% of Insurtech companies prioritize these technologies over other approaches and models, as indicated in Exhibit No.1



**Exhibit 1:** Insurtech adoption of new technology and concepts

**Source:** McKinsey & Company, 2020

In addition, according to a 2021 survey conducted by McKinsey & Company, automation within global insurance companies is increasingly encompassing various areas including underwriting, actuarial work, claims processing, finance, and operations. Exhibit No. 2 illustrates that the automation of these functions is expected to grow from 10% to 55% over the next decade.



**Exhibit 2:** Automation of tasks in the insurance industry

**Source:** McKinsey & Company, 2021

The exhibit above indicates that a significant portion of tasks, ranging from 10% to 70%, will lead claims handlers to shift their focus from simply processing claims to providing enhanced customer experiences. Additionally, underwriters and actuaries may experience closer collaboration with data science and advanced analytics professionals. Around 30% of

underwriting roles could involve increased interaction with data scientists to enhance the quality of quantitative tools and automation, thereby reducing the need for manual and routine tasks. *This shift focuses on the innovation of the business cycle, reflecting the approach of new Insurtech models that address emerging risks and aim to achieve sustainable development goals and Vision 2030.*

### **New Insurtech models integrating AI tools towards achieve SDG's**

The incorporation of above advanced technology drivers in the insurance sector has spurred the development of various business models. These models enhance data analysis, operational efficiency, and customer engagement, empowering insurers to address **ESG factors**, effectively manage risks, and incentivize sustainable practices, thereby progressing towards achieving the Sustainable Development Goals (Ashley Hancock, 2023) through the following innovative approaches:

#### **1. Business engagement including digital ecosystem shift**

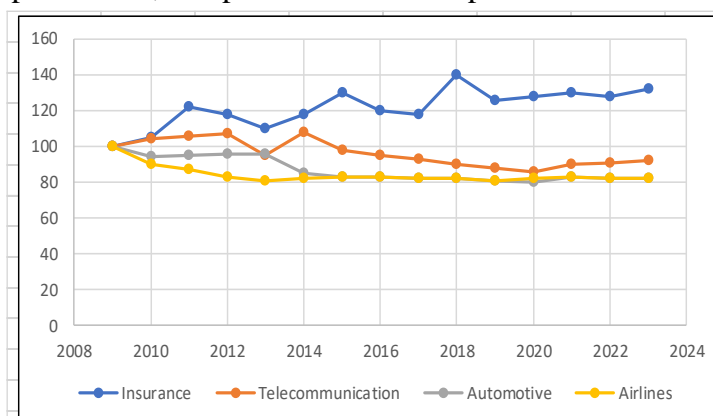
The Insurtech revolution is transforming the insurance industry through innovative models that enhance customer experiences, efficiency, and risk management by creating interconnected networks where insurers, customers, and partners collaborate seamlessly. These models often involve partnerships with social and government agencies to create tailored insurance programs for vulnerable groups. A notable example is the **Aman Assurance Policy**, which protects informal workers and safeguards their savings, aligning with directives from Egyptian President Abdel Fattah El-Sisi. Developed in collaboration with four Egyptian banks and Misr Life Co., this policy integrates informal transactions into the formal economy, marking a significant advancement in traditional business models.

#### **2. Better Claims Management**

The Insurtech revolution is transforming claims management by leveraging advanced algorithms and patterns for automated analysis of images showing damaged property or vehicles, enabling accurate estimation of repair expenses. AI-powered chatbots efficiently handle customer inquiries, guide claim procedures, and provide real-time updates.

According to a 2023 survey by McKinsey, the claims process significantly impacts premium revenues, accounting for 50% to 80%. This underscores the importance for large insurance carriers to effectively manage service delivery costs.

As depicted in Exhibit No. 3, the insurance industry has achieved 25% higher cost efficiency compared to other



**Exhibit 3:** Cost efficiency evolution per industry.

**Source:** McKinsey & Company, 2023

sectors over the past decade due to the approach of the technology drivers and Insurtech models.

Additionally, Insurtech aids in fraud detection by identifying suspicious patterns and anomalies in claims data. Machine learning algorithms analyse both historical and current claims data to minimize losses and prevent fraudulent payouts (Niccolo Mejia, 2019).

### **3. Skills Development and Training**

Insurtech has the potential to enhance employee support through automated recruitment processes, advanced training solutions, and HR data analysis. These capabilities, as noted by Sabine L.B. VanderLinden et al. (2018), allow organizations to optimize candidate selection, improve communication and collaboration among employees, and gain valuable insights into workforce trends, employee satisfaction, and retention rates. This facilitates proactive identification of improvement areas, prediction of future HR needs, and informed strategic decision-making processes.

Additionally in respect of the **Arab** markets who have the opportunity of access to these new Insurtech models including approach of new creative tools that align with the unique characteristics of these markets which including factors such as language, Islamic Takaful, and the new emerging trend towards digital transformation such as:

1. **Islamic Takaful Index:** Insurtech and AI are being utilized to develop Islamic Takaful insurance products and investments. Algorithms ensure that the insurance offerings align with Islamic principles and comply with Shariah law. This technological integration facilitates several functions of the Takaful company, including compliance, supervision, and surplus distribution (Dedi Kusmayadi, Irman Firmansyah, and Iwan Hermansyah, 2021).
2. **Microinsurance and Financial Inclusion:** Insurtech is being leveraged to develop microinsurance solutions that cater to the needs of low-income individuals and underserved communities. By automating processes and utilizing AI algorithms for risk assessment and sales, insurers can offer affordable and accessible insurance products to a broader customer base.

### **Arab Markets experience towards adopt the digitalization and AI tools to achieve Vision 2030**

Arab insurers federations and regulators are actively pursuing digitalization and technological infrastructure investments through initiatives such as regulatory reforms, awareness campaigns, and advanced training programs which prioritize incorporating ESG factors into insurance operations, including strategies, risk management processes, and investment activities shown clear on the following experience of the following markets:

#### **1. Egyptian Market**

The Egyptian market has established itself as a leader in digital transformation and regulatory reforms, particularly in integrating new technology and AI within the insurance sector. Key initiatives such as the national presidential program for cybersecurity, digital data protection, and the implementation of electronic payment systems for insurance products, including

microinsurance, underscore Egypt's strong embrace of digital technologies. Additionally, new products that align with sustainability and rely on AI and digital technology, such as agriculture insurance, renewable energy, and cyber risk insurance, are being developed. These initiatives align with the objectives of Vision 2030 and recent legislative efforts, such as the Unified Insurance Law, which addresses legal challenges related to technological advancements and promotes financial literacy across the market. **The Financial Regulatory Authority (FRA)** has been pivotal by implementing guidelines that prioritize ESGs and SDGs in insurance operations. These guidelines influence strategic planning, risk management practices, and investment decisions within the industry. The FRA and **the Insurance Federation of Egypt (IFE)**'s commitment to address sustainability is further highlighted by their active participation in global events like the **COP27** conference. (Insurance Federation of Egypt, 2024)

The FRA collaborates with insurers to ensure sustainability reporting and has introduced an annual award to commend insurance companies excelling in sustainability practices. Meanwhile, the IFE has established a specialized committee for Sustainable Insurance, tasked with developing sustainability guidelines for Egyptian insurance firms. Initiatives such as the **"Green Marathon"** and the launch of the **"Sustainability"** digital magazine by the Federation reinforce its commitment to advancing sustainability initiatives (Alaa El Zoheiry, 2022).

The FRA has launched Egypt's first regulated voluntary carbon market, enabling the issuance and trading of carbon reduction certificates through the Egyptian Stock Exchange. This initiative showcases the integration of digitalization and sustainability in the market.

## **2. Saudi Arabian Market**

Saudi Arabia has made significant strides in advancing digitalization and adopt recent technological drivers, driven by the ambitious Vision 2030 initiative spearheaded by the Crown Prince. This comprehensive vision aims to comprehensive digital transformation and sustainably develop across all sectors of the Kingdom. **The Saudi Arabian Monetary Authority (SAMA)** has played a crucial role in facilitating digital innovation and regulatory reforms within the insurance sector, positioning it to expand its influence, reach new markets, mandatory insurance types and contribute to overall financial sector growth (Nilufer Junhan,2021)

Moreover, SAMA has implemented measures to foster sustainability within the insurance industry. These include guidelines and regulations that encourage insurance companies to integrate ESG factors into their operational frameworks and decision-making processes. Additionally, initiatives promote sustainable practices and environmental protection, such as providing insurance coverage for renewable energy projects, eco-friendly buildings, and efforts to mitigate climate change risks. (Oxford Business Group, 2023).

## **3. UAE Market**

According to the 2022 annual report on the insurance industry in the UAE, which shown that the UAE stands out as a leader of innovation towards AI and digital transformation initiatives among Arab markets. The report highlights several key factors contributing to this leadership position, including regulatory reforms, extensive training and development programs, strong

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international partnerships by insurance federations, support for fintech experimentation, and the introduction of innovative mechanisms like the digital supervisory platform. Furthermore, the report mentions the organization of the Innovation Conference since 2017, demonstrating the UAE's commitment to fostering innovation in the insurance industry. Additionally, the report highlights the implementation of Vision 2030, which has led to the development of insurance programs such as self-driving car insurance and the adoption of digital currencies and blockchain technology in insurance contracts.

The UAE renowned as the first Arab state implemented the initiative of **UAE Green Development Strategy** in 2012 with the goal of establishing a sustainable economy. This initiative encompasses a variety of long-term national programs to all business sectors in order to incorporate innovative environmental and urban policies to improve the overall quality of life in the country. Furthermore, the UAE embraces the principles of sustainable insurance, digital transformation, and responsible investing, aligning with the global practices and guidelines mentioned earlier. Additionally, the **Dubai Financial Market (DFM)** has developed a framework that highlights the fundamental principles, metrics, and reporting obligations for companies to disclose their ESG performance and practices. The objective of this approach is to foster transparency, accountability, and sustainability among companies listed on the DFM. It helps companies comprehend the significance of ESG factors and provides them with a structure to assess, monitor, and report on their ESG initiatives.

Furthermore, the UAE finds itself in the grip of **COP28**, which took place in November 2023, including the participation of the **Central Bank of the UAE** and the **Emirates Insurance Association**. This event sought to address the pressing challenges and risks posed by climate change while also presenting solutions to bolster renewable energy sources.

### **Challenges towards utilize the digital and AI to achieve SDG's**

All parties within the Arab insurance markets, including regulators, federations, associations, and insurers, face several challenges in utilizing the current modern technology revolution, particularly in achieving ESG's and SDG's goals. These challenges as follows:

#### ***1. Data Availability and Quality***

The process of adopt modern technology and the AI revolution to address emerging risks is heavily rely on accurate and comprehensive data. However, obtaining reliable data, particularly related to key technology drivers and sustainability factors or underserved populations can be challenging which shown clear on data gaps, incomplete records, and inconsistent reporting standards that hinder insurers' ability to assess risks and develop appropriate products and services towards enhance the sustainability. Additionally, implementing of new technologies business models that facilities such process such as electronic data collection or standardized reporting may require significant investments and expertise. (Nadine Gatzert, Philipp Reichel, Armin Zitzmann,2020)

#### ***2. Mindsets and Operational Challenges***

The culture and mindsets within the insurance industry, particularly the reluctance to embrace modern technology frameworks, present a significant challenge. This difficulty arises from factors such as fear of the unknown, lack of awareness and market education, and a tendency to prioritize short-term financial objectives over ESG's considerations. Additionally, the industry faces operational challenges, including an increase in insured losses, which impacts insurance results. In addition, there are also challenges of handling normal daily challenges operations such as solving claims disputes, updates of rules, regulations and setting codes to comply with the new updated global standards and regulations.

### ***3. Insufficient infrastructure technology***

The Arab insurance industry faces significant challenges due to weaknesses in infrastructure technology, such as slow internet speeds, high costs, and limited accessibility. These issues hinder the adoption of emerging technologies and digitalization initiatives, ultimately limiting the industry's ability to leverage technological advancements. Furthermore, the lack of reliable communication and connectivity services restricts the flow of information, disrupts business operations, and limits opportunities in education and healthcare services.

A survey conducted by MAPL World in March 2023 found that approximately 83% of Indian organizations encounter difficulties in implementing and maintaining their IT infrastructure. Over 60% of these organizations expressed the need for more expertise to handle their IT infrastructure, while nearly 64% reported being unable to access the latest technology. These findings highlight similar challenges that could be present in the Arab insurance market.

### ***4. Regulatory and Legal Frameworks***

The insurance sector faces numerous challenges due to the complex regulatory and legal environment within its routine operation which does not include the current technological advancements, digital payment methods, shifts in client's lifestyle, lack of defined legal responsibilities for each party and lack of long-term perspective. Furthermore, the absence of a clear regulator's vision regarding the enhancement of sustainability, particularly through collaboration with the financial and non-financial sectors, poses a challenge. (David Sherwood, Kristen Sullivan, 2021)

### ***5. Cyber Risks***

The recent technological revolution has heightened cyber risks across nearly all sectors due to increased online activity. Vulnerabilities include cyberattacks, data breaches, and unauthorized access. A notable example is the July 19, 2024, incident where CrowdStrike's Falcon Scan update caused a massive IT shutdown, impacting millions of computers globally in what was deemed "*the largest IT shut down in history.*" Furthermore, many sectors rely heavily on third-party vendors, partners, and service providers for various digital solutions, which heightens the risk of business interruptions due to cyber threats, potentially harming their operations. A survey conducted by MAPL World in March 2023 revealed that nearly 60% of organizations surveyed faced challenges due to inadequate security measures.



**Exhibit 4:** Ranking of top risks that cause Business Interruption

**Source:** Allianz Risk Barometer 2024

According to Exhibit No. 4 from the Allianz Risk Barometer 2024, cyber risks have been identified as the top concern for businesses in terms of causing interruptions with 41%. As a result, the insurance industry must adapt to effectively address these significant challenges posed by cyber risks towards utilize the digital and AI to achieve SDG's.

## 6. Climate Change

The insurance industry faces significant challenges due to climate change, including the increasing frequency and severity of natural disasters. Historical data has become less useful because of higher volatility, environmental changes, and shifting weather patterns. This uncertainty leads to higher claims, which can negatively impact both business results and government funding (Katsomitros, 2019). The Global Risks Report 2024 by the World Economic Forum, as shown in Exhibit No. 5, identifies climate change and its consequences as the top challenges, with severe impacts expected in the next two years and ranking as the number one issue over the next decade which also effect the exposures and potential liabilities of the Arab markets.



**Exhibit 5:** Global Risks Report 2024

**Source:** World Economic Forum

## 7. Lack of supply chain

The supply chain is a significant traditional challenge for the Arab Insurance industry, especially with the move towards digitalization. Disruptions in technology, communication services, and utilities negatively impact various insurance classes, including business interruption, liabilities, and marine insurance (Insurance Federation of Egypt, 2024).

Moreover, implementing sustainability approaches and integrating other sectors are hindered by the lack of sustainable sourcing practices that are environmentally friendly and socially responsible. Insurers face the challenge of encouraging their insured parties to adopt practices that reduce carbon footprints while also encountering resistance from some stakeholders.

## **8. Geopolitical conflicts**

The current global political instability, highlighted by events such as the Russian-Ukrainian invasion two years ago, Sudan's clashes in April 2023, and the recent conflict in the Arab region involving Israeli forces and Palestinians in Gaza, has led to significant infrastructure destruction. The repercussions of these events extend well beyond the insurance sector, affecting all business models and indirectly influencing the reinsurance appetite of underwriting and their placed in the Arab region including lack of reinsurance capacity. This volatile environment necessitates a revaluation of risk assessment and management strategies, urging insurers to adapt their approaches to ensure sustainability and resilience in the face of ongoing geopolitical challenges.

### **How would the Arab insurance sector implement reforms that capitalize on AI utilization?**

It is clear from the previous lines that all parties in the insurance industry in the Arab region needs to address challenges by embracing emerging risks and aiming for 2030 goals. Reforms should focus on harnessing technology, adopting sustainability-focused regulations, recognizing sustainable partners, and boosting public awareness. The following outlines the proposed reforms and their corresponding solutions:

#### **1. Data Improvement**

Arab Insurers should enhance transparency in data collection and reporting by ensuring data quality and accuracy, disclosing data sources and methodologies, and addressing limitations. Improving data accessibility for stakeholders promotes accountability and better analysis of sustainability. Investing in robust data collection, validation processes, and advanced technologies like data analytics and machine learning is crucial, along with regular audits to identify and correct inconsistencies (Alnisban, Abdul Rahman bin Mohamed, 2017).

#### **2. Changing of culture and shift in mindsets**

To foster a culture of sustainability, all parties within the Arab insurance sector should integrate sustainable practices into underwriting, claims management, and investments. This includes establishing a clear sustainability vision, focusing on long-term ESG goals, and offering education and training. Implementing pilot programs to showcase new technologies, using advanced analytics to predict and manage losses, and automating claims processing can enhance efficiency and sustainability (Insurance Federation of Egypt, 2024).

#### **3. Investment of infrastructure technology**

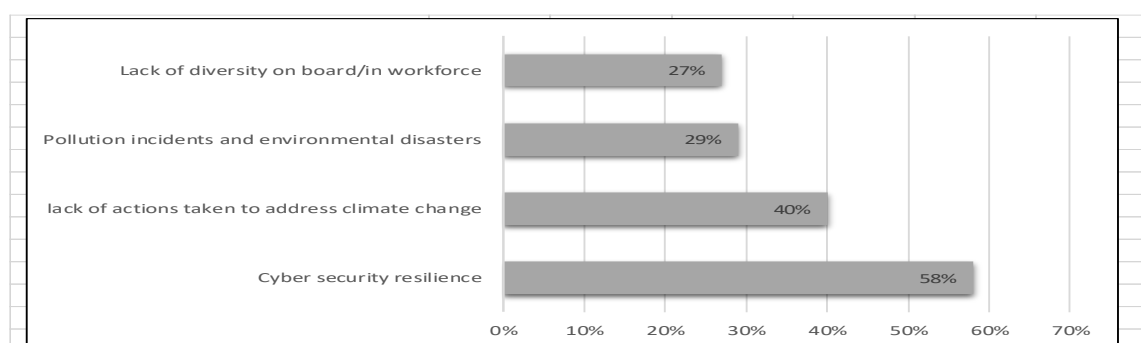
Recently, it has become evident that Arab governments are making significant progress in enhancing infrastructure technology. These efforts include making technology more cost-effective and adopting 5G technology, which offers much higher speeds compared to the existing 4G network. With 5G's potential speed of 20 gigabytes per second a substantial improvement over the current 1 gigabyte per second this advancement provides insurers and regulators the opportunity to fully embrace digitalization and automated models. (Satishwar Balakrishnan, 2022)

#### 4. Regulatory Reforms

Regulatory reforms have become a top priority for regulators in the Arab region as they update existing regulations to keep pace with rapidly evolving technological innovations and support the sustainability goals outlined in Vision 2030. A recent example is the *Unified Law* issued in the Egyptian market on 10 July 2024, which includes several key reforms. These reforms encompass digitalization, mandatory insurance coverage, employee training and certification, and incentives for insurance companies that demonstrate best practices in sustainability. Additionally, new business models are being developed to integrate multiple sectors and better serve underserved populations. Traditional regulatory roles such as enforcing anti-discrimination laws, combating money laundering and terrorist financing, and ensuring privacy and data protection are also being updated to remain effective in this changing landscape.

#### 5. Cyber Coverage and Precautions

Significant reforms are underway to promote cyber insurance products and enhance cyber coverage as mandatory coverage. These measures include maintaining strong data security through encryption, firewalls, regular security audits, and employee training to safeguard customer data. A national cybersecurity program, like Egypt's presidential initiative, is being considered, along with mandated cyber coverage for each insurance company.



**Exhibit 6:** ESGs Risk Trends

**Source:** Allianz Risk Barometer 2022

According to the Allianz Risk Barometer 2022, which highlights ESG risk trends of concern for insurance companies, Cyber security resilience ranked as the top risk as shown in exhibit no.6. Moreover, it is essential to address data protection laws, establish protocols for reporting data breaches, adhere to privacy regulations including preventive measures to mitigate cyber risks.

#### 6. Nat cat Modelling

Arab insurers must implement various climate measures to address the challenges posed by climate change. These measures include utilizing smart solutions for managing natural catastrophe risks, such as Nat Cat modelling, refining pricing strategies, creating new reserves, and exploring innovative investment tools. Additionally, they should seek guidance from global reinsurers and adopt best practices in statistical modelling to respond effectively to climate

risks. Insurers are also actively participating in social campaigns to raise awareness about environmental issues, promoting digitization to reduce paper usage, and implementing energy-efficient measures to minimize their environmental footprint.

## ***7. Supply Chain Response***

Insurance companies are enhancing operational resilience and achieving cost efficiencies by aligning their supplier management and risk mitigation strategies with ESG principles. This includes prioritizing insureds and reinsurers who adhere to ESG factors and providing clients with training on sustainability.

## ***8. Arab Insurance Sector's response to Infrastructure Destruction***

The Arab insurance sector has responded to the ongoing political crises, including the attacks on Gaza and clashes in Sudan, by introducing several adaptive measures. One such initiative is the provision of administrative offices for displaced organizations, like the support offered by the Insurance Federation of Egypt to the Sudanese Insurance Federation. Additionally, the Jordanian Federation of Insurance Companies, in collaboration with local insurers, contributed 550,000 Jordanian dinars for medical supplies to assist Palestinians as part of a campaign led by the Jordanian Hashemite Charitable Organization. The industry is also developing innovative insurance products that cover property damage, business interruptions, liability, and life claims, thereby playing a vital role in addressing ESG challenges.

### ***How would the Arab insurance sector contribute to the future outlook of the green economy leading up to 2030 driven by AI revolution?***

The previous lines highlight the importance of collaboration among all stakeholders in the Arab insurance markets to address challenges and capitalize on opportunities presented by digital technology and AI in achieving the SDGs. These reforms aim to enhance the insurance sector's role in managing emerging risks and aligning with government objectives for 2030. By adopting these practices, the industry can better position itself for a sustainable future, where digitalization and sustainability are integrated into the business framework across all industries and sectors in the Arab region.

## ***1. Integration of other sustainable sectors and industries including social inclusion's enhancement***

The integration of the insurance sector with key stakeholders, including central banks and sectors such as finance, energy, and agriculture, is crucial for promoting sustainability within the economy, in alignment with the 2030 vision. This collaboration is essential for developing comprehensive solutions that address challenges and capitalize on emerging opportunities. Additionally, Table 1 below highlights sustainable practices in the Arab region, including the insurance sector's collaboration with other financial sectors, as outlined in the 2021 report by the United Nations Environment Programme and the Geneva Association on promoting sustainability and climate finance in the Arab region.

### ***Table No.1: Sustainable Practices in selected countries in the Arab region***

Item	UAE	Egypt	Jordan	Morocco	Bahrain	Saudi Arabia
Sustainable Development/ Green Growth Agenda	✓	✓	✓	✓	✓	✓
Sustainable Finance Framework	✓	✓	✓	✓	✓	
Sustainable Insurance Framework	✓	✓	✓	✓	✓	
ESG Guidelines	✓	✓	✓	✓	✓	
Sustainability/ESG Reporting	✓	✓	✓	✓	✓	
Financial Market Innovations: Green Bonds/conventional sukuk	✓	✓	✓	✓		✓
Insurance Market Innovations: environmentally friendly products	✓	✓				
Sustainable Finance /Insurance Awareness and Education Initiatives	✓	✓	✓	✓		
Supportive Regulatory Framework	✓	✓	✓	✓	✓	✓

The table above provides valuable insights into the sustainable practices implemented across various countries in the Arab region and their outlook. The data reveals a notable trend: most Arab countries are actively advancing sustainability in the finance and investment sectors. Although there is evident progress in sustainable insurance practices, it remains relatively modest compared to other sectors as of 2021.

## ***2. Cover of the new environmentally friendly projects***

The Arab governments have implemented several large-scale projects that align with their vision for 2030, focusing on sustainability and environmental friendliness. Notable examples include new renewable energy projects in Saudi Arabia, the UAE, and Egypt, such as Neom city, the Red Sea Project, and solar power stations in Benban, Aswan. These projects have a combined cost exceeding 50 billion US dollars. The insurance sector plays a crucial role in providing comprehensive coverage through various types of policies, including issuing lender endorsements to secure the lender's interest. These insurance products promote environmentally friendly practices by mitigating the financial risks associated with such projects. This is considered a significant step towards enhancing sustainability and the green economy. (Al-Bayan Economic Magazine, 2022)

## ***3. New creative business models and reinsurance solutions***

In the coming decade, the Arab insurance industry is expected to adopt new business models that heavily rely on AI and data-driven strategies, with a strong emphasis on sustainability. These models will use AI to enhance risk assessment, improve customer experiences, and optimize operational efficiency. Notable examples include ***Peer-to-Peer (P2P)*** insurance, which operates on risk-sharing among individuals, offering personalized coverage options, and insurance on demand, also known as pay-as-you-go or ***usage-based insurance***, which adjusts premiums based on actual usage.

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*Dealing with an increasingly digital and AI-driven world*

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Another innovative model is parametric insurance, which differs from traditional insurance by paying out predetermined amounts based on the occurrence of specific events, rather than compensating for actual losses incurred. This approach depends on advanced infrastructure technology, providing flexibility in coverage, cost savings during low-risk periods, and greater control over insurance expenses. It is particularly effective in sectors such as auto insurance, where premiums correlate with driving behaviours (World Bank Group, 2018; Ashley Hancock, 2023). Furthermore, the integration of insurance and banking through digitalization will create new opportunities. Banks may issue certificates or bonds to address reinsurance capacity gaps, using *Alternative Risk Transfer* techniques to convert insurable risks into investment tools, thereby enhancing efficiency in both sectors (World Economic Forum,2021)

#### 4. Address 2050 goal net zero carbon emission

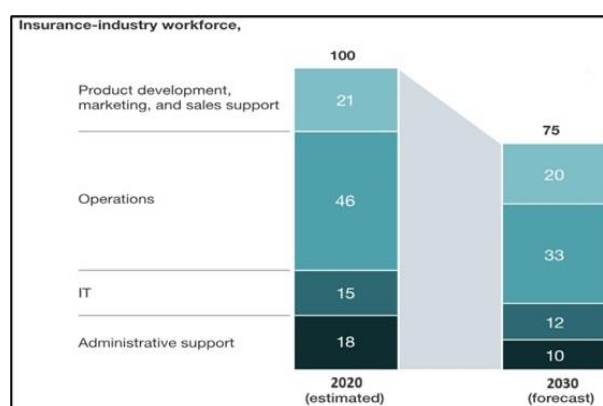
Achieving the global goals of net-zero carbon emissions by 2050 requires a comprehensive and collaborative approach across all sectors, including the insurance industry. The Arab insurance sector can play a crucial role by developing innovative products that incentivize green investments, support renewable energy projects, and promote sustainable practices across industries. Insurers can also integrate climate risk into their underwriting processes, encouraging businesses to adopt lower-carbon operations. Through these efforts, the industry can help mitigate climate risks, support resilience, and contribute to the broader goal of a sustainable, low-carbon economy by 2050. (Swiss Re, 2023)

#### 5. Climate change adaption

The Arab Insurers will be leverage the AI tools to provide a comprehensive framework integrating climate and weather data, historical loss records, and predictive analytics models to better understand and manage climate-related risks, including those stemming from natural disasters, extreme weather events, and climate change impacts which will allow insurers to refine their risk mitigation strategies and offer personalized insurance solutions that protect policyholders from climate-related threats including risks prediction, and determine any potential losses for several business models (Insurance Federation of Egypt,2020)

#### 6. Cost Efficiency

The adoption of AI in insurance automation has the potential to significantly streamline operations by automating a range of tasks in the Arab markets. According to Exhibit No. 7, this technological shift could lead to the replacement of up to 25% of full-time positions in the industry by 2030. This highlights the critical and immediate need to integrate AI into operational processes to enhance efficiency and stay competitive in the evolving market.



**Exhibit 7:** AI effect on Insurance Industry

**Source:** McKinsey & Company,2020

## **Conclusion and Recommendations**

It is evident from the previous discussion that the researcher has identified best practices that require collaboration within the Arab market. This involves working with all parties to leverage modern technology and the AI revolution to address emerging risks and achieve SDGs, aligning with the governments' Vision 2030. The following recommendations outline the steps needed to achieve these goals:

1. Leverage AI technologies and predictive models by investing in digitalization and developing a comprehensive strategy. This includes partnering with IT service providers to enhance digital capabilities.
2. Collaborate with regulators on their regulatory reforms to enhance innovation, integrate technological advancements and artificial intelligence within the industry framework, and address SDGs and ESGs including the mandatory development of talented employees.
3. Form partnerships with all parties involved in the Arab insurance sector to invest in a large digital platform project. This project should incorporate various technologies and tools to develop and promote a culture of sustainability and financial awareness, while sharing the costs among stakeholders.
4. Develop tailored insurance products that address current emerging risks, including integrating solutions for the lack of reinsurance capacities. This could involve introducing new financial products, such as Nat Cat Bonds or gender bonds, to transfer the risk of natural disasters to the capital markets.
5. Establish national pools among insurers and regulators to cover climate risks and other emerging risks. This should include the integration of banks and IT developers to address potential losses and ensure profitable outcomes for key business sectors.
6. Develop the ecosystem among business partners through technological and organizational innovations, including mandatory digital transactions. This will encourage the use of digital tools and support sustainable development.
7. Enhance new business models such as parametric insurance and usage-based insurance, which rely on AI to analyse triggers and weather conditions. These models provide faster, more transparent claims, align costs with risk, and encourage safer behaviours, ultimately improving sustainability and cost efficiency.
8. Implement awards and penalties by the regulators for who prioritize sustainability and new AI tools and recognize products that align with environmentally friendly initiatives.
9. Address data security and privacy through comprehensive measures, including robust encryption methods, strict access controls, and regular security audits. Establish clear guidelines and regulations for the handling, storage, and sharing of data.
10. Collaborate with social organizations to promote social inclusion for low-income individuals and small businesses. These programs should offer insurance coverage along with educational resources, workshops, and training to improve understanding of insurance products and their benefits.
11. Form partnerships with global centres and associations to support the Arab insurance markets and advance sustainable insurance practices and market updates.

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