

**MIT Sloan**  
Management Review  
MIDDLE EAST

**MIT SMR CONNECTIONS**  
SPECIAL REPORT

**ASTRA** TECH

# LEVERAGING **ACTIONABLE GEN AI** IN THE MIDDLE EAST





---

# CONTENTS

---

## **Chapter 1: Introduction**

Explore Integration of LLMs and LAMs in Middle East Organizations

## **Chapter 2: Current Landscape of AI Adoption**

Survey Findings

- Overview of participating companies and survey respondents
- Stages of AI adoption

## **Chapter 3: Understanding LLMs/SLMs and LAMs**

Definitions and Distinctions

Integration in AI Systems

## **Chapter 4: Application in eCommerce, Fintech and Telecommunications**

Case Studies and Examples

## **Chapter 5: Leveraging Gen AI for Compliance, Efficiency and Beyond**

Transforming Operations Across Crypto, Insurance, and Legal Sectors with Advanced AI Technologies

## **Chapter 6: Localized Frameworks for Actionable AI in the Middle East**

Localization and Cultural Sensitivity

Compliance and Regulations

## **Chapter 7: Astra Tech's AI-Driven Initiatives and Future Prospects**

## **Chapter 8: User Interaction with GenAI Systems**

Survey Insights

- Types of interactions and user satisfaction levels

Challenges and Opportunities

- Common issues and potential solutions

## **Sponsor's Note**

## **Appendix**

Participating Companies

---



## CHAPTER - 1

# Introduction

### Objective

The future of artificial intelligence (AI) depends on mastering its applications and ethical deployment. By combining innovation with responsible practices, we can harness the potential of AI to transform industries while safeguarding ethical standards.

Large Language Models (LLMs) have rapidly developed and offer a transformative opportunity for businesses in advanced, technology-focused economies. These language models, trained on vast and diverse datasets, produce remarkable results when given human inputs or prompts. Organizations use LLMs to enhance their operations strategically, generating real return on investment and fostering a culture that embraces AI and its advancements.

The primary objective of this white paper is to explore the integration of LLMs and Large Action Models (LAMs) within organizations in the Middle East.

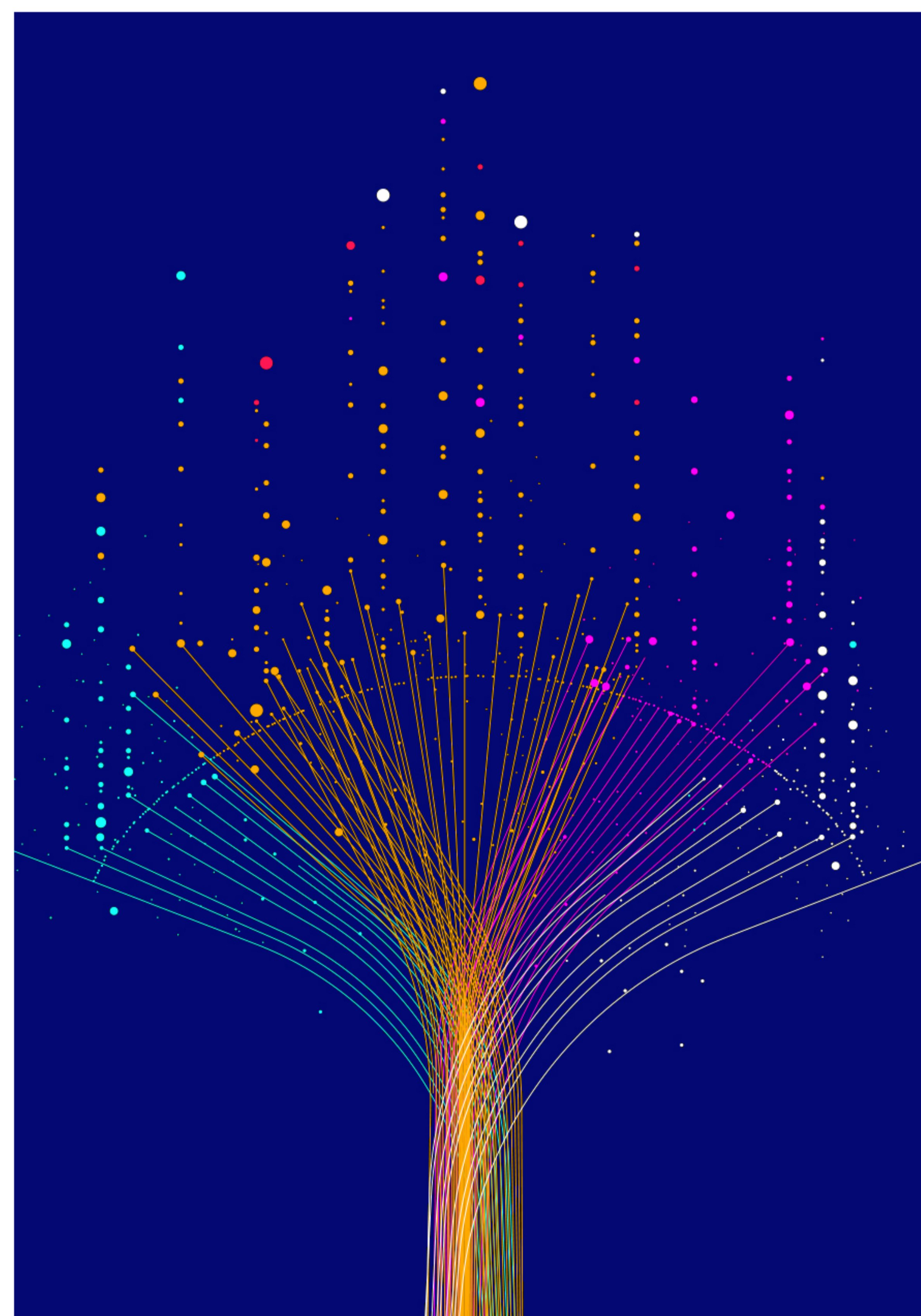
By examining how these advanced AI models are being utilized to create an "Ultra" AI working model—where LLMs/Small Language Models (SLMs) understand customer queries and Large Action Models execute relevant actions—we aim to provide comprehensive insights into their impact, potential, and implementation strategies.

### Importance

As AI technologies continue to evolve, their deployment in fields such as fintech and e-commerce raises significant ethical considerations. This white paper delves into the critical need for governance, addressing data privacy, security, bias, transparency, accountability, and fairness. By highlighting these ethical challenges and proposing solutions, we aim to underscore the importance of responsible AI deployment to ensure public trust and regulatory compliance.

### Survey-Based Insights

To enrich the white paper, we incorporated insights from a survey targeting organizations across the Middle East (complete list of participating companies can be found in the Appendix). This survey captures the various stages of AI adoption, the integration of LLMs/SLMs and LAMs, the handling of complex customer queries, and the ethical challenges encountered. By gathering feedback on best practices, user experiences, and the specific needs of the Middle Eastern market, we aim to provide a localized perspective that addresses cultural sensitivities and compliance with local regulations.



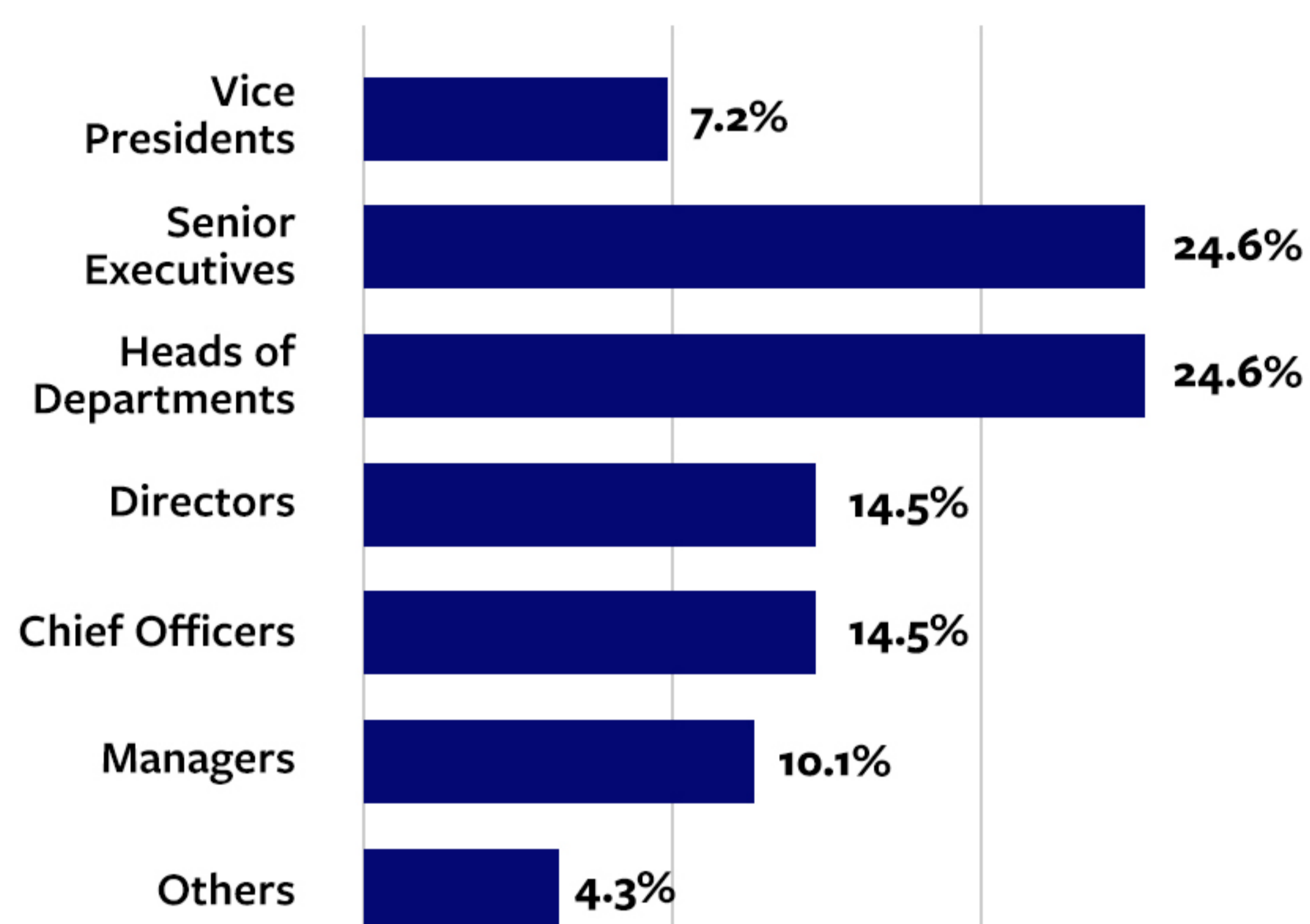


## CHAPTER - 2

# Current Landscape of AI Adoption

The survey attracted a broad range of professionals, reflecting the multi-layered impact of AI across various functions within organizations.

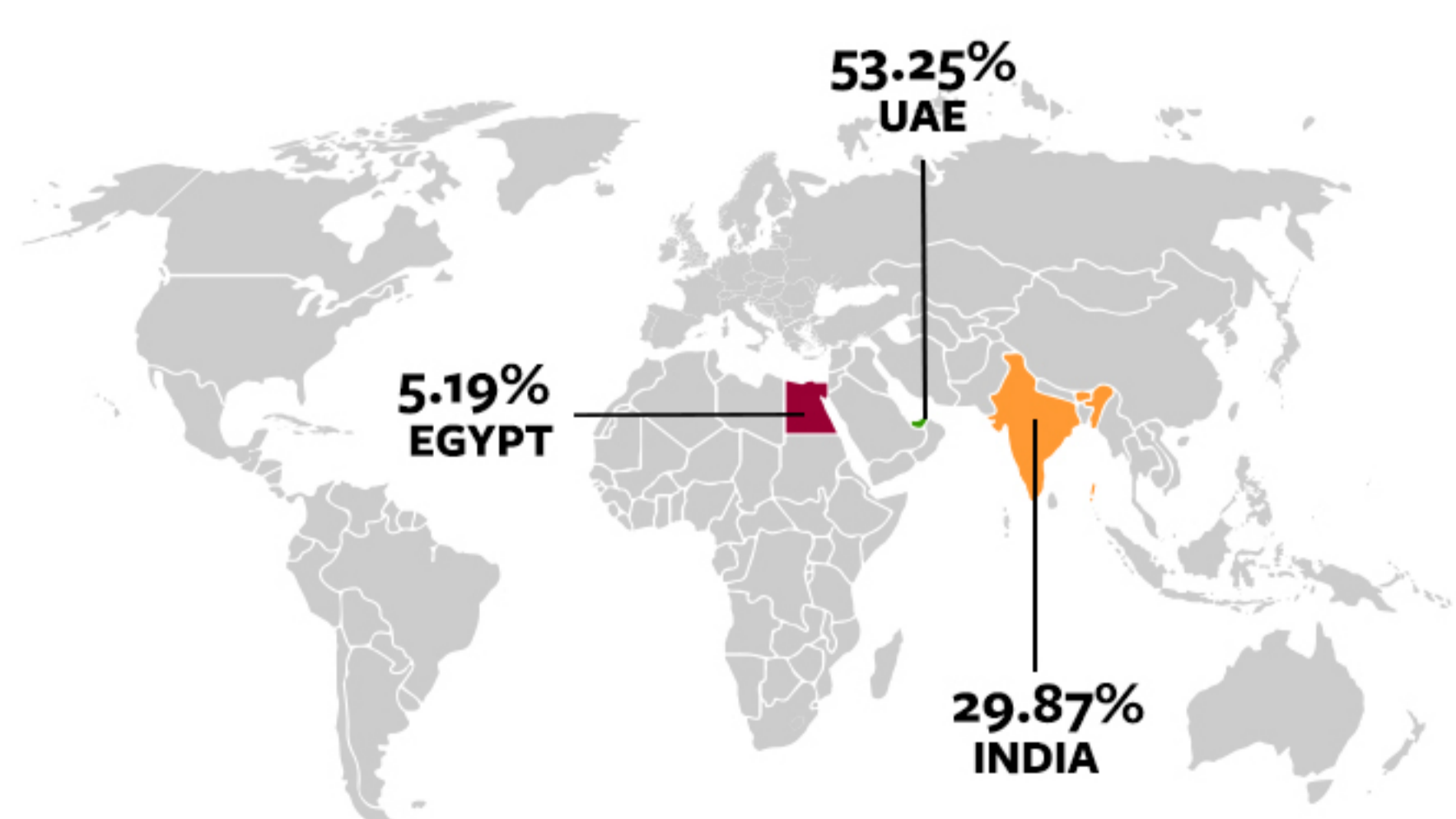
Distribution of Job Titles Among Survey Respondents



This distribution highlights participation from various leadership levels (Senior Executives, Heads of Departments, Directors, and Chief Officers), ensuring a comprehensive understanding of AI adoption across the organization. Additionally, including managers and vice presidents reflects the ground-level implementation aspects.

The participating companies also represent diverse industries, including Technology, Finance, Government, Regulators, Healthcare, Retail and e-commerce, Transportation and logistics, Media and entertainment, Insurance, and Professional Services.

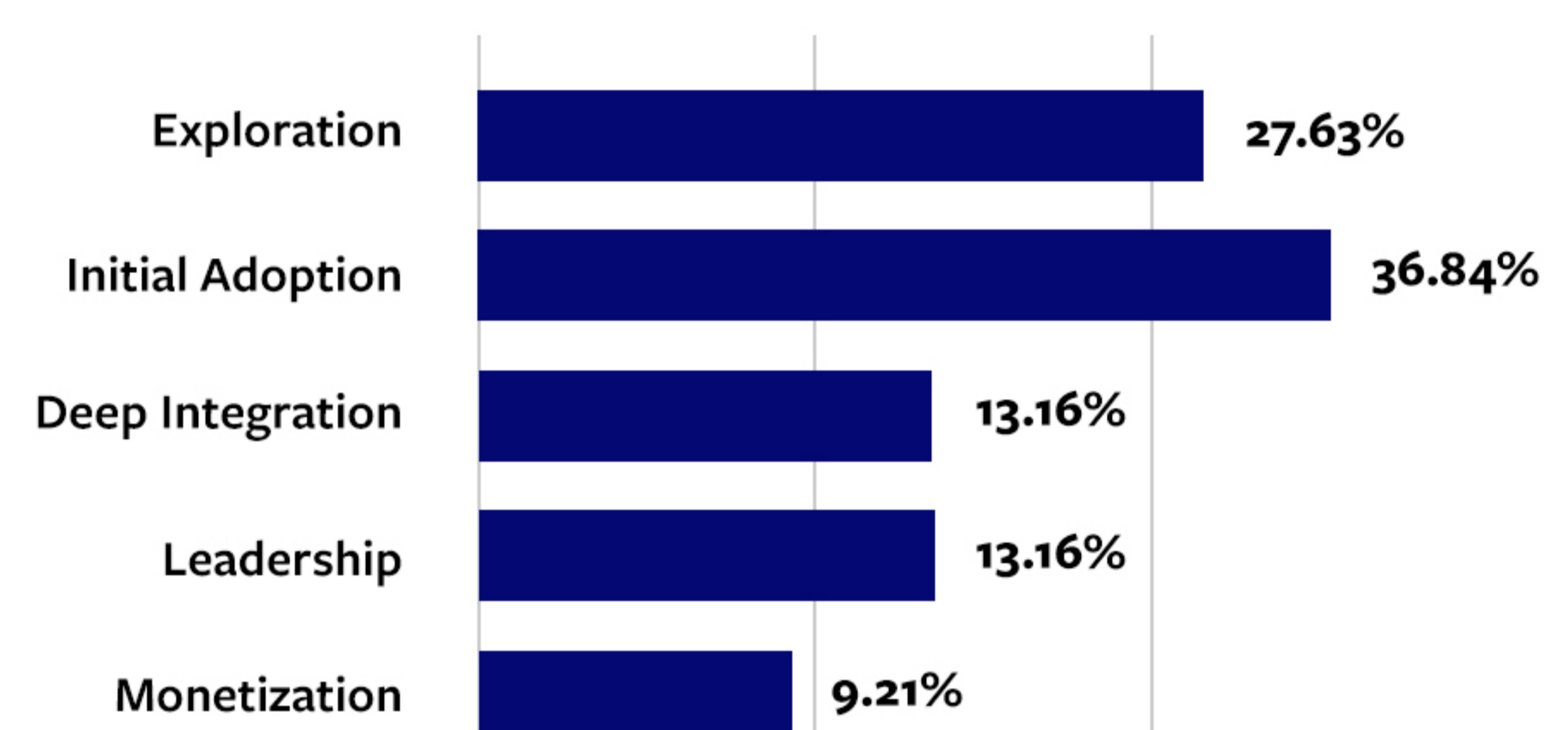
The survey garnered responses from professionals across the Middle East and beyond. Here's a breakdown of the participant demographics:



## STAGES OF AI ADOPTION IN ORGANIZATIONS

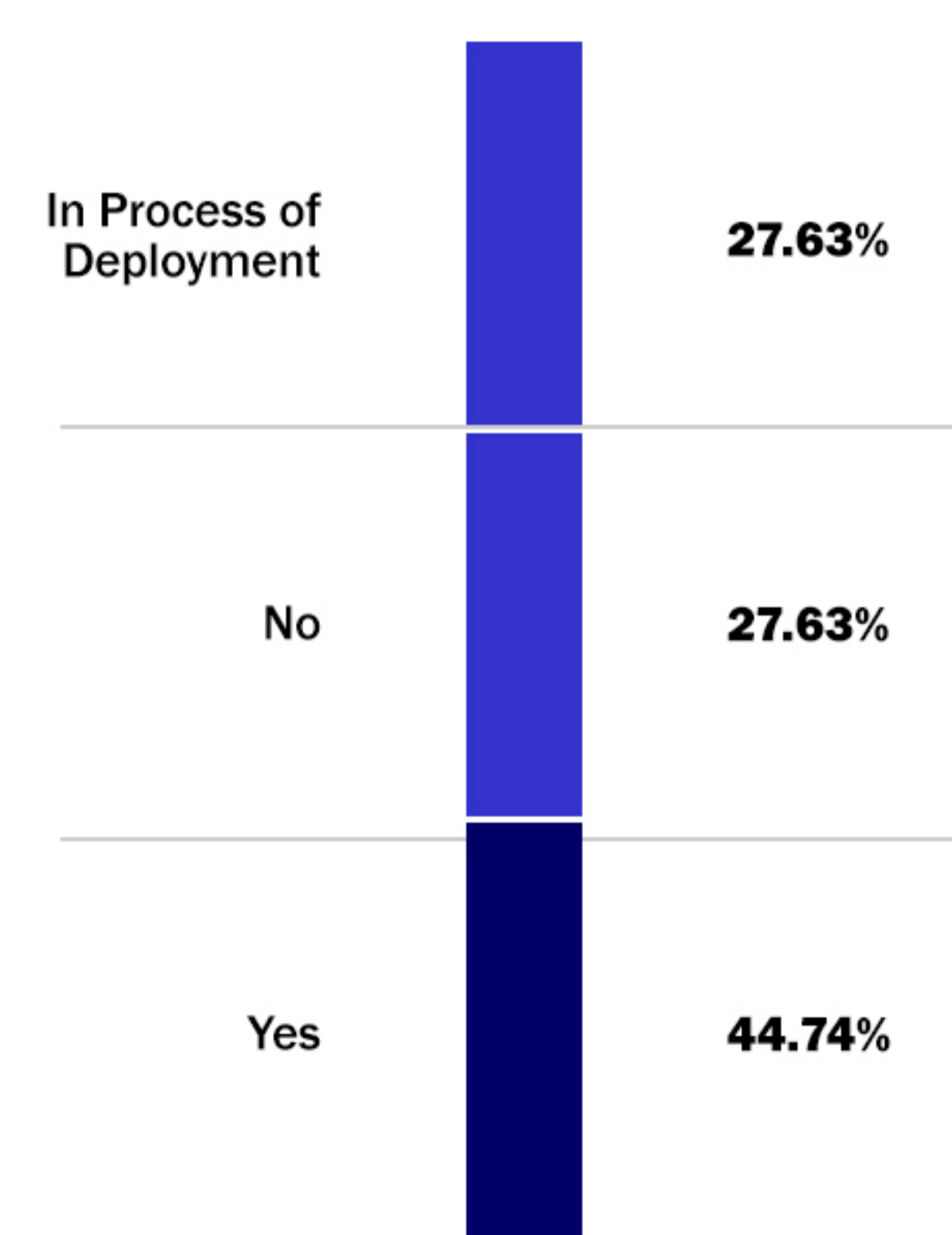
Most companies are in the initial adoption stage, with many exploring or deeply integrating AI.

Stages of AI Adoption in Middle East



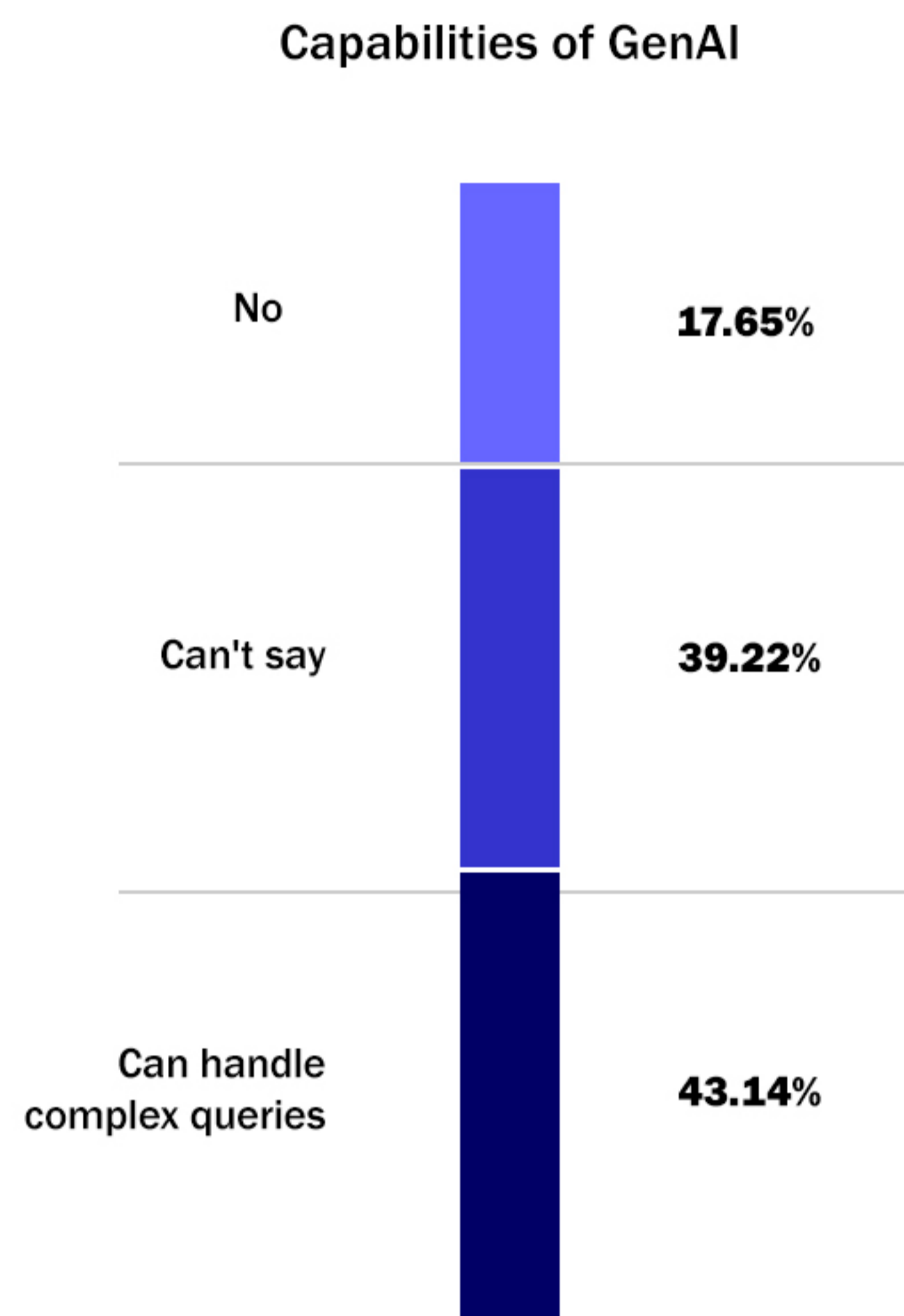
The Middle East presents a fascinating picture of AI adoption. While a significant portion of companies (27.63%) are still in the exploration phase, a strong showing (36.84%) has begun initial adoption. This indicates a growing awareness of AI's potential and a willingness to experiment with its capabilities. Interestingly, a smaller but noteworthy group (13.16%) already achieved deep integration, suggesting a forward-thinking approach in specific sectors.

Use of LLM/SLMs in Processes



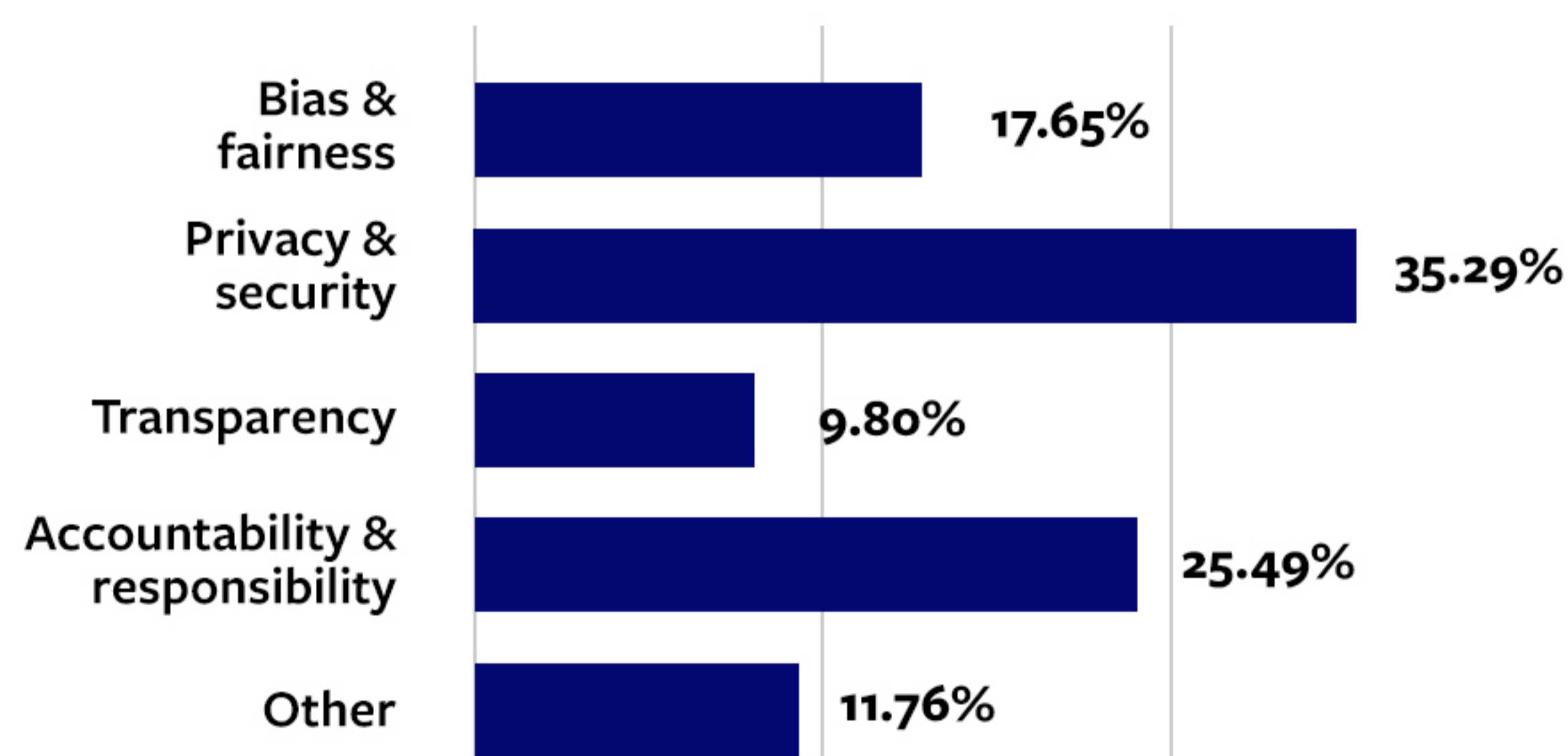


The survey also highlights the growing importance of language models. Nearly half the respondents (44.74%) said their organizations use LLMs or SLMs in customer service or product development. This signifies a focus on improving customer interactions and potentially personalizing product offerings.



It's worth noting that AI solutions still do not universally handle complex customer queries and tasks (43.14% can, while 39.22% cannot). This suggests that while AI makes inroads, human oversight and guidance remain crucial in many situations.

**Ethical Challenges Encountered in Deploying AI/ML Solutions**



The ethical considerations surrounding AI deployment are also a concern, with privacy and security being the biggest worry (35.29%). This aligns with global trends and highlights the need for robust data protection measures and clear user communication.





## CHAPTER - 3

# Understanding LLMs/SLMs and LAMs

### 1. Language Models

Language models (LMs) are a type of artificial intelligence (AI) trained to process and generate human-like language. They are statistical models that analyze vast amounts of text data to understand the relationships between words and predict the most likely sequence of words in a given context.

Businesses are on the brink of a major transformation in the nature of work, with LMs providing automation and enhancement capabilities. This is especially crucial for industries that heavily depend on data processing, customer interaction, and content generation, where LMs can boost efficiency and cost-effectiveness.

#### LLMs vs SLMs

**Large Language Models (LLMs):** These are computationally expensive models trained on massive datasets of text and code. LLMs excel at complex tasks like generating different creative text formats, translating languages, and writing different kinds of creative content. Popular examples include GPT-3 and Jurassic-1 Jumbo. The majority of current LLMs are primarily based on a single type of pretraining, which is contextual word prediction. Despite its simplicity, this learning strategy has proven remarkably successful when paired with extensive training data and model parameters, as demonstrated by well-known LLMs like ChatGPT.

**Small Language Models (SLMs):** SLMs are more lightweight and require less computational power. They are often used for specific tasks like sentiment analysis, speech recognition, and chatbot interactions. While less versatile than LLMs, SLMs can be faster and more efficient for focused tasks.

### 2. Large Action Models: Taking Action in the Real World

Large action models (LAMs) are a different breed of AI. LAMs are designed to take action in the real world based on the information they receive. They are trained on data that includes text, sensor readings, robot movements, and other forms of interaction with the environment.

Here's how LAMs work:

**Learning from Experience:** LAMs are trained through reinforcement learning, receiving rewards for successful actions and penalties for failures. This allows them to learn and improve their ability to navigate the physical world and interact with objects.

**Bridging the Gap Between Perception and Action:** LAMs can process information from various sensors like cameras and LiDAR to understand their surroundings. They use this understanding to plan and execute actions, such as controlling a robot arm or navigating a self-driving car.



### 3. Integration in AI Systems: The Power of Collaboration

LLMs and LAMs are powerful tools, but their true potential lies in their collaboration with AI systems.

Here's how they work together:

**LLMs Understand the Query:** LLMs take center stage when a user interacts with an AI system. They analyze the user's query, understanding its intent and context. This could be a simple question, a request to complete a task, or a complex instruction.

**LAMs Take Action:** Once the LLM grasps the user's intent, it communicates with the LAM. The LLM translates the user's request into a form the LAM can understand, which could involve controlling a device, retrieving information from a database, or manipulating objects in the physical world.

**Seamless User Experience:** The user interacts with a single AI system, unaware of the internal communication between LLMs and LAMs. This collaboration allows the AI system to understand human language and respond with real-world actions, creating a more intuitive and interactive experience.

### 4. How LLMs/SLMs Understand Customer Queries

LLMs and SLMs use different techniques to comprehend customer queries:

**Statistical Analysis:** Both models analyze the sequence of words in the query and their statistical relationships based on their training data. This helps them identify the most likely meaning and intent behind the words.

**Contextual Understanding:** LLMs, with their vast training data, can grasp the broader context of the query. They consider the conversation history, user preferences, and the surrounding situation to derive the most accurate understanding.

**Entity Recognition:** Both models can identify named entities in the query, such as products, locations, or people. This helps them pinpoint the specific subject of the query and tailor the response accordingly.

### 5. How LAMs Execute Action

LAMs rely on several techniques to execute actions based on the LLM's interpretation of the query:

**Mapping Language to Action:** LAMs are trained to translate the user's intent, as communicated by the LLM, into a set of instructions for the physical world. This could involve controlling actuators in a robot, manipulating data in a database, or sending commands to connected devices.

**Real-time Processing:** LAMs often operate in real-time, meaning they process information and take actions as they occur. This allows for dynamic responses to user queries and a more natural interaction.

**Error Handling and Safety:** LAMs are designed with safety protocols to handle unexpected situations and errors. This ensures their actions are safe and do not harm the environment or humans.



## CHAPTER - 4

# Application in E-commerce, Fintech and Telecommunications

### 1. E-commerce and Retail: Personalized Product Recommendations and Streamlined User Experience

**Company:** Life Pharmacy, a retail pharmacy chain in the Middle East (Deep Integration)

**Challenge:** Delivering a personalized shopping experience at scale.

**Solution:** Integrated LLMs/SLMs and LAMs to recommend products based on individual customer purchase history and browsing behavior.

**Success:** Increased customer satisfaction through targeted recommendations and a more efficient shopping journey.

**Comment:** User privacy and compliance with local regulations when discussing data collection for personalization.

### 2. Banking and Finance: Personalized Investment Strategies and Enhanced User Journeys

**Company:** Credit Suisse, a financial services company offering expert investment services, global market solutions, and strategic advisory

**Challenges:**

- › Offering personalized investment advice and streamlining the user experience.
- › Educating users about Gen AI's potential.
- › Ensuring user trust by implementing transparent and accountable AI practices.

**Solution:** Implemented LLMs/SLMs to analyze market trends and customer data, generating personalized investment recommendations. LAMs were used to create a user-friendly interface for accessing financial products and services.

**Success:** Increased customer engagement and investment activity through personalized recommendations and a seamless user journey.

### 3. Telecommunications: Tailored Recommendations and Culturally Sensitive Interactions

**Company:** MTN Group, a Pan-African mobile operator (Initial Adoption)

**Challenge:** Providing a more relevant and engaging user experience

**Solution:** Exploring the integration of LLMs/SLMs to personalize recommendations and tailor interactions based on user preferences.

**Focus:**

- › Transparency in AI practices
- › Cultural sensitivity to ensure the technology resonates with local users.





## CHAPTER - 5

# Leveraging Gen AI for Compliance, Efficiency and Beyond

### Abdelrahman AlSaifi, Head of Operations, CoinMENA

As a crypto exchange operating primarily in the GCC and the broader Middle East, the company aims to simplify the process of on-ramping and off-ramping digital assets in the region, utilizing local currencies to make transactions more accessible.

CoinMENA has been an early adopter of GenAI, beginning its exploration at the beginning of last year. One significant application of AI at CoinMENA is in compliance. Their sector's compliance codes and regulations are extensive and complex, often requiring substantial research to address specific inquiries. To tackle this, CoinMENA developed an in-house language model trained with all relevant compliance data. This model functions as a conversational bot, aiding compliance officers by answering specific regulatory questions, thereby enhancing efficiency and productivity.

**“We have developed an LLM using an open-source LLM and trained it with all our compliance data, so it could answer very specific questions and become a conversational bot that our compliance officers can ask to answer specific questions.”**

ABDELRAHMAN ALSAIFI, HEAD OF OPERATIONS, COINMENA

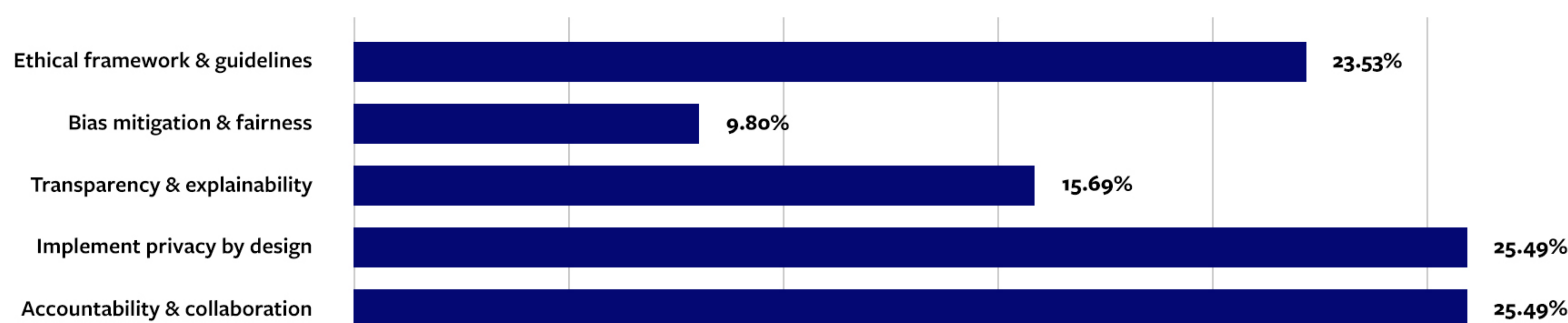
### Derek H., Chief Technology Officer, yallacompare

An insurance broker in the UAE handling substantial premiums and providing tech solutions to B2B clients, yallacompare, employs customized language models and on-demand models for specific business tasks.

Derek H., the Chief Technology Officer at yallacompare, identifies two major challenges in integrating these systems: regulatory compliance and cost.

Given the strict regulations in the insurance industry, the company must ensure that data is securely handled within the country, precluding the use of external AI models like ChatGPT. Additionally, the cost of running powerful local machines to deploy their own LLMs is a significant consideration.

Approaches to Addressing Ethical Concerns





Yallacompore primarily uses LLMs for document scanning and extracting information to reduce human error and save employee time. The extracted data is then contextualized by LLMs, which assist finance advisors in guiding customers towards the best insurance products. This application has notably increased efficiency, allowing the company to redeploy staff to other manual tasks, thus reducing processing costs by about 80%.

Despite the challenges, Derek emphasizes the importance of compliance and transparency in handling data. The company adheres to a stringent checklist of compliance items, consulting with the central bank as needed to ensure regulatory approval.

**“LLMs are going to be in the spotlight for a short period. The next step will be the agents. So, when the artificial agents turn up, they can execute your tasks. So you could just say, please find the customer this and this. Collect the money and issue the documents; the agent will do everything for you.”**

DEREK H., CHIEF TECHNOLOGY OFFICER, YALLACOMPARE

Looking ahead, Derek is skeptical about the long-term prominence of LLMs. Instead, the future is AI agents capable of executing tasks autonomously, such as finding the right products for customers, processing transactions, and issuing documents.

### **Melker Pasternak Ivarsson, Founder of Metacom Platforms**

Metacom Platforms is a value chain management tool designed to help large organizations become more agile, innovative, and aligned. The integration of LLMs and SLMs has greatly enhanced Metacom's operational efficiencies, especially in three key areas: due diligence, content creation, and copywriting.

The automation capabilities of these AI models enable tasks that require text generation and some coding to be performed much faster, effectively giving one person the productivity of five. Specifically, these tools have streamlined writing reports on potential clients by quickly scouting the internet for relevant information, sorting it, and generating comprehensive reports in a fraction of the time it previously took.

### **Impact on Customer Service and Product Development**

LLMs have revolutionized Metacom's customer service and product development. The AI models enhance the speed and quality of communication with customers by generating proposals and structuring user flows more efficiently. This has improved customer proximity and interaction, leading to better service delivery and product alignment with customer needs.

**“Many of the key benefits from implementing LLMs have come from how quickly we can serve the customers since all we have to do is send something as easy as a proposal. We can line out what each section will include, and then it prepares it beautifully. It even helps us a lot with the structure of the user flows and deal flows, and it also helps a lot with the research and speed so that the communication with the customer is greatly improved.”**

MELKER PASTERNAK IVARSSON, FOUNDER OF METACOM PLATFORMS



Looking ahead, Ivarsson is excited about AI advancements that allow for more interactive and precise functionalities, such as AI agents that can operate applications directly on a computer screen, acting as a co-pilot throughout the workday. He anticipates improvements in the AI's ability to remember previous interactions and follow guidelines more accurately, reducing hallucinations and enhancing overall performance.

## Operational Efficiencies and Cost Savings

**Parsa Abbasi, Co-Founder of LiveLiverse and Metacom Platforms**, emphasizes that implementing LLMs has led to substantial cost savings and increased profitability. By leveraging AI for sales and account management, the companies have eliminated the need for a traditional sales force, significantly reducing expenses. AI tools also automate various operations, allowing fewer human resources to achieve more, thus enhancing overall efficiency and productivity.

**“Applications like Flow, Figma, Miro, and Jira, commonly used in companies, need to integrate AI to enhance usability and efficiency, eliminating the need for in-house development.”**

PARSA ABBASI, CO-FOUNDER OF LIVELIVERSE AND METACOM

## Addressing Ethical and Accountability Concerns

Abbasi acknowledges the challenges related to AI accountability and contextual bias. While AI tools significantly reduce the time required for tasks like content creation and due diligence, human editors still need to review and refine AI-generated outputs. He believes that as AI technology advances, it will become even more reliable and capable, surpassing human performance in many areas.

## Adopting AI in Government Operations

Samar Ragab, Business Intelligence Department Director at the Department of Culture and Tourism in Abu Dhabi

The department is in the early adoption phase of LLMs and GenAI. They are developing tailored AI solutions to improve business operations, starting with marketing performance data access via chatbot solutions. The aim is to expand AI applications to procurement, HR, and customer-facing services, enhancing efficiency and service delivery across the board.

## Ethical Frameworks and Data Security

**Ragab** highlights the importance of ethical frameworks and data security in AI operations. The Department of Culture and Tourism in Abu Dhabi has implemented an AI policy to ensure transparency, eliminate biases, and enhance explainability. Given the sensitivity of handling personally identifiable information, using open-source APIs and LLMs within a secure environment is crucial to maintaining data integrity and confidentiality while tailoring AI models to meet specific organizational needs.



**“As a team, we are trying to develop more tailored Gen AI solutions for the business, and that entails capitalizing on AIs, complementing them with some retrieval, augmented generation to make it more specific for the organizational requirements, and then rolling this out to the business. We’re at the very early stages of that. So we’re trying to capture the low-hanging fruits with use cases, for example, in marketing, to allow them to tap into and access their performance data using a chatbot solution.”**

SAMAR RAGAB, BUSINESS INTELLIGENCE DEPARTMENT DIRECTOR AT THE DEPARTMENT OF CULTURE AND TOURISM IN ABU DHABI

Looking forward, Ragab is particularly excited about advancements in multi-modal AI models, such as those introduced by Gemini and GPT-4.0. These models' ability to seamlessly integrate and generate content from text, speech, video, and images opens up vast opportunities for government and private sectors, promising innovative applications and enhanced user experiences.

### **Simba Makahamadze, Founder & CEO Africa, Legal Tech**

Simba Makahamadze discussed his company's innovative use of AI to enhance its legal marketplace platform. Based in Dubai, Africa Legal Tech connects users to lawyers across the African continent, offering a seamless process to find and engage legal services.

The platform has integrated AI, specifically a chatbot, to guide users through finding and engaging lawyers. Simba noted the challenges in training the chatbot, particularly ensuring it understands the diverse legal landscapes of different African jurisdictions. Over time, AI has improved significantly, displaying depth of understanding and emotional intelligence during interactions.

**“The platform offers a free consultation approach where you can ask a few questions before you engage a lawyer. Besides that, we have trained the chatbot to understand the African legal landscape based on different jurisdictions. And then to also understand the content we have from different African countries on the platform, understand the procedure of engaging a lawyer, talking to a lawyer, getting advice from a lawyer.”**

SIMBA MAKAHAMADZE, FOUNDER & CEO AFRICA LEGAL TECH

Makahamadze highlighted the operational efficiencies gained from AI, including cost reduction and enhanced client support. He expressed excitement about AI's potential to handle routine legal tasks, allowing lawyers to focus on more complex issues, thereby transforming the legal industry.

### **Tania Tasopoulou, Founder, OrgDesignWays**

The recently launched startup aims to provide companies with tools to better manage their workforce and technology, thereby increasing efficiencies.

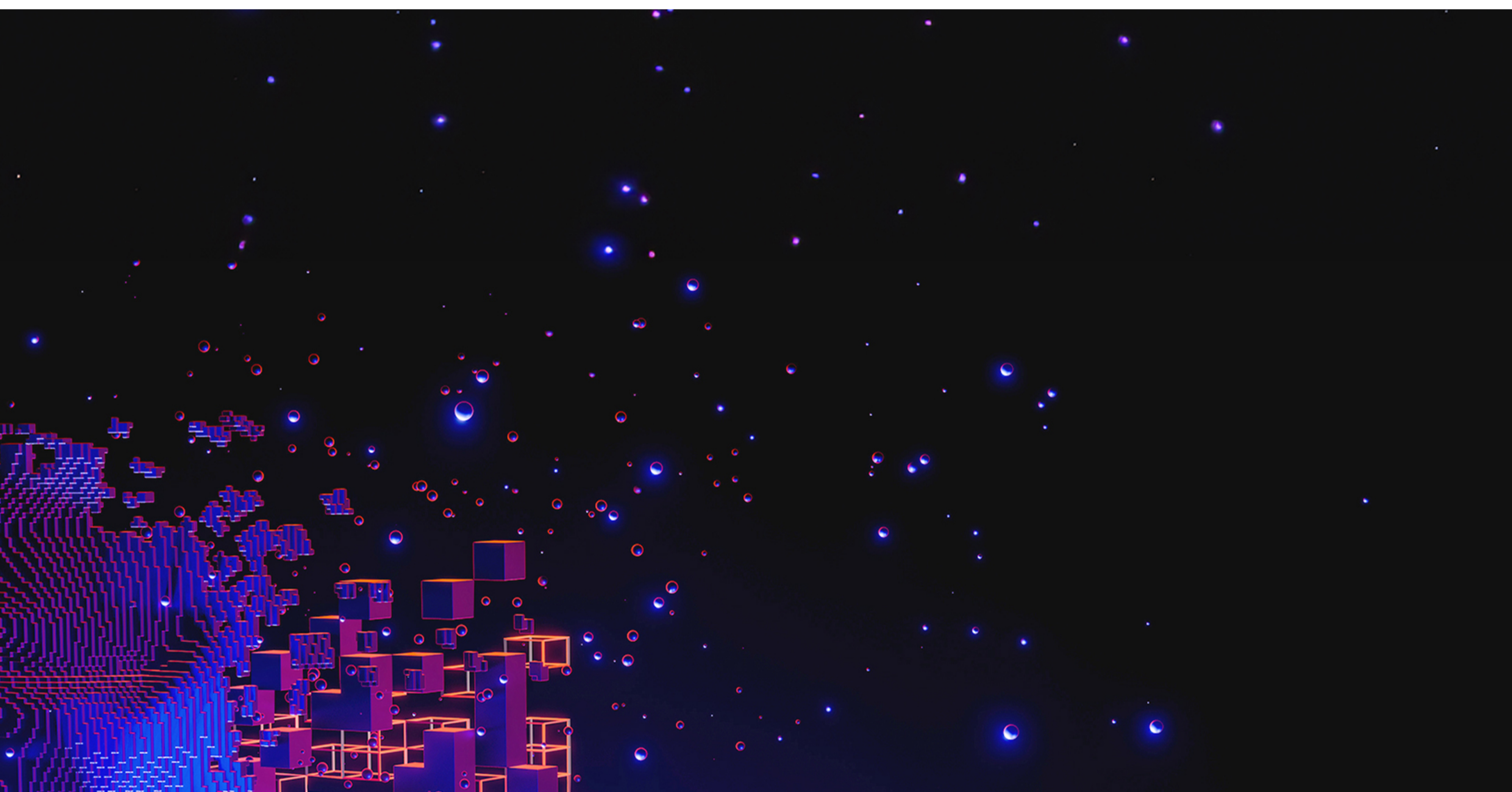


Tasopoulou sees GenAI as a revolutionary technology that will fundamentally change how organizations function. She envisions a future where AI agents and gig economy workers are integral parts of the workforce, necessitating new organizational structures and continuous development plans for human employees and AI agents.

**“The idea of creating my company came from understanding the transformative capabilities of Generative AI. In my 30 years of professional experience, I have never seen a technology with such potential to fundamentally change the way organizations operate. For the first time, organizations can move beyond traditional job titles, hierarchical structures, and rigid roles.”**

TANIA TASOPOULOU, FOUNDER, ORGDESIGNWAYS

Tasopoulou emphasized the importance of continuous learning and staying updated with the latest advancements to stay ahead in adopting and implementing these technologies.





## CHAPTER - 6

# Localized Frameworks for Actionable AI in the Middle East

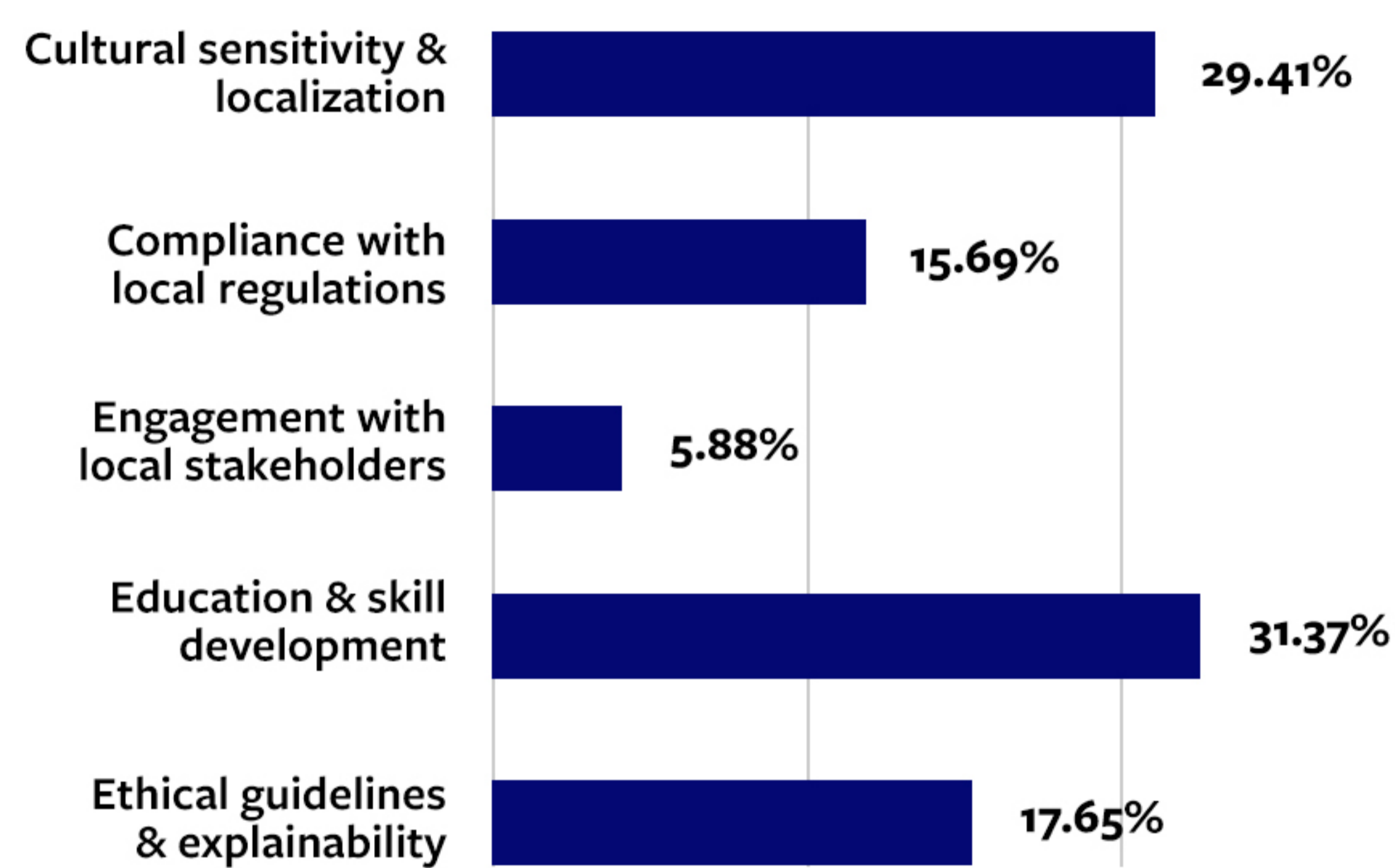
The success of AI implementation hinges on technical prowess, cultural understanding, and regional compliance. This chapter explores the critical considerations for building and deploying localized AI frameworks within the Middle East.

**Engagement with Local Stakeholders:** Active collaboration with local businesses, government bodies, and cultural experts is crucial. This provides insights into:

**Regulatory Landscape:** Understanding local data privacy regulations and consumer preferences for data usage.

**Ethical Considerations:** Aligning AI development with regional values and addressing potential biases.

Best Practices for Implementing Actionable Gen AI



### Compliance and Regulations

Navigating the legal landscape is paramount for responsible AI implementation. Here's what to consider:

**Data Privacy:** The Middle East has evolving data privacy regulations. Ensure compliance with laws like the UAE's Personal Data Protection Law.

**Transparency and Explainability:** Regulatory bodies may require explainability in AI decision-making processes, particularly for high-stakes applications.

### Localization and Cultural Sensitivity

**Adapting AI Models:** AI models trained on generic datasets may underperform in the Middle East due to linguistic nuances, cultural references, and unique consumer behaviors.

Here's how to localize:

**Language Focus:** Utilize high-quality Arabic datasets encompassing various dialects to enhance translation accuracy and avoid unintended biases.

**Culturally Aware Training:** Integrate cultural context into training data. This includes understanding humor, idioms and references specific to the region.

### Examples of Regional Compliance:

**The Kingdom of Saudi Arabia:** National Data Strategy emphasizes user control over personal information. AI models must adhere to these principles.

**The United Arab Emirates:** AI Ethics Principles promote fairness, accountability, and transparency in AI development.



## CHAPTER - 7

# Astra Tech's AI-Driven Initiatives and Future Prospects

In the Middle East, Astra Tech is spearheading the integration of advanced AI technologies to innovate and deliver transformative solutions.

### Integration and Implementation of LLMs/SLMs

A combination of in-house customized LLMs and SLMs, alongside on-demand models, are employed to address specific business needs, such as analyzing customer behavior and preferences, which helps deliver highly personalized services.

**Challenges and Solutions:** Integrating LLMs/SLMs into existing systems presented challenges such as ensuring data privacy, managing computational resources, and aligning the models with our business objectives. However, through rigorous testing and continuous optimization, Astra Tech has successfully navigated these challenges.

### Testing and Real-World Application

The performance of LLMs/SLMs is evaluated through real-world applications in customer service and product development. Key metrics include:

**Accuracy:** Precision in handling complex queries and generating relevant responses.

**Response Time:** Efficiency in delivering timely solutions.

**User Satisfaction:** Enhancement of the overall user experience.

A notable case study involves the implementation of LLMs in the customer support system, which significantly improved the handling of complex queries and reduced bias. This led to enhanced customer satisfaction and operational efficiency.

### Operational Efficiencies

LLMs/SLMs have enhanced its operational efficiencies by automating routine tasks, generating actionable insights, and streamlining workflows. For example, the deployment of AI models has optimized customer service interactions, leading to faster response times and more accurate resolutions. In product development, AI has helped iterate and refine features based on user feedback and predictive analytics, accelerating the innovation cycle.

### Monetization and Financial Gains

By deploying custom AI models, the company has not only improved service delivery but also achieved direct financial gains. The flexibility and cost savings from in-house LLMs have better aligned offerings with market demands, leading to increased revenue.



## Ethical Frameworks and Governance

Astra Tech is committed to maintaining transparency in AI operations through robust ethical frameworks. This includes stringent data privacy measures and ongoing efforts to minimize bias in AI-driven interactions.

## Future Prospects and Innovations

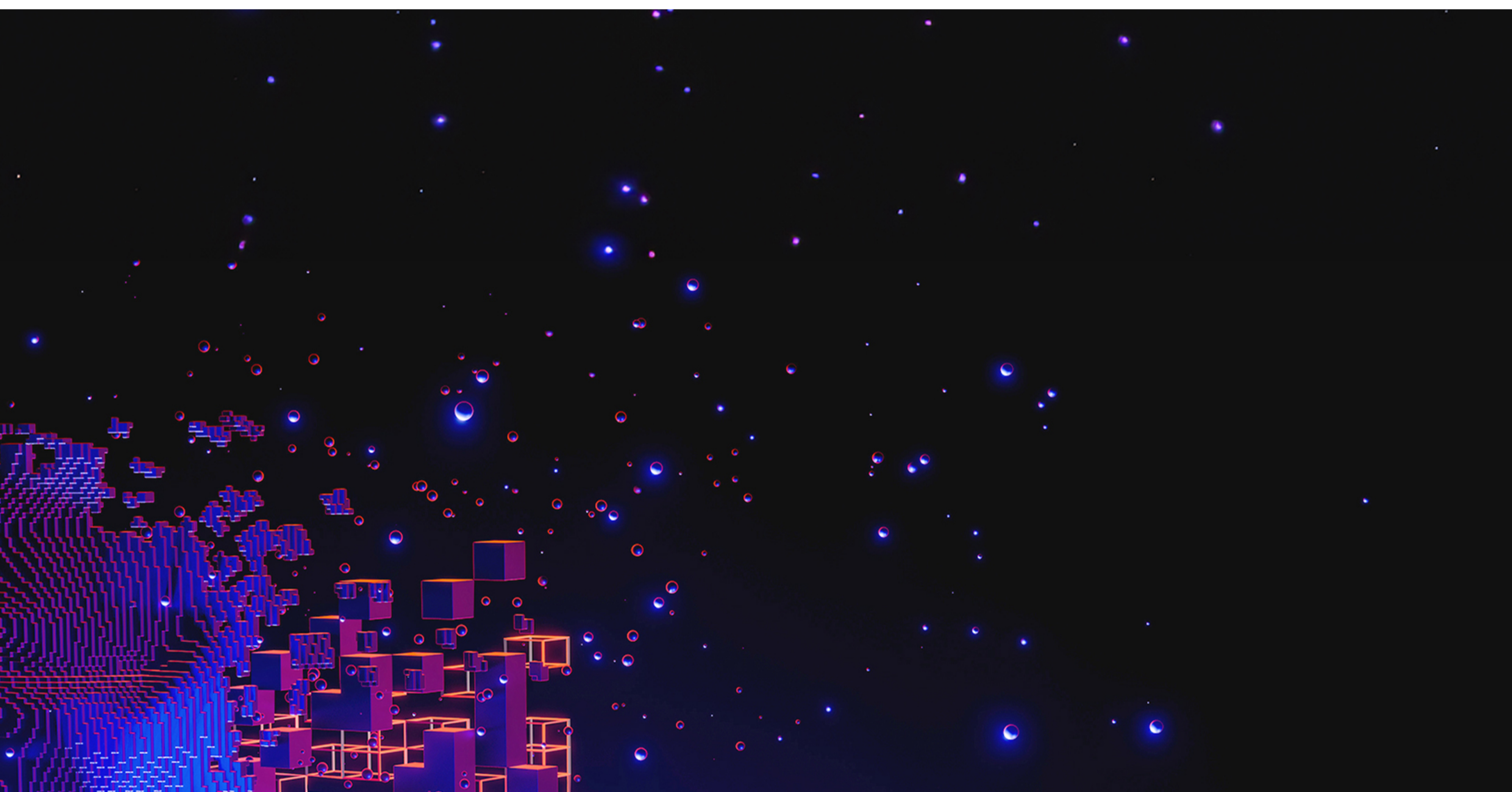
The company is exploring the potential advancements in LLMs/SLMs, particularly in enhancing conversational AI and integrating AI-driven predictive analytics.

## Key AI-Driven Initiatives

**Botim Ultra App:** The world's first Ultra app, combining fintech, e-commerce, and communication services. Botim leverages AI to offer peer-to-peer transactions, international transfers, conversational commerce, and advanced video services such as tutoring and telemedicine.

**CharityGPT:** An innovative feature allowing users to make charitable donations through simple text commands, demonstrating AI's potential for social good.

**Partnerships with Industry Leaders:** Collaborations to integrate AI-powered financial services, expanding our offerings and enhancing user convenience.







## CHAPTER - 8

# User Interaction with Gen AI Systems

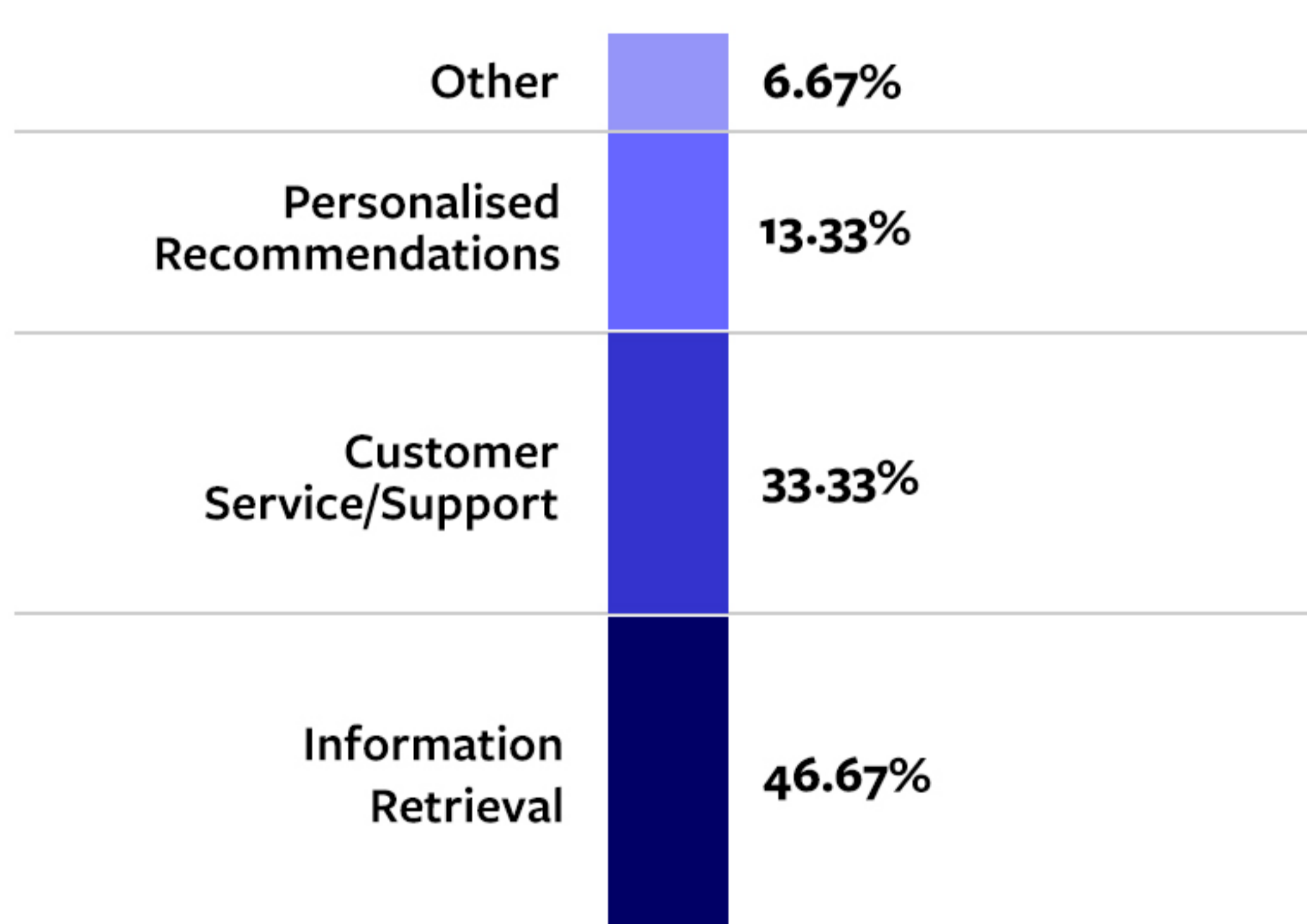
Understanding user satisfaction and addressing challenges are pivotal for improving technology adoption and user experience.

Survey data provides valuable insights into user interactions with AI-powered features, highlighting their satisfaction levels, challenges faced, and potential avenues for improvement. These findings underscore AI's versatility in enhancing efficiency and accessibility across various domains, from online assistance to personalized customer service solutions.

While AI has made significant strides in meeting user demands, a clear opportunity remains to refine functionalities to achieve higher satisfaction levels across diverse user demographics. These challenges present avenues for innovation, encouraging the development of more sophisticated AI algorithms and frameworks to elevate performance and reliability.

Organizations can optimize user interaction with AI by prioritizing these improvements, fostering deeper integration and usability. Additionally, prioritizing privacy measures and enhancing transparency in AI operations are imperative for building and maintaining user trust.

Types of Interactions with



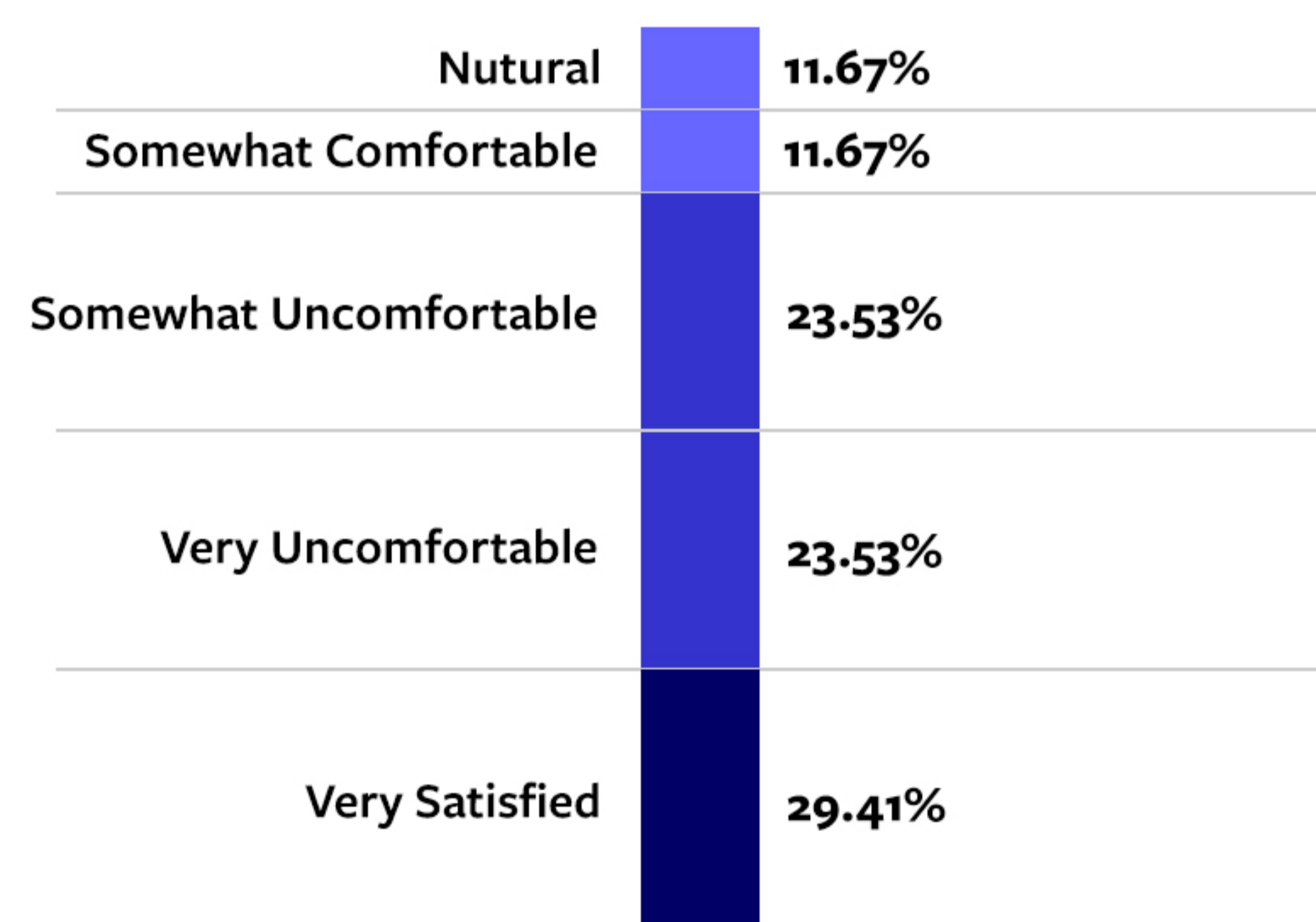
### Types of User Interactions

According to the survey, the predominant interactions with AI-powered features include:

**Information Retrieval:** 46.67% of users engage AI to retrieve information, showcasing its role as a primary utility for knowledge dissemination.

**Customer Service/Support:** 33.33% rely on AI for customer service interactions, highlighting its integration into daily business and consumer interactions.

User Satisfaction Levels



### User Satisfaction Levels

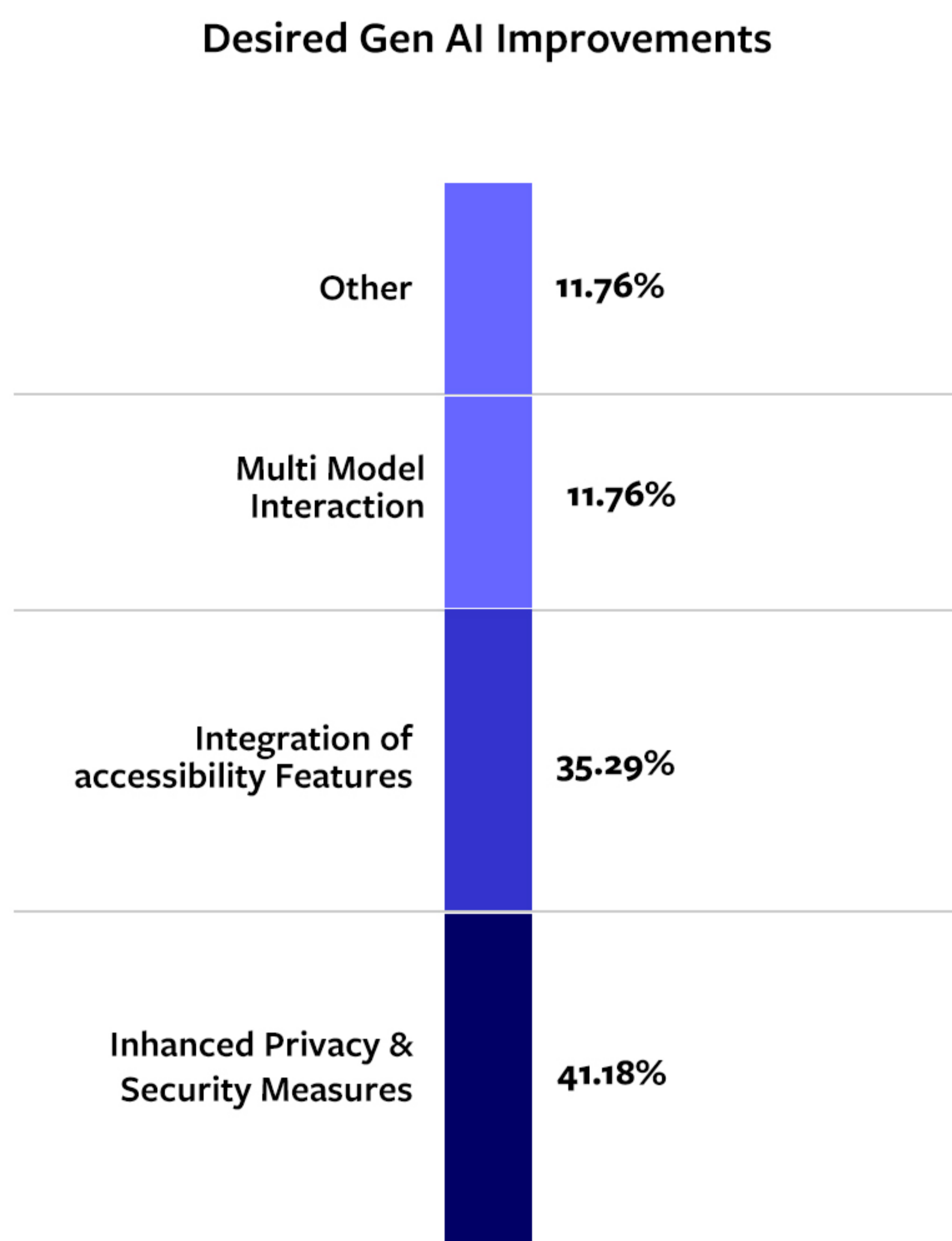
Understanding user satisfaction is crucial for gauging AI's impact:

**Very Satisfied:** 29.41% express high satisfaction with AI tools, reflecting positive user experiences and effective implementation.

**Somewhat Satisfied:** A majority (47.06%) are somewhat satisfied, indicating room for enhancement in meeting user expectations and needs.



## Challenges and Opportunities



Addressing challenges identified by users is pivotal for advancing AI capabilities:

**Bias and Inaccuracy:** 35.29% cite bias and inaccuracies as significant issues, necessitating robust measures for algorithmic fairness and accuracy improvements.

**Complex Query Handling:** Similarly, 35.29% highlight challenges in handling complex queries, emphasizing the need for enhanced natural language processing (NLP) capabilities.

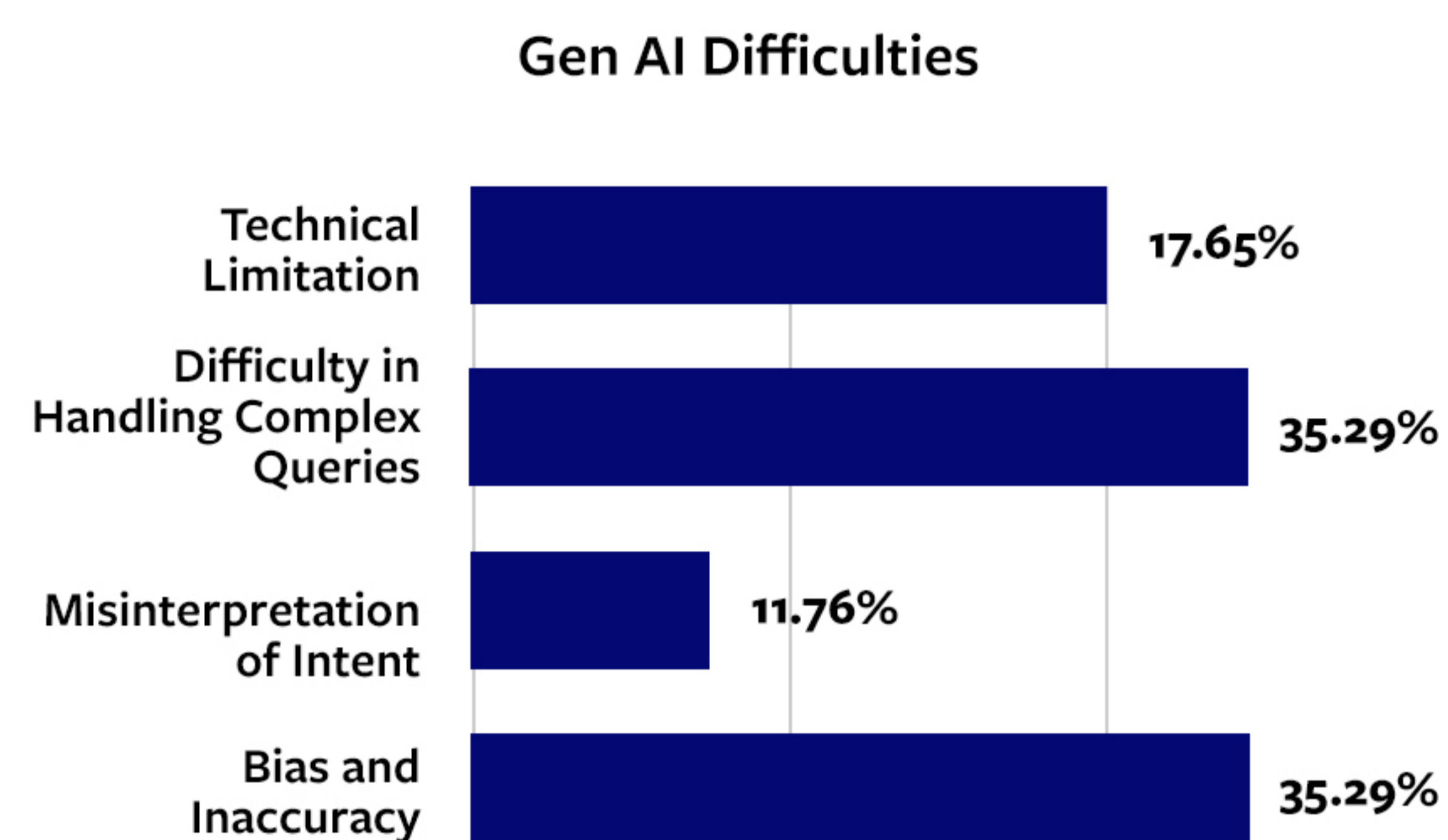
### Enhancing User Experience

Improvement areas crucial for enhancing user experience include:

**Personalized Experiences:** Leveraging AI for tailored user interactions and content delivery to enhance engagement and satisfaction.

**Seamless Integration:** Integrating AI features seamlessly into existing workflows to streamline operations and improve user efficiency.

## Security, Privacy, and Transparency



User comfort and concerns regarding AI usage are critical considerations:

**Comfort Levels:** 29.41% of users are very comfortable with AI handling personal information, while 23.53% express discomfort, highlighting the need for transparent data handling practices.

**Transparency:** A significant majority (70.59%) believe companies lack transparency in disclosing AI usage, indicating a growing demand for clearer communication and accountability.

The survey indicates that AI models have progressed beyond just buzzwords and are now being used to support many different purposes in the Middle East. This trend is expected to continue growing. The increasing use of language models for tasks like automation, customer service, and product development is likely to have a significant impact on the expansion of this field. The benefits of these advancements can extend beyond just meeting specific goals, like saving costs. By using AI strategically, businesses can achieve even greater value, such as creating improved customer experiences or gaining a competitive edge.

In conclusion, the Middle East's AI landscape is one of cautious optimism. Companies are actively exploring and adopting AI, with some achieving deep integration. Language models are gaining traction, and complex tasks are being tackled by AI in a growing number of cases. However, ethical considerations, particularly around privacy, require careful attention. By navigating these challenges effectively, the Middle East can unlock the full potential of AI and position itself as a leader in responsible AI adoption.



The Middle East is experiencing a transformative shift with the adoption of AI, positioning itself as a leader in technological innovation. AI has the potential to revolutionize various sectors, including healthcare, finance, telecommunications, and education, by providing more efficient, personalized, and scalable solutions. The integration of AI enhances operational efficiencies and drives economic growth and diversification, aligning with the region's vision for a digital and sustainable future.

At Astra Tech, we are deeply committed to advancing AI technologies and establishing our role as a pivotal player in the AI ecosystem within the Middle East. Our mission is to leverage AI to create innovative solutions that simplify everyday tasks, enhance user experiences, and drive inclusive growth. By integrating AI into our Ultra app, Botim, we aim to provide seamless communication, financial services, and e-commerce solutions, thereby addressing the needs of a diverse user base across the region.

Our collaboration with MIT Sloan SMR Middle East on this whitepaper underscores Astra Tech's dedication to leveraging AI for transformative impact. We are committed to driving the AI agenda in the Middle East, ensuring that our innovations contribute to a more connected, efficient, and inclusive digital future.

**Hassan Alnoon**

SENIOR VICE PRESIDENT - TECH

ASTRA TECH

---



## Appendix

### Participating Companies

The participating companies represent a diverse range of industries in the UAE, including:

#### Technology

Cloud4C, Kinverg, Bepin Global MEA, Ibtechar Digital Solutions, Astra Tech, Tomoro.ai, Norconsult Telematics, Birlasoft

#### Finance

Emirates NBD, Mashreqbank Plc, Abu Dhabi Commercial Bank, Scripbox Advisors, Alior Bank S.A., Dubai Holding, National Bank of Abu Dhabi, First Gulf Bank, Wio Bank, Metacom Platforms, CIB, Black Wolf Investment

#### Government

Ministry of Education UAE, Abu Dhabi Early Childhood Authority, Department of Culture and Tourism Abu Dhabi

#### Regulator

VARA - Dubai

#### Healthcare

Aster DM Healthcare, PureHealth

#### Retail & E-commerce

Landmark Group, Rabbit, Sharaf DG, Al Futtaim, AWRostamani, CoinMENA, Reckitt Dubai

#### Transportation & Logistics

VMG, Explorance Corp., Quiqub

#### Media & Entertainment

Shemaroo Entertainment Ltd India, Leapfrog

#### Insurance

B4E Insurtech Inc

#### Professional Services

Gentry and Curry Associates, Dale McDonald Associates, Berg Hunter Trading, McKinsey & Company

#### Others

Gems Education, Classis Travel And Tour

---