A fear of missing out and a fear of messing up : A Strategic Roadmap for ChatGPT Integration at Work

Kevin Lee, Director of Data Innovation at Karuna Therapeutics

ABSTRACT

Does your organization allow ChatGPT at work? The answer might depend on where you work. Many organizations do not allow ChatGPT at work. The truth is that for the organizations, ChatGPT is a fear of missing out and a fear of messing up. But, just like any other past new technologies such as Cloud computing and social media, the organizations eventually integrate ChatGPT or other Large Language Model (LLM). This paper is for those especially Biometrics who want to initiate ChatGPT integration at work.

This paper presents how Biometric department can lead the integration of LLM, focusing on the exemplary model ChatGPT, across an entire enterprise, even in situations where the organization restricts or prohibits ChatGPT usage at work.

The roadmap outlines key stages, starting with an introduction to LLM and ChatGPT, followed by potential risks and concerns and the benefits and diverse use cases. The roadmap will emphasize how Biometrics function leads the building of a cross-functional team to initiate ChatGPT integration and build the policy and guidelines. Then, the roadmap discusses the crucial aspect of training, emphasizing user education and engagement based on company polices. The roadmap finishes with a Proof of Concept (PoC) to validate and evaluate the ChatGPT's applicability to organizational needs and its compliance to company policies.

This paper can serve as a valuable resource navigating the implementation journey of ChatGPT, providing insights and strategies for successful integration, even within the confines of organizational limitations on ChatGPT usage.

Introduction of Gen AI

Generative AI (Gen AI) utilizes trained Machine Learning models to create entirely new content based on prompts. Gen AI is rapidly gaining importance and popularity in all the industries, and its revenue is expected to increase from $137B in 2024 to $900 in 2030.

Gen AI could generate various outputs.
- Text : Content Writing, Chatbots, Assistants, Search
- Code : Code Generation, Data Set Generation
- Image : Image Generation, Image Edit
- Audio : Voice Generation/Edit, Sound creation, Audio Translation
- Video : Video Creation/Edit, Voice Translation, Deepfake

Introduction of ChatGPT

ChatGPT is one of the most popular Gen AI, and it is developed by OpenAI. It is trained on large corpus of text about 300B tokens, and its main strength lies in the following.
- The ability to generate human-like response in various contents.
- The ability to understand and generate content in a wide range of domains.

Fear of missing out and fear of messing up

Gen AI and ChatGPT are known to increase the productivity of workforces, but some companies ban the usage of Gen AI, especially ChatGPT at workplace. The reasons are varied, but below are the most popular reasons.
- Risks and Concerns using Gen AI and ChatGPT
- A lack of understanding of Gen AI and ChatGPT Use Cases

So, the company has a fear of missing out the big opportunities, but at the same time has a fear of messing up their Intellectual properties. Eventually the companies will embrace this new technology fully just like in Cloud computing and internet. To help Gen AI and ChatGPT implementation safely, the paper will introduce Gen AI Implementation roadmap.

Gen AI (e.g., ChatGPT) Implementation Roadmap

Starting the implementation of Gen AI and ChatGPT at work requires a strategic and systematic approach. The first crucial step involves the Identification of Risks and Concerns, laying the foundation for a comprehensive roadmap that ensures a successful integration of ChatGPT into your workplace, and below could be integration steps.
- Identification of Risks and Concerns.

- Identification of Benefits and Use Cases.
- Building Cross-functional Team
- Developing Policies and Guidelines
- Conducting Proof of Concepts
- Evaluation
- Providing Educations and Trainings

Gen AI Implementation Cross-functional Team / Governance Body
Once roadmap is planned, the companies need to assemble Gen AI / ChatGPT implementation cross-functional team. This team not only executes implementation, but also follows through change-management and manages post-implementation. Team could consist of the following, but not limited to.
- Biometrics
- IT
- QA
- Data Privacy
- Legal
- Regulatory
- Leadership

Risks and Concerns in Gen AI / ChatGPT Usage
Before implementing AI at work, the companies need to gauge the possible risks from AI like the following:
- Data Privacy
- Bias
- Regulatory Compliance
- Ethical Consideration
- Black Box Feature
- Resources
- Lack of Expertise
- Cost vs ROI

Data Privacy
Data Privacy is the right of a person to have control over how their personal information is collected and used such as Clinical Trial patients' data. Since AI is built using data, AI algorithms can contain sensitive information from data that AI used for its training. So, the growth of AI (e.g., ChatGPT) has increased the possibility of using sensitive data in ways that may violate data privacy.

Bias in AI
Bias can occur when AI algorithms produce results that are prejudiced due to wrong assumptions or data. For example, Amazon AI recruiting engine show a bias on women since AI model was trained to vet applicants using 10 years of resume, and most of training data came from men, so AI model tend to vet women than men.

Regulatory Compliance
Regulatory Compliance is the process of adhering to laws, regulations, standards, and other rules set by governments and other regulatory bodies (e.g., FDA, EMEA). In the Life Science Industry, for pre-market approval, AI-based software needs to follow regulatory guidelines (e.g., Good Machine Learning for Medical Device Development Guiding Principles).

Ethical Consideration
There are many questions on how AI can be used with humans. Below could be questions on how AI could be managed and controlled.
- Who will make the final decision? AI or humans?
- Can AI be responsible for their decisions?
- Is AI transparent?

Benefits and Use Cases in Gen AI / ChatGPT Usage
Gen AI can unlock a new level of efficiency and opportunities in the Pharmaceutical Industry. Below is the list of use cases where Gen AI and ChatGPT could be leveraged.

- Research & Discovery
    - Scientific Knowledge Extraction
    - Compound Screening
    - Molecular Optimization and Design
- Clinical Development

- Trial Performance Copilot
- Major Content Generation
- Smarter Data Management / Analysis
- Operation
    - Supply Chain Optimization
    - QA Process Efficiency
- Commercial
    - Personalized Content Generation
    - Better Communication
    - Strategic Insight Generation
- Medical Affairs
    - Medical Content Generation
    - Quick Analysis on Scientific Knowledge
    - Better Quicker Medical Communication

Policies and Guidelines

After the companies identify possible risks in the usage of Gen AI / ChatGPT, Gen AI Implementation / Governance team need to develop polices and guidelines to mitigate those risks.

- Data Privacy
    - The company needs to protect and control the confidential information collected, processed, and utilized by AI System.
    - Sample Policies to protect data privacy in AI
        - Don't share sensitive data in AI
        - Be cautious of what you share online
        - Stay anonymous
        - Data Encryption using Secure Socket Layer (SSL) or Transport Layer Security (TLS)
- Regulatory Compliance
    - Companies need to understand regulatory policy.
    - FDA stated "AI/ML will undoubtedly play a critical role in drug development, and FDA plans to develop and adopt a flexible **risk-based regulatory framework** that promotes innovation and protects patient safety."
    - FDA Policies
        - General Data Protection Regulation (GDPR)
        - Good Practice (GxP)
        - Code of Federal Regulation (CFR)
        - Health Insurance Portability and Accountability Act (HIPAA)
- Secure Data Storage
    - Security of Data Storage and Data Processing : GxP compliant
    - Access Control of Data and Gen AI (e.g., ChatGPT)
    - Data Anonymization and Pseudonymization
- Secure Access to Gen AI
    - Access Control of Data and Gen AI / ChatGPT
    - Strong User Authentication Mechanism (e.g., Multi-factor Authentication)
    - Audit Trail of user interaction with Gen AI / ChatGPT
    - Regulatory Security Audits on Gen AI / ChatGPT
    - Data Privacy Impact Assessment by Gen AI / ChatGPT
    - Enterprise license in Gen AI (e.g., ChatGPT Enterprise)
        - Enterprise-grade Security & Privacy
        - OpenAI does not train on enterprise business data
        - All conversations are encrypted
        - Compliance on CCPA, GDPR, SOC2, SOC3
        - Enterprise Security Trust Portal

Training and Education

Once policies and guidelines are developed, the companies need to train their employees so that employees properly use Gen AI or ChatGPT in their workflow. The education on how to use Gen AI at work benefits the company in the following ways,
- Correct and compliant usage of Gen AI at work
- Increase in a productivity
- Career growth on employees
- Cultural shifts in advancement and innovation

Proof of Concept Project and Evaluation

The implementation of Gen AI or ChatGPT is not the end of the project. The era of Gen AI just started at the company. The companies need to evaluate how the implementation has been going, such as checking any data privacy or compliance issues.   In addition, the companies need to conduct proof of concept project for certain subjects and evaluate the return of investment on these projects.

CONCLUSION
In conclusion, the implementation of Gen AI or ChatGPT presents a transformative opportunity for enterprises seeking enhanced communication and productivity. The outlined roadmap guides organizations through a structured approach, from initial introduction to the thorough evaluation of Gen AI implementation success. By acknowledging and addressing potential risks and concerns, capitalizing on a diverse range of benefits and use cases, fostering a cross-functional team for the implementation and governance, and establishing robust policies and guidelines, enterprises can harness the full potential of Gen AI. The emphasis on comprehensive training and the integration of Proof of Concept (PoC) further ensures a successful and adaptive Gen AI implementation for the enterprise and employees. As organizations venture into the realm of Gen AI, this paper can serve as a strategic resource, offering insights and considerations to pave the way for a seamless and impactful Gen AI (e.g., ChatGPT) integration across the entire enterprise.

REFERENCES
- ChatGPT OpenAI in https://chat.openai.com
- Gen AI in https://en.wikipedia.org/wiki/Generative_artificial_intelligence

CONTACT INFORMATION
Your comments and questions are valued and welcomed. Please contact the author at

Kevin Lee
Director of Data Innovation at Karuna Therapeutics
kevin.lee@karunatx.com

TRADEMARKS
SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.

® indicates USA registration. Other brand and product names are registered trademarks or trademarks of their respective companies.