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REZNIKOV Roman
Intellias Global Limited
https://orcid.org/0000-0001-5581-5651
e-mail: 4724622@gmail.com

PRACTICAL RECOMMENDATION OF USING GENERATIVE AI IN BUSINESS

Generative Artificial Intelligence (GenAI) is transforming the economic landscape by introducing innovative solutions that significantly enhance business efficiency, drive innovation, and create competitive advantages. This article delves into the economic implications and practical applications of GenAI across various business domains, including marketing, customer support, product design, and data analysis. By leveraging advanced AI models, companies can automate routine tasks, generate personalized content, and optimize operations, leading to substantial economic benefits. The implementation of GenAI necessitates a systematic approach, starting with business concept validation and progressing through stages of technical solution identification, proof of technology, and project planning. These stages ensure that AI solutions are economically viable, effective, and aligned with business objectives. Businesses can adopt different strategies to integrate GenAI, ranging from the rapid deployment of third-party applications to the development of customized in-house models. Each approach offers unique economic benefits, balancing customization and control with implementation time and value.

This article provides practical recommendations for strategy of implementing Generative AI, emphasizing the importance of careful economic analysis, stakeholder engagement, and continuous improvement. By adopting a structured approach and selecting the appropriate integration strategy, businesses can harness the transformative power of GenAI. This enables them to innovate and thrive in an increasingly competitive economic environment, positioning themselves as leaders in the digital age.

Keywords: Business, Generative AI, Business Applications, Economic Impact, Business Strategy.

РЕЗНІКОВ Роман
ТЗОВ «ІІТ «Intellias»,

ПРАКТИЧНІ РЕКОМЕНДАЦІЇ ЩОДО ВИКОРИСТАННЯ GENERATIVE AI В БІЗНЕСІ

Генеративний штучний інтелект (GenAI) змінює економічний ландшафт, впроваджуючи інноваційні рішення, які значно підвищують ефективність бізнесу, стимулюють інновації та створюють конкурентні переваги. Ця стаття розглядає економічні наслідки та практичні застосування GenAI у різних бізнес-сферах, включаючи маркетинг, підтримку клієнтів, дизайн продуктів та аналіз даних. Використовуючи передові моделі штучного інтелекту, компанії можуть автоматизувати рутинні завдання, створювати персоналізований контент і оптимізувати операції, що призводить до значних економічних переваг. Впровадження GenAI вимагає систематичного підходу, починаючи з перевірки бізнес-концепції та проходячи через етапи ідентифікації технічного рішення, підтвердження технології та планування проекту. Ці етапи забезпечують економічну життєздатність, ефективність та відповідність рішень штучного інтелекту бізнес-цілям. Бізнес може використовувати різні стратегії для інтеграції GenAI: від швидкого впровадження сторонніх додатків до розробки кастомізованих внутрішніх моделей. Кожен підхід пропонує унікальні економічні переваги, збалансовуючи кастомізацію та контроль з часом впровадження та цінністю. Ця стаття надає практичні рекомендації для стратегії впровадження GenAI, наголошуючи на важливості ретельного економічного аналізу, залучення зацікавлених сторін та безперервного вдосконалення. Прийнявши структурований підхід і обравши відповідну стратегію інтеграції, бізнес може використати трансформаційну силу GenAI. Це дозволить організаціям інноваційно розвиватися та процвітати в умовах зростаючої конкуренції, займаючи лідируючі позиції в цифрову епоху.

Ключові слов: генеративний штучний інтелект, бізнес-застосування, економічний вплив, бізнес-стратегія, бізнес.

INTRODUCTION

Modern global economic trends are inextricably linked to digitalization and smartization, which enhance the efficiency and competitiveness of companies in the global market. Artificial intelligence plays a key role in these processes by providing automation, big data analysis, and the creation of innovative solutions, enabling companies to quickly adapt to changes and remain leaders in the context of the Fourth Industrial Revolution [1]. In recent years, generative artificial intelligence (AI) has transitioned from a futuristic concept to a transformative force across various industries. This technology, which includes models like Generative Adversarial Networks (GANs) and large language models (LLMs), has demonstrated unprecedented capabilities in creating content, predicting trends, and automating complex processes. Businesses are increasingly leveraging generative AI to enhance their operations, drive innovation, and gain competitive advantages. The integration of generative AI into business practices is not merely a technological upgrade but a strategic shift. Enterprises are utilizing these advanced models to revolutionize product design, marketing strategies, customer engagement, and decision-making processes. From generating realistic synthetic data for training other AI systems to creating personalized marketing content at scale, the applications of generative AI are diverse and far-reaching. This article explores the practical usage of generative AI in the business realm, examining its impact on various sectors, the benefits it offers, and the challenges it poses. In addition to analyzing real-world examples and case studies, we will provide practical recommendations on how businesses can effectively implement generative AI technologies. The aim of the article is to equip business leaders

and practitioners with actionable insights to harness the full potential of generative AI, enabling their companies to innovate and thrive in an increasingly competitive environment.

LITERATURE REVIEW

Generative AI is transforming various sectors by enhancing business processes and decision-making. In works [2, 3], general directions for the possible use of AI tools, particularly generative ones, to support decision-making processes and manage the behavior of economic agents in enterprises are presented, as well as the directions for obtaining economic benefits from the implementation of AI. In the study [4] highlights the applications of generative AI in software product management, such as idea generation and automatic code generation, while also addressing ethical concerns. Another significant work [5] demonstrates the use of ChatGPT in compiling research and brainstorming, showing its practical benefits in business scenarios. The paper [6] explores the integration of generative AI in business management, emphasizing its creative and logical capabilities. In the work [7] authors discusses AI's role in automating tasks and enhancing strategic decision-making. These studies collectively underline the profound impact of generative AI on improving efficiency, reducing costs, and supporting strategic business decisions. Generative AI continues to show significant potential in various business sectors, enhancing marketing, trade, and healthcare processes. The paper [8] explores the benefits of generative AI in hyper-personalization and customer experience, highlighting the automation of content and improvement of customer interaction. In research [9], the author discusses various applications of generative AI, including its transformative potential for startups. Study [10] examines the impact of generative AI on medical imaging, drug development, and patient care, while addressing challenges such as data privacy and ethical considerations. These research collectively demonstrate the diverse applications and benefits of generative AI, from enhancing marketing strategies to revolutionizing healthcare.

Overall, these research highlight the potential of generative AI but do not provide the necessary practical recommendations for businesses. To bridge this gap, businesses need clear implementation roadmaps, pilot projects to test effectiveness, investment in training and skill development, establishment of ethical guidelines and compliance protocols, leveraging of real-world case studies, and thorough cost-benefit analyses. These steps would provide a structured approach to adopting generative AI technologies and ensure their successful integration into business processes. The goal of this article is to examine the transformative potential of Generative Artificial Intelligence (GenAI) in the business world by showcasing its practical applications across various operational domains. It aims to provide a comprehensive understanding of how businesses can leverage advanced GenAI models to enhance efficiency, drive innovation, and create competitive advantages. By presenting real-world use cases and practical recommendations, the article seeks to guide businesses in systematically and effectively integrating GenAI into their processes, ensuring they can adapt and thrive in the context of the Fourth Industrial Revolution.

MAIN PART

Generative Artificial Intelligence (GenAI) has emerged as a transformative force in the business world, offering innovative solutions across various operational domains. By leveraging advanced machine learning models, GenAI can generate content, automate tasks, and provide new avenues for efficiency and innovation. This article explores the practical applications of GenAI in business, highlighting its diverse capabilities and providing real-world use cases to illustrate how businesses can harness this technology for competitive advantages.

Generative AI operates across several application layers, as depicted in the accompanying image. These layers encompass text, code, image, speech, video, 3D, and other specialized domains, each offering unique benefits to businesses.

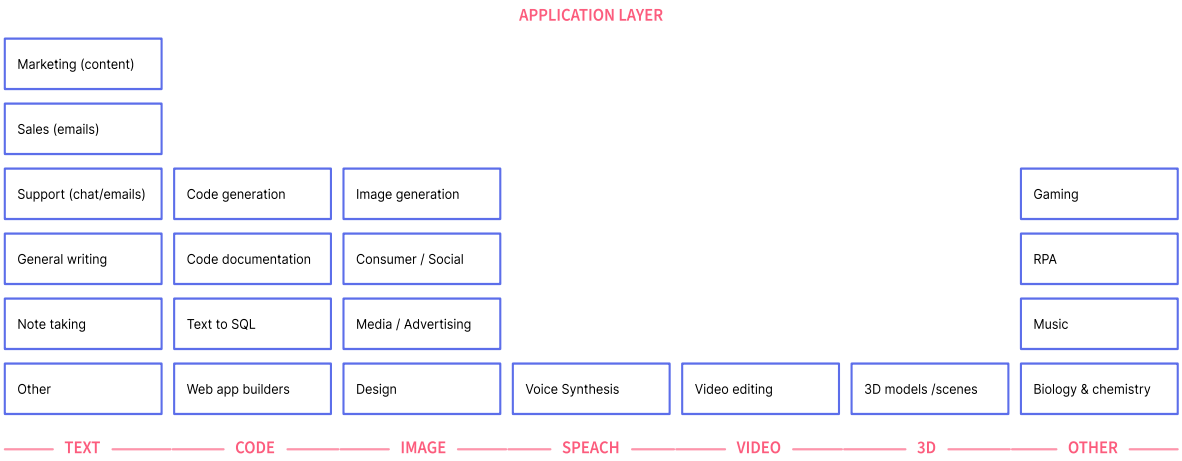
In the realm of text generation, GenAI can significantly enhance marketing and customer engagement. For instance, it can create engaging and personalized marketing materials, helping businesses effectively reach their target audience. An example of this is a retail company using GenAI to create personalized product descriptions and promotional content for each customer segment, which increases online sales and customer satisfaction. Similarly, automated generation of sales emails can streamline outreach efforts and enhance communication with potential clients, as seen in a B2B firm employing GenAI to draft personalized follow-up emails after initial client meetings, improving lead conversion rates. Moreover, AI-driven chatbots and email responders can handle customer inquiries, providing timely and accurate support. For example, an e-commerce platform utilizing AI chatbots to manage customer service queries can reduce response time and operational costs. Additionally, GenAI assists in automating documentation tasks such as drafting reports and taking meeting notes, benefiting consulting firms by ensuring accurate and comprehensive records for future reference.

In the domain of code generation, GenAI can accelerate software development by generating and documenting code, reducing the burden on developers. A software development company might leverage AI to automate repetitive coding tasks, allowing developers to focus on more complex problem-solving activities. Furthermore, GenAI can convert natural language queries into SQL commands, facilitating easier data manipulation and retrieval. For instance, a financial services firm using GenAI to enable non-technical staff to generate complex data queries enhances data accessibility and decision-making. Additionally, GenAI can automate the creation of web

applications, making development more accessible and efficient, as seen in startups quickly prototyping and deploying web applications to accelerate product development cycles.

When it comes to image generation, GenAI can generate and edit images for various purposes, from media and advertising to consumer and social media content. An advertising agency might use AI to create visually appealing ad creatives and social media posts, improving campaign performance. Additionally, GenAI can assist designers by generating creative ideas and drafts, which is beneficial for fashion brands employing AI to generate innovative design concepts for new collections, enhancing creativity and reducing design cycles. In the field of speech synthesis, GenAI can create realistic voiceovers for videos and virtual assistants, enhancing user interaction. An example is an e-learning platform using AI-generated voiceovers for educational videos, providing high-quality audio content and reducing production costs. For video generation, GenAI can automate the video production process, from editing to creating entirely new video content. A media company might use GenAI to automate video editing tasks, speeding up content production and reducing labor costs. In 3D model generation, GenAI can create 3D models and scenes for use in industries such as gaming, architecture, and product design. For instance, an architectural firm using GenAI to generate realistic 3D renderings of building designs can enhance client presentations and project planning. Specialized applications of GenAI include creating realistic game environments and characters in the gaming industry, automating routine business processes through robotic process automation (RPA), generating music compositions and sound effects in the music industry, and assisting in scientific research by generating molecular models and simulations. For example, a game development studio might use GenAI to generate detailed game worlds and character models, enhancing gameplay experience. A financial institution employing AI-driven RPA to automate data entry and reconciliation tasks can reduce errors and operational costs. A content creator using GenAI to compose original background music for videos ensures unique and copyright-free audio tracks. Lastly, a pharmaceutical company using AI to model molecular interactions can accelerate drug discovery and development processes.

Generative AI is not just a tool for creating content but a powerful enabler of innovation and efficiency in business processes. This article will delve deeper into real-world examples and case studies, providing practical recommendations on how businesses can harness the potential of generative AI to stay ahead in the competitive landscape. Different use cases collected by N-iX (Ukrainian IT-service company) on this Picture 1:



Source: [11]

Before implementing any technology, including generative AI, businesses must conduct thorough analysis and validation to ensure its feasibility, suitability, and potential impact. This process involves several critical stages, as illustrated in the accompanying graph, each designed to mitigate risks and optimize outcomes.

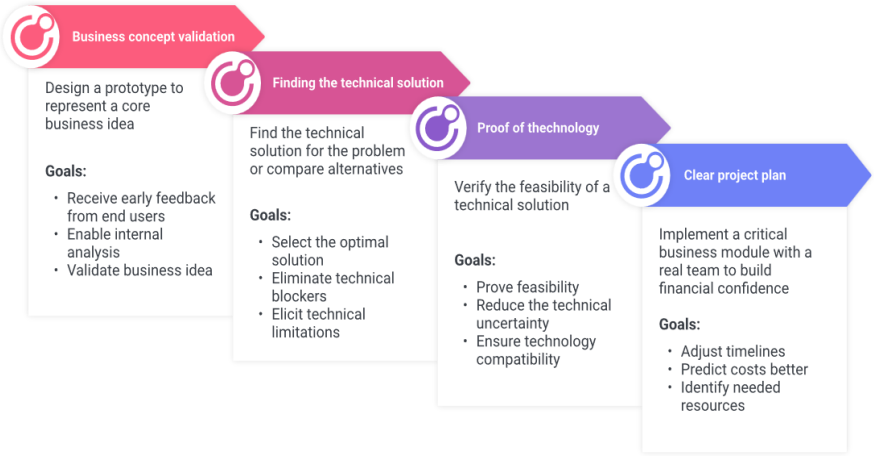
The first stage, **Business Concept Validation**, involves designing a prototype to represent a core business idea. The primary goals during this phase are to receive early feedback from end-users, enable internal analysis, and validate the business idea. By doing so, companies can ascertain whether the proposed technology aligns with their strategic objectives and meets user needs.

Following concept validation, the next stage is **Finding the Technical Solution**. This phase requires identifying the optimal solution for the problem at hand or comparing various alternatives. The objectives here include selecting the best possible solution, eliminating technical blockers, and understanding any technical limitations. This step is crucial as it ensures that the chosen technology is not only technically sound but also the most effective option available.

Once a technical solution is identified, the **Proof of Technology** stage begins. During this phase, businesses verify the feasibility of the chosen solution. The goals are to prove the technical feasibility, reduce any technical uncertainty, and ensure compatibility with existing systems. This step is essential to confirm that the technology can function as intended in real-world conditions and integrates seamlessly with current operations.

The final stage, **Clear Project Plan**, involves implementing a critical business module with a real team to build financial confidence. This phase focuses on adjusting timelines, predicting costs more accurately, and identifying the necessary resources. By having a clear project plan, businesses can manage expectations, allocate resources efficiently, and ensure a smoother implementation process.

By following these stages—business concept validation, finding the technical solution, proof of technology, and clear project plan—companies can systematically and effectively validate and implement new technologies. This structured approach minimizes risks, optimizes resource utilization, and enhances the likelihood of successful technology integration. Details on Picture 2:



Source: [11]

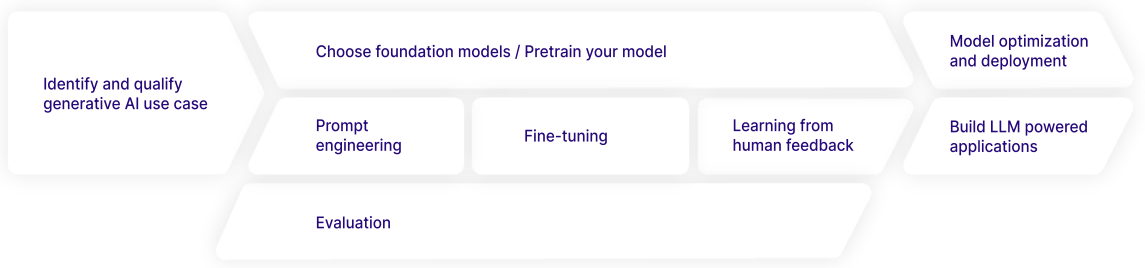
To effectively implement generative AI technologies, businesses should follow a structured approach that encompasses ideation, solution design and task adaptation, and implementation and integration, as outlined in the accompanying graph. Here are practical recommendations for each stage:

Ideation: The first step is to identify and qualify generative AI use cases. Companies should start by analyzing their business processes to pinpoint areas where generative AI can add value. This involves engaging with stakeholders to understand pain points and opportunities for improvement. For instance, a company might identify customer support, content generation, or predictive maintenance as potential areas for AI application. Conducting workshops and brainstorming sessions can help in generating a comprehensive list of use cases, which should then be prioritized based on feasibility and potential impact.

Solution Design and Task Adaptation: Once potential use cases are identified, the next step is to design solutions and adapt tasks accordingly. This involves choosing the appropriate foundation models or pre-training custom models tailored to specific business needs. Prompt engineering is crucial at this stage, as it helps in refining the AI's responses and improving its performance in real-world applications. Fine-tuning the models using domain-specific data enhances their accuracy and relevance. Additionally, incorporating feedback from human experts is essential for continuous improvement. Businesses should establish feedback loops where human insights are used to refine AI outputs. Regular evaluation of the models' performance ensures that they meet the desired standards and objectives.

Implementation and Integration: The final phase is to implement and integrate the AI solutions into the existing business processes. This involves optimizing the models for deployment, ensuring they operate efficiently in the production environment. Companies should focus on model optimization techniques such as quantization and pruning to enhance performance and reduce resource consumption. Building applications powered by large language models (LLMs) requires careful planning and collaboration between AI experts and business teams. It is crucial to ensure that the AI systems are user-friendly and seamlessly integrated into the workflows. Pilot testing the applications in real-world scenarios helps in identifying any issues and making necessary adjustments before full-scale deployment.

Throughout these stages, it is important for businesses to maintain a flexible approach, allowing for iterative development and continuous improvement. Regularly reviewing and updating the AI models based on new data and evolving business needs ensures sustained performance and relevance. By following these practical recommendations, companies can effectively harness the power of generative AI to drive innovation, efficiency, and competitive advantage.



Source: [11-13]

To effectively leverage generative AI technologies, companies can adopt various strategies that balance customization and control with implementation time and value. The accompanying graph outlines four primary approaches: "Pay and Use," "Integrate Your Apps," "Enrich with Your Data," and "Train on Your Data." Each strategy offers distinct benefits and can be tailored to meet specific business needs.

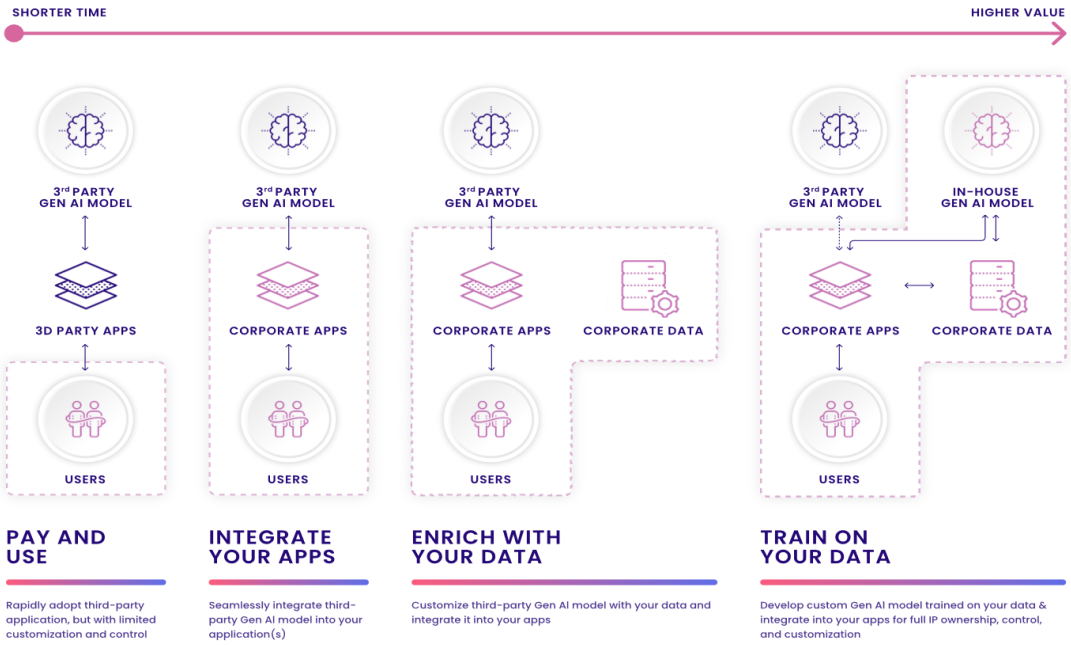
Pay and Use: The quickest way for businesses to incorporate generative AI is by adopting third-party applications. This approach, known as "Pay and Use," involves rapidly deploying third-party AI solutions with minimal customization. While this method provides a fast track to utilizing AI, it offers limited control over the technology and its integration with existing systems. Companies looking for immediate AI capabilities without significant upfront investment might choose this route. For instance, a marketing firm could use third-party AI tools to generate content and manage social media interactions efficiently.

Integrate Your Apps: The next level of integration involves seamlessly incorporating third-party generative AI models into corporate applications. This strategy allows for a more cohesive integration with existing business processes and systems while still leveraging external AI expertise. Companies can integrate these models to enhance functionalities such as customer support, data analysis, and operational efficiency. An example is an e-commerce platform integrating AI-driven recommendation engines to personalize shopping experiences based on user behavior and preferences.

Enrich with Your Data: For businesses seeking greater customization, the "Enrich with Your Data" approach allows companies to tailor third-party AI models using their own data. This customization enhances the relevance and accuracy of AI outputs, as the models are fine-tuned to reflect specific business contexts and requirements. By integrating corporate data with third-party AI, businesses can develop more targeted solutions. A financial services firm, for example, might use this strategy to customize risk assessment models with its proprietary data, improving decision-making processes.

Train on Your Data: The most comprehensive approach involves developing custom generative AI models trained on proprietary data. This method, "Train on Your Data," provides full ownership, control, and customization of AI technologies. Companies can develop in-house AI models tailored precisely to their needs, ensuring optimal performance and alignment with business objectives. While this approach requires significant investment in terms of time and resources, it offers the highest value. A healthcare provider might develop custom AI models to analyze patient data, predict health trends, and personalize treatment plans, thereby enhancing patient care and operational efficiency.

By reusing existing market solutions and customizing them as needed, businesses can strategically implement generative AI technologies to drive innovation and achieve competitive advantages. Each approach—from rapid deployment with third-party applications to fully customized in-house models—offers unique benefits that cater to different levels of control, customization, and implementation timelines. Companies should evaluate their specific needs and resources to select the most suitable strategy for integrating generative AI into their operations.



Source: [14-17]

CONCLUSION

Generative AI represents a transformative opportunity for businesses across various sectors, offering capabilities that can drive innovation, efficiency, and competitive advantage. This article has outlined the diverse applications of generative AI in business, from automating routine tasks and enhancing customer engagement to optimizing product design and streamlining operations. By leveraging this technology, companies can unlock new levels of productivity and creativity.

However, successful implementation of generative AI requires a thoughtful and systematic approach. Businesses must first validate the technology through careful analysis and prototyping, as outlined in the stages of business concept validation, technical solution identification, proof of technology, and clear project planning. This ensures that the chosen AI solutions are feasible, effective, and aligned with business goals.

Moreover, companies have various strategies at their disposal to integrate generative AI, ranging from using third-party applications to developing fully customized in-house models. Each approach offers different levels of customization and control, allowing businesses to choose the path that best fits their needs and resources. Rapid deployment through third-party solutions can provide immediate benefits, while customizing and training AI on proprietary data offers the highest value and tailored performance.

In conclusion, the practical implementation of generative AI in business is not just about adopting new technology but about strategically integrating it to maximize its impact. By following a structured approach and selecting the appropriate integration strategy, businesses can effectively harness the power of generative AI to innovate and thrive in an increasingly competitive landscape. The journey of incorporating generative AI is one of continuous learning and adaptation, and those who embrace it with a clear vision and robust planning are poised to lead in the digital age. Future research on generative AI in business can explore several promising directions like optimization of business processes, where AI can enhance supply chain management, inventory control, and logistics, providing case studies and quantifying efficiency gains and cost savings. Additionally, the potential of GenAI to enhance customer experience warrants further exploration, particularly in developing advanced personalized marketing strategies, AI-driven customer service solutions, and predictive customer behavior analysis tools.

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