

DOI <https://doi.org/10.30525/978-9934-26-459-7-14>

TRANSFORMATIVE POWER OF GENERATIVE AI: BUSINESS APPLICATIONS AND EMERGING CHALLENGES

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Received 31 March 2024, www.isma.lv*

Abstract

Generative artificial intelligence (Gen AI) has become a crucial aspect of modern business operations, revolutionising management practices across industries. This paper summarises research findings on the current adoption of Gen AI and highlights its positive and negative impacts on businesses of all sizes and industries. Although Gen AI holds great promise for enhancing innovation, productivity, and operational efficiency, there are concerns about its safety, reliability, and potential impact on employment. To harness the transformative potential of Gen AI while mitigating the associated risks to sustainable business growth, it is essential to engage in strategic planning and proactive risk management.

Key words: *artificial intelligence for business, implementation of artificial intelligence on business processes, tools for entrepreneurship, changement of business administration, use of generative artificial intelligence (Gen AI) for business purposes.*

1. Introduction

Generative Artificial Intelligence (Gen AI) sparked a surge of interest in 2022, leading to a rapid expansion of tools in 2023 that have impacted numerous areas of life, including business operations and management. The survey conducted by QuantumBlack AI, by McKinsey, reveals that 79% of respondents have had some exposure to AI on or off the job. Moreover, more than a third of respondents reported that their organisations regularly use Gen AI in at least one business function [1]. These findings demonstrate that new technologies have already had an impact on business principles and offer valuable insight into the direction they may take in the near future.

2. The current state of Gen AI in the business world

The integration of Gen AI into business processes is gaining momentum, with a significant portion of companies incorporating these tools into their operations. Surveys indicate that adoption rates vary depending on the size of the company, with those ranging from 201 to 500 employees showing the highest adoption rate at 67.6%. Looking at a broader spectrum, companies with 11 to 1000 employees maintain an average adoption rate of 61.5%. However, smaller companies with 1 to 10 employees exhibit lower adoption rates, averaging at 30% displayed on figure 1 [2].

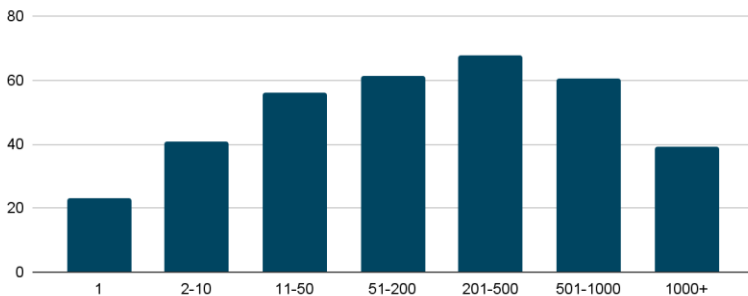


Figure 1. Use of artificial intelligence based on the the company size [2]

IBM's 2021 study further underscores the trend, revealing that larger corporations are 70% more inclined to implement AI into their business strategies compared to smaller counterparts.

Additionally, within organisational settings, text-based tools prove to be the most popular choice among users, outweighing the preference for image-based alternatives. Among these tools, ChatGPT emerges as the frontrunner, capturing the interest of over a quarter of users displayed on figure 2 [2].

The new tools are most commonly used in business functions such as marketing and sales, product and service development, and service operations like customer service and back-office support. They have increased productivity and relieved employees of monotonous work, allowing them to focus on more complex tasks in a more creative way displayed on figure 3.

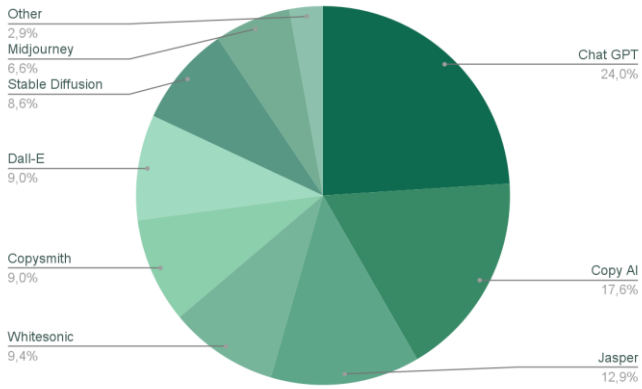


Figure 2. Top Gen AI Tools Used in the Workplace [2]

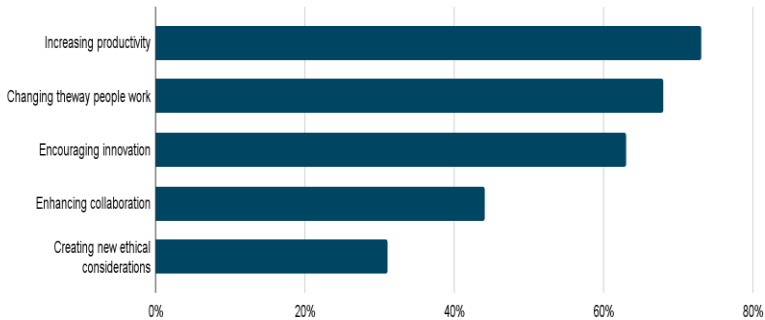


Figure 3. Gen AI adoption changes employee performance [3]

As a result, the implementation of Gen AI provides more opportunities for business development and fundamentally alters the way business is conducted.

3 Key Business Processes for Gen AI Assistance

Generative AI is transforming various sectors, including customer operations, marketing, sales, software engineering, and product research and development (R&D), displayed on figure 4.

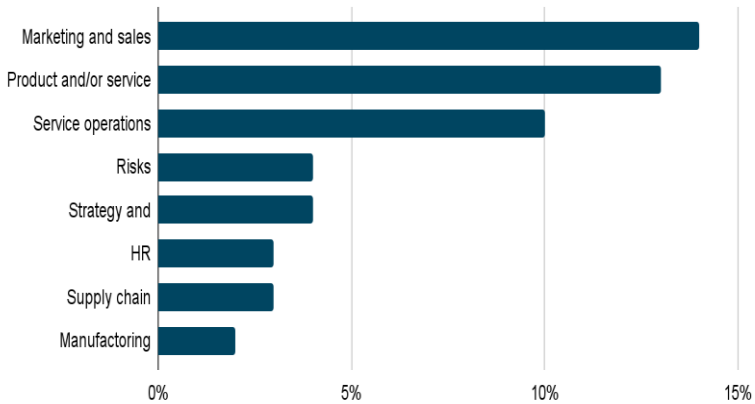


Figure 4. The use of Gen AI in different sectors [4]

In customer operations, it has a significant impact by enabling digital self-service, accelerating issue resolution, and improving response times. AI-driven chatbots and instant access to customer data enhance customer satisfaction and streamline agent efficiency.

Generative AI has significant potential in marketing and sales, enabling personalised messaging, content creation, and lead prioritisation. This can result in increased engagement and improved sales productivity. Additionally, it can be applied in software engineering to accelerate coding processes, reduce time spent on tasks such as code correction and design, and enhance overall productivity.

Generative AI is becoming increasingly important in product research and development. It can optimise design processes, assist with product testing, and improve overall product quality. By selecting materials efficiently and optimising manufacturing processes, businesses can reduce costs and improve their products.

Generative AI is a transformative force across industries, offering significant productivity gains and operational enhancements. Its diverse applications highlight its potential to transform conventional workflows and stimulate innovation in the digital era.

4. Concerns of Gen AI business adoption

The integration of Generative AI (Gen AI) into business operations sparks a myriad of uncertainties and concerns among executives, hindering

broad adoption. Key among these concerns are issues surrounding security, reliability, potential job displacement, and the overall value proposition. Executives, as revealed in surveys, highlight challenges such as talent scarcity, cost constraints, and ambiguity in application domains as primary barriers to implementation [3].

In response to these uncertainties, governments worldwide have introduced regulatory frameworks like the US AI Bill of Rights and the EU AI Act, mandating businesses to consider both the benefits and consequences of Gen AI adoption. Compliance with such regulations becomes paramount for maintaining reputation and trust, especially given the predicted transformative impact of Gen AI across various business models.

Despite acknowledging Gen AI's potential to bolster stakeholder trust, executives express apprehension about its unintended consequences. Concerns range from inaccuracies in basic facts to the risk of compromising privacy, security, and compliance standards [3]. The unpredictable nature of Gen AI algorithms poses risks of alienating customers, damaging brands, and triggering employee anxiety due to potential job displacement or disruptions in work routines.

Moreover, budget constraints emerge as a significant barrier, particularly for smaller businesses and freelancers, limiting their ability to fully embrace Gen AI at scale. Respondents recognize the potential job security risks associated with Gen AI, particularly in administrative, customer service, and creative roles.

While Gen AI holds immense promise, the complexities and uncertainties surrounding its implementation underscore the critical importance of robust risk management strategies. Cybersecurity, privacy concerns, liability issues, and job displacement emerge as top priorities for risk management and mitigation efforts. As the business landscape navigates the transformative potential of Gen AI, careful consideration of risks alongside opportunities becomes imperative to ensure sustainable and responsible adoption.

5. Conclusions

Generative Artificial Intelligence (Gen AI) has rapidly infiltrated various business sectors, impacting operations and management. Although adoption rates vary, concerns surrounding security, reliability, job displacement, and budget constraints hinder widespread implementation. Regulatory frameworks aim to address these concerns, emphasising the need for responsible adoption. Despite the challenges, Gen AI offers significant

productivity gains, especially in customer operations, marketing, sales, software engineering, and product R&D. Strategic planning and proactive risk management are essential for navigating the complexities of Gen AI integration and ensuring sustainable business transformation.

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