

From Hours to Minutes: The Impact of Generative AI on Work Turnaround Time and Productivity

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Abstract— The rapid adoption of Generative AI in workplaces has sparked discussions on its impact on efficiency, particularly in reducing task turnaround times. Previous studies highlight Gen AI's potential to streamline workflows by automating manual, repetitive tasks. However, there is limited empirical evidence on how much time is actually saved across different types of tasks and whether these efficiency gains continue over time. This study aims to quantify Gen AI-driven reductions in task turnaround times and examine the long-term trend of efficiency improvements. Using secondary datasets comprising ten workplace task categories, a comparative analysis of 'without Gen AI aid' task durations and 'with Gen AI aid' task durations was conducted. The analysis was performed using Excel-based tables and charts, and a linear regression model to forecast future AI-driven efficiency gains. The findings confirm that Generative AI significantly reduces task times, with an average efficiency gain of 80% to 90% across various functions. However, the impact is task-dependent, with more significant reductions in routine, standalone tasks and diminishing returns observed in complex, multi-step projects over time. These insights suggest that while Gen AI continues to enhance productivity, its future improvements may shift from time savings to quality enhancement and cognitive support. The study highlights the need for further research on Gen AI's broader role in workplace efficiency beyond just speed improvements.

Keywords— AI, Gen AI, Turnaround Time, Productivity, Work Efficiency, Future of Work.

I. INTRODUCTION

The emergence of Generative Artificial Intelligence (Gen AI) in the last few years has led to a new era of heightened workplace productivity need and the yearning to get tasks done fast, especially tasks that are repetitive and time-consuming. Evidence from recent studies shows that organisations are experiencing significant reductions in turnaround time for tasks, and an overall increase in productivity across different industries since the popularity of Gen AI (Brynjolfsson et al 2023; Al Naqbi, 2024; Pingili, 2025). For example, research by Brynjolfsson et al (2023) found that utilising Gen AI tools for content writing-related tasks led to a 40% positive change in productivity and output quality. They also found a corresponding reduction in time spent, highlighting the potential for substantial efficiency gains through Gen AI. In a similar study by Noy and Zhang (2023), they found out that experienced employees using Gen AI tool for technical and complex data analysis work had a significant reduction in time taken to complete a piece of work, when compared to their colleagues who carried out the same tasks, but with no Gen AI support. This shows the ability of Gen AI to significantly reduce work cycles.

Problem statement

Several research has shown the overall impact that Gen AI has had and is having on workplace productivity in the last couple of years (Chui et al., 2023; Bandi et al.,

2023; Simon et al., 2023; Ooi et al., 202), however, there still exist critical gaps in understanding its specific effects on task turnaround times and the long-term implications for workplace productivity.

Firstly, there is limited quantitative research that compares pre-GenAI and post-GenAI datasets directly in order to accurately gauge how task-specific turnaround times have changed within a specific sector or even across various sectors.

Secondly, there is also a limited examination of Gen AI impacts on a variety of task categories, especially determining which tasks see the biggest turnaround time reductions and how this translates into increases in overall productivity.

Lastly, many organisations currently lack a clear roadmap for future AI integration with their existing workplace tools, as existing studies lack the foresight to support them in forecasting the trajectory of Gen AI-driven job efficiency over the next few years.

Research objectives

Following the problem statements and overall gaps above, the objectives of this research paper were to:

- Identify, quantify and visualize the impacts of Gen AI on workplace task turnaround times.
- Forecast future trajectory of Gen AI impacts on productivity over the next five years.

Significance of Study

This research paper has important ramifications for both academics and workplace decision-makers. The first significance is that it offers a rigorous and data-driven examination of measurable variations in task turnaround times before and following Gen AI's emergence in the world of work. This will add to the growing body of knowledge around Gen AI and workplace productivity. Another significance of this research paper is that it offers useful information to companies considering or already using Gen AI solutions. These organisations will be able to make well-informed decisions on future investments relating to the adoption of Gen AI. Lastly, the results of this research paper will also help workplace decision-makers and policymakers in general understand the wider effects of integrating Gen AI into the workforce and how best to create regulations around this.

II. LITERATURE REVIEW

Workplace Productivity and Tasks Turnaround Time

In an organisation context, productivity simply means the effectiveness with which employees use available resources to complete tasks and meet the company's objectives. That is, productivity could be viewed as how effective individual employees are, or how collectively effective the organisation is (CIPD, 2025). There are several parameters that different organisations use to measure productivity, and this would typically be based on the industry or products they offer. Nevertheless, for many organisations, time spent on completing a piece or set of tasks, known as turnaround time, is a major parameter for measuring how productive or effective they are (Chew, 1988; Goswami et al, 2010; AIHR, 2025). That is, all things being equal, if employee A spends 10 mins to complete a task and employee B spends 12 minutes to complete the same task, employee A can complete 6 tasks in an hour while employee B can complete only 5. Ultimately, employee A is regarded as more productive in simple terms. This is consistent with Hsu et al. (1989) research in 1989's Proceedings of the Thirteenth Annual International Computer Software & Applications Conference where they found that efficient turnaround times directly impact productivity and overall organisational performance.

Before AI generally became widely adopted, human error, information bottlenecks, and the complexity of manual tasks were significant issues affecting productivity (Noy and Zhang, 2023). By automating processes that formerly required a large amount of human labour, Gen AI has proved crucial in lowering

turnaround times across a range of corporate functions. For example, Gen AI-powered customer support services like Cognigy automate voice and chat conversations, offering context-sensitive, personalised responses that relieve human agents of tedious work and speed up problem-solving (Marr, 2024). Similar to this is ServiceNow's new Gen AI feature, which can carry out ticket incident summarisation and text-to-code capabilities and has been shown to help cut down on task completion time by up to 40%, resulting in instant productivity increases (ServiceNow, 2025). Furthermore, companies like ANZ and National Australia Bank have also used Gen AI in marketing to automate the production of marketing content, which has significantly increased productivity (Martin, 2024). Consequently, by integrating these Gen AI-powered automation solutions into existing workplace tools, monotonous and manual tasks can be automated thereby allowing employees to concentrate on higher-value work.

Previous Research

Previous studies have shown how automation and artificial intelligence (AI) can improve workflow efficiency by drastically cutting down on task completion times (Chui et al., 2023; Bandi et al., 2023; Simon et al., 2023; Ooi et al., 2023). For example, a research paper by Bandi et al., 2023 explores how Gen AI can completely transform company processes by automating complicated tasks and drastically cutting down on the amount of time needed to do them. Another study by McKinsey's Quantum Black showed that Gen AI solutions like ChatGPT, GitHub, CoPilot, etc. can significantly increase operational efficiency by streamlining corporate operations (Chui et al., 2022). These results are further supported by a study by Simon et al., 2023, which shows how Gen AI applications in customer service can increase productivity by automating answers to customer questions and so lessening the strain for human agents. Additionally, a popular study by Ooi et al., 2023 carried out a study to understand Gen AI's transdisciplinary potential in the future, with a focus on how it may automate specific processes and boost productivity in a variety of different industries.

The stance from the above research is further supported by industry-specific studies. For example, a study by the Financial Times showed how AI-powered solutions have sped up procedures in the legal industry by cutting legal research time by up to five hours per week (Saunders, 2024). This was also corroborated by an

article published in The Times which showed how comprehensive data analysis has been made possible by AI-enhanced auditing procedures in the financial industry and has increased the speed and precision of financial assessments (Griffiths, 2024). In all of these, however, research gaps remain, particularly in longitudinal studies that track the long-term impacts of AI on work efficiency and a lack of comprehensive data analysis that provides a more widely applicable view of Gen AI's impact on task turnaround time.

III. METHODOLOGY

Research Design

Following the objectives for this research paper, a quantitative analysis approach was adopted as it offers a rigorous and data-driven approach to examine measurable variations in task turnaround times. Ten (10) different tasks which are often completed by different employees irrespective of their skill or service offerings were adopted as use cases to understand the turnaround time of these tasks with or without Gen AI aid.

Data Sources

The type of data used were secondary datasets from two different lenses; average turnaround time for the tasks without Gen AI aid (mostly before Gen AI popularity targeting 2019 to 2022), and average turnaround time for the tasks with Gen AI aid (mostly after Gen AI popularity targeting 2022 – 2025). This was to enable comparative analysis across the two lenses and to understand the impact and significance thereof of Gen AI aid in workplace tasks.

The data sources included a host of secondary sources. Some of these secondary sources included:

- **Technology Companies Reports:** Reports and white papers from different technology organisations such as predis.ai, fireflies.ai, Amazon bedrock, Mentimeter, showing productivity statistics for different tasks based on their Gen AI technology.

- **Industry Reports:** This includes industry reports by organisations like McKinsey, relating to productivity or turnaround with Gen AI.
- **Social Media Discussions:** This includes statistics-related discussions and insights from users on Reddit, Quora, etc. on task completion before Gen AI emergence.
- **Community Pages:** This includes discussions on community pages of various organisations producing tools and software that aid workplace productivity such as ServiceNow community, Slack, etc.
- **Business and academic news Outlets:** This includes articles showing productivity statistics from business and academic news outlets like Bloomberg, Business dive, Harvard business review, MIT Sloan management review, etc.

The rationale behind adopting the data from these sources is that these data sources ensure comprehensive, real-world, and up-to-date perspective on the impact of Gen AI in terms of workplace productivity.

Data Analysis

The datasets collected from these secondary sources were analysed using Microsoft Excel. Microsoft Excel was used to aggregate and quantify the turnaround time dataset across the multiple sources above in a structured table format as well as to visualize the data to show the comparison of productivity numbers with and without the Gen AI tool, and the areas where the most significant impacts have happened. Regression Analysis was carried out using the dataset from both categories (with or without Gen AI aid) to forecast the future Gen AI impacts as Generative AI technology improves.

IV. RESULTS AND DISCUSSIONS

The dataset, results of the analysis and discussions are presented in this section.

Overall Analysis and Key Findings

This sub-section covers the overall findings and overarching insights.

Table 1. Turnaround time of different task categories at a glance.

Average Turnaround Time for Tasks				
#	TASK USE CASES	WITHOUT GEN AI AID in minutes	WITH GEN AI AID in minutes	% Reduction of tasks turnaround times
1	Basic data entry task for a one-page document	10	1*	-90%

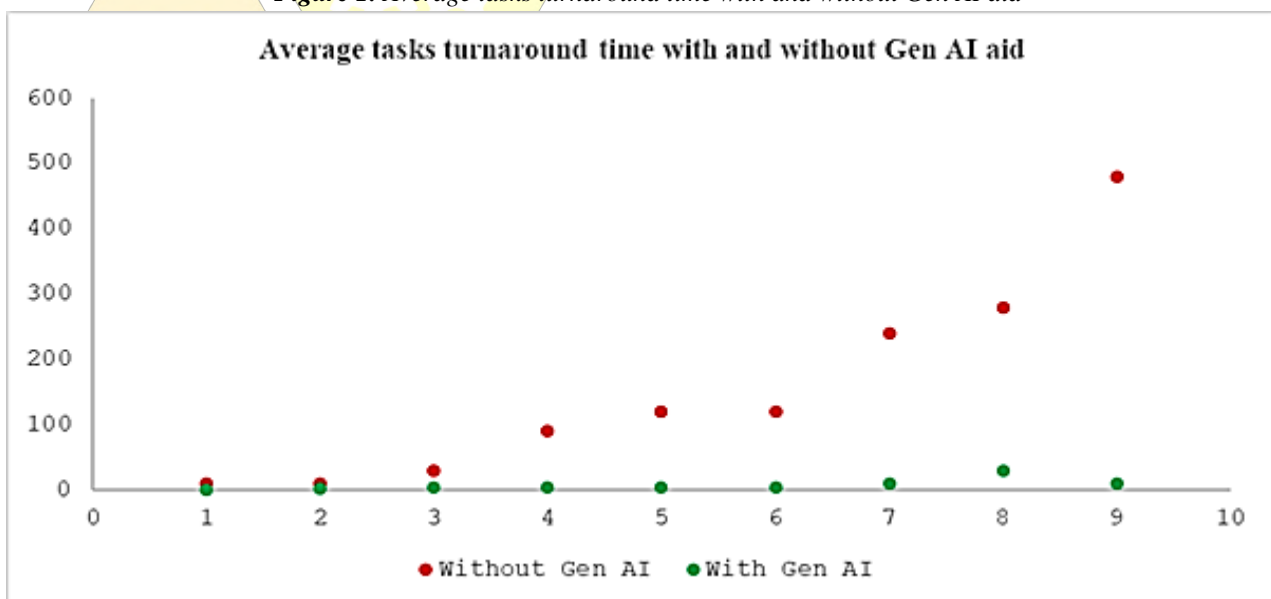
2	Ticket handling and basic troubleshooting	10	3*	-70%
3	Preparing slides for presentations	30	5**	-83%
4	Creating basic social media posts	90	5**	-94%
5	Simple email or communications content draft	120	5**	-96%
6	Long document summarisation for senior stakeholders	120	5**	-96%
7	Transcription of a one-hour audio recording/meeting	240	10	-96%
8	Writing reports or carrying out basic research	280	30**	-89%
9	Basic data analysis	480*	10**	-98%
10***	Developing marketing campaigns	14400	12600	-13%

*Estimated time based on context

** Estimated time based on additional time needed for review or modifications where needed

***Outlier

Figure 1. Average tasks turnaround time with and without Gen AI aid



Task-Specific Analysis and Discussion

Use case 1: Basic data entry task for a one-page document.

Basic data entry task turnaround time depends on various factors such as typing speed, data complexity, data format, writing legibility, etc. Findings show that companies typically require a virtual assistant's minimum typing speed to be around 40-50 words per minute. Given a typical page of Microsoft Word document contains about 400 to 500 words, an assistant can complete a one-page data entry task in under 10 minutes i.e. 500 words/ 50 words per minute (Virtual Assistant Guide, 2021). However, from a post-Gen AI emergence lens, an analysis carried out by Wadia (2024)

on Acme News' adoption of Gen AI to classify their past paper articles into categories before publication (this involved massive data entry work) shows around 98 to 99 per cent cost savings in adopting Gen AI for data entry.

It also showed that the Gen AI processes could enable the completion of 100,000 articles within a handful of hours.

This is consistent with the findings of Chui et al. (2023) who asserted that through automation and artificial intelligence (AI), organisations' workflow efficiency can be significantly improved which ultimately cuts down on task completion times drastically.

Use case 2: Ticket handling and basic troubleshooting

Ticket handling time varies greatly depending on the issue's complexity, ranging from a few minutes for simple problems to potentially hours or even days for complex ones. As a best practice, the average handle time of most simple tickets in an IT context is expected to be around 10 mins for first contact with the support team (Jordan, 2024). This sometimes may be more as the service desk agents will have to spend some time understanding the end-users' request, manually search for previous incident records or knowledge articles, remedies tested, and resolutions documented. With Gen AI, key issue details are rapidly extracted via different features such as AI-powered chat and ticket summarisation with generative AI help, like ServiceNow's Now Assist, cutting down on information gathering time significantly by cutting resolution times by at least 71% (ServiceNow, 2025). This find corroborates that of Simon et al. (2023) which shows how Gen AI applications in customer service and service desks can increase productivity by lessening the strain on human agents.

Use case 3: Preparing slides for presentations

Preparing slides for presentation turnaround time depends on various factors such as the complexity of the topic, length, and desired level of detail and design. Overall, this could take as little as 30 minutes to many hours or even days when multiple reviewers are involved which will need the slides to be iterated over and again. Conversations from different professionals on Reddit and Quora show that generally, for standard slides, with templates already built, most slides will be quick and take around 30 minutes, with the exceptions of a few slides that push the net average up (Reddit, 2019; Quora, 2020). Since Gen AI's emergence, however, the average time for these standard slides that need little or no input from a third party nor involves a complex topic can be completed in around 5 minutes. A Gen AI tool by Mentimeter for presentation asserts that a presentation that would typically require hours of prep can now be generated in just a few seconds with a few prompts (Mentimeter, 2025).

Use case 4: Creating basic social media posts

Before Gen AI, creating basic social media posts took an average of 90 minutes cutting across research, design, copywriting, etc (The Silver Linings Group, 2023). This can take significantly less time, if no research or designs or even copywriting is involved, and the individual just wanted to post a photo of an event

with a short quote/description. Since Gen AI emerged, this takes even less time to create, as basic search engine optimization research can now be done with a Gen AI tool, in minutes. In addition, image designs can also now be created with the Gen AI tool, and even the writing description is involved. Essentially, you can add a brain dump on a Gen AI tool of what you've in mind, and it can show you the SEO summary for post options, design the image (if needed) and craft the corresponding texts to meet your engagement needs. A Gen AI tool designed specifically for this by Predis.ai can use a single line of text input and Predis.ai will be able to find the right assets, captions, and hashtags to create a complete post for individuals in seconds (Predis ai, 2025). This can then be reviewed and modified accordingly as needed.

Use case 5: Simple email or communications content draft

In terms of simple email or communications content to share with colleagues at work, findings by Hackeling (2020) show that on average employees spend around 11 hours a week on emails. This goes beyond writing out the email, but more around structuring one's thought process, and ensuring the right words are used to communicate the intent at that time. With time employees need to ensure their colleagues & supervisors perceive them right, Eva (2019) concluded that to write some persuasive emails, one would need up to 2 hours. While this time may differ for many quick communications via email that require little or no thinking, the emergence of generative AI has made it possible to write those persuasive and complicated emails or communications, no matter the nuance required, or tone needed to be completed in under 5 minutes with a few iterations. This would typically involve inputting the right prompts and relevant context dump to a Gen AI tool, which generates an appropriate output that fits your requirements in seconds, which you can further iterate as needed. This then saves you time spent ensuring the right words are used to show the right tone or stakeholders.

Use case 6: Long document summarisation for senior stakeholders

With respect to the summarization of lengthy documents for senior stakeholders, findings show that before Gen AI emergence, this could take an average of 2 hours to write a summary for around 1500-word text (Levis, 2020). However, post-Gen AI, this takes only a couple of seconds, and this depends on the complexity, formatting, and overall length (Slack, 2024; Musely, 2024). Essentially, this could be completed in under 5

minutes. It is, however, important to mention that before Gen AI's emergence, summarisation tools were using a Natural language processing technology that support shortening, paraphrasing or summarising long texts in a short time too. This, however, did use rule-based techniques, and output is extracted directly from the long texts. Whereas Gen AI summarisation tools could paraphrase, restructure, and synthesize the outputs more coherently and naturally making it more useful for users.

Use case 7: Transcription of a one-hour audio recording/meeting

In terms of transcription of audio recordings, detailed articles by Goyette (2021) and Chazen (2022) showed that an hour-long audio clip can be transcribed in around 4 hours manually. More recent articles by Kudesi (2023) and Echeverri et al (2024) presenting the capabilities of Fireflies and Amazon Bedrock tools (Gen AI tools) show that audio transcription can be completed in a few minutes. While the minutes are not explicit, further details in the presentation suggest this would be under 10 minutes. Nevertheless, the length of transcription in general may vary depending on the audio quality, speaker clarity, accents, and background noise.

Use case 8: Writing reports or carrying out basic research

The average turnaround time for writing a basic report (using 1000 words as a case study) can depend on the writer's topic knowledge, research and typing experience, and environment at the time. A 1000-word report on a less complex topic where the writer has some experience, could take up to 4 hours to complete without Gen AI support (Quora, 2017; Immerse, 2024). This will involve manual research using a Search engine like Google, and significant time involvement to go through relevant web pages for inputs and references. With Gen AI support, writing basic reports has become significantly less complicated. Users can input the topic, idea dump, required structure and example of outputs, and the tool can create the report adhering to the word count, and structure and without the need for additional spell-checks. This can typically be completed in only a few seconds; however, the onus still rests on the user to then review the report for accuracy, and relevant references which may take additional time, but not as much as doing it manually from scratch (Reddit, 2023).

Use case 9: Basic data analysis

The average turnaround time for carrying out a basic data analysis task, like trying to understand the main

trends, pattern or general insight from a sales dataset, can range from a few hours to even days, involving data entry, simple calculations, and basic visualizations with a tool like Excel. While there isn't a one-size-fits-all answer, insights from data professionals on Reddit (2023) suggest that simple analyses like calculating total sales, average sales per period, or basic trend analysis can often be completed within 15 to 30 minutes. These tasks typically involve straightforward functions such as SUM or AVERAGE. Whereas moderate analyses like exploring sales patterns, seasonal trends, or creating basic visualizations (e.g., charts or graphs) may take a few hours (estimated to a full day's working hour – 8 hours at the least. This includes data cleaning, organising, and applying functions like pivot tables. With Gen AI, moderate and even advanced data analysis can be completed in seconds or minutes (Teradata, 2025). For example, there is a feature within ChatGPT's GPT-4 that allows users to upload data directly to ChatGPT to write and test code. While this is only available for premium accounts, users can upload the example data (sales dataset) and get relevant charts as outputs as well as complementing insights on the relevant trends and patterns (MIT Sloan EdTech). This is also consistent with the research paper by Bandi et al. (2023) which explores how Gen AI can completely transform company processes by automating complicated tasks and drastically cutting down on the amount of time needed to do them.

Use case 10: Developing marketing campaigns

The average time spent by marketing professionals developing marketing campaigns varies based on factors such as campaign complexity, team size, and available resources. Traditionally, without the aid of Generative AI, this process can be time-consuming, often involving extensive manual efforts in content creation, data analysis, and strategy development. A study by MIS Sloan Management Review (2024) shows that this may require around 6 to 8 weeks to design and finalise a marketing campaign. With the aid of Generative AI in developing a marketing campaign, this timeline could relatively reduced. According to a recent Salesforce and YouGov survey, marketers believe generative AI is a "game-changer" that will save them roughly five hours of work per week, or more than a month annually if they work eight-hour days (Sharma, 2023; Afshar, 2023). This finding is also consistent with the month-long experimental program carried out by Ally.ai that Gen AI use can reduce the time needed to produce creative campaigns and content by up to 2-3 weeks and reported an average time savings of 34%, compared to typical

processes without AI (Charlott, 2023). Consequently, assuming an 8-hour workweek, and a 6-week minimum time to create a marketing campaign, Gen AI could help reduce the total number of hours from 240 hours (in six weeks) to around 210 hours (saving 5 hours weekly).

Future Percentage Decrease of Tasks Turnaround Time

Based on the aggregated turnaround time data in Table 1, a regression analysis was carried out and the summary is presented below.

Table 2. Regression model using the aggregated dataset in Table 1.

Regression Statistics								
Multiple R	0.999508306							
R Square	0.999016854							
Adjusted R Square	0.998893961							
Standard Error	132.4259812							
Observations	10							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	142557889	142557889	8129.14477	2.5556E-13			
Residual	8	140293.124	17536.6405					
Total	9	142698182						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-125.8820498	44.6370188	-2.82012673	0.02248949	-228.8152	22.9488998	-228.8152	22.9488998
X - Average turnaround time (without Gen AI aid)	0.88294173	0.00979286	90.16177	2.5556E-13	0.86035935	0.90552411	0.86035935	0.90552411

To forecast future turnaround time, this regression model examined the relationship between task turnaround time without the aid of a Gen AI tool (X variable) and task turnaround time with the aid of a Gen AI tool (Y variable).

The aim was to forecast how much time Gen AI would save if a task could be completed in X minutes without Gen AI.

Model Fit and Statistical Significance

- R-Square = 0.999, Adjusted R-Square = 0.998

This indicates that 99.9% of the variation in task turnaround time with Gen AI can be explained by task turnaround time without Gen AI aid.

This is an extremely strong relationship, suggesting that the model is highly accurate in predicting Gen AI efficiency.

- Significance F = 2.56E-13

This value is extremely small, lower than the best practice threshold of 0.05, confirming that the model is statistically significant.

- P-value for X variable = 2.56E-13

Similarly, given the p-value is also far below 0.05, the relationship between X (turnaround time without Gen AI aid) and Y (turnaround time with Gen AI aid) is highly significant, suggesting Gen AI has a clear and measurable effect on task time reduction.

Forecasting Gen AI Efficiency Gains

From the regression output, the following equation is derived:

$$Y = -125.88 + 0.8829 X$$

Where:

- X = Time taken to complete a task without Gen AI aid (minutes)
- Y = Forecasted time to complete the same tasks with Gen AI aid (minutes)

This model allows us to estimate how Gen AI efficiency will change in the future, assuming that Gen AI continues to improve task turnaround times. For example, if a task takes 250 minutes to complete today without Gen AI aid, we can estimate how long it will take on average to complete with Gen AI aid as seen below:

- $Y = -125.88 + 0.8829 X$
- $Y = -125.88 + 0.8829 (250 \text{ minutes})$
- $Y = -125.88 + 220.725$
- $Y = 94.845 \text{ minutes}$

However, this model has a couple of drawbacks. Firstly, it is only meaningful for forecasting tasks with relatively high turnaround times, like 100 minutes and above. Secondly, given the dataset that forms the model is only based on a set of limited tasks, this may only apply to tasks or similar tasks to the selected use cases. Lastly, there is an outlier dataset from the marketing campaign use cases, which may have skewed the model.

To account for this shortcoming, a trend-based forecast can be adopted to get a clearer picture of what the future impact in terms of minutes that Gen AI could have for the selected tasks. To do this, an annual growth

percentage of productivity enabled by Gen AI will need to be adopted. McKinsey Global Institute has moderate expectations regarding the impact of generative AI on productivity gains to a maximum of 0.6% yearly through 2040 (McKinsey & Company, 2023). This is around 2.9% annual growth prediction by Statista – which included all artificial intelligence technologies, not only generative AI (Kantor, 2024). For this research paper, a yearly growth of 1.75% is adopted, based on an average of both sources. That is, if Gen AI efficiency continues to improve (1.75% improvement per year), we can forecast future time reductions by adjusting the model over time.

For example, suppose Gen AI continues to improve by 1.75% annually in reducing turnaround times, we can apply this growth rate to forecast how much further Gen AI could reduce time in 2 years, 3 years, or even 5 time years.

$$\text{Future Gen AI Turnaround Time} = \text{Current Gen AI Turnaround Time} \times (1 - \text{Annual Improvement})^{\text{Years}}$$

For use case 6 for example (Long document summarisation for senior stakeholders), forecasts will be:

- $\text{Future Gen AI Turnaround Time} = \text{Current Gen AI Turnaround Time} \times (1 - \text{Annual Improvement})^{\text{Years}}$
- Year 2 turnaround time = $5 \times (1 - 0.0175)^2 = 4.8 \text{ minutes}$
- Year 3 turnaround time = $5 \times (1 - 0.0175)^3 = 4.7 \text{ minutes}$
- Year 5 turnaround time = $5 \times (1 - 0.0175)^5 = 4.58 \text{ minutes}$

Table 3. 2030 forecasts of turnaround time for selected use cases based on Gen AI impact.

TASK USE CASES	Average turnaround time (without Gen AI aid)	Current Average turnaround time (with Gen AI aid)	Year 5 Forecast (2030) Future Gen AI Turnaround Time
Basic data entry tasks for a one-page document	10	1	0.92 minutes
Ticket handling and basic troubleshooting	10	3	2.75 minutes
Preparing slides for presentations	30	5	4.58 minutes
Creating basic social media posts	90	5	4.58 minutes

Simple email or communications content draft	120	5	4.58 minutes
Long document summarisation for senior stakeholders	120	5	4.58 minutes
Transcription of a one-hour audio recording/meeting	240	10	9.2 minutes
Writing reports or carrying out basic research	280	30	27.4 minutes
Analysing data	480	10	9.2 minutes
Developing marketing campaigns	14400	12600	11535 minutes

The results above provide additional insights into Gen AI's impact on productivity in the future as workplace adoption of Generative AI tools and technology matures. First, the results suggest a diminishing reduction effect over time. This means that while Generative AI continues to improve task efficiency, the magnitude of time savings decreases as Gen AI adoption matures. Secondly, tasks that already take seconds (under 5 minutes) to complete with the aid of Generative AI, may see even less significant reduction in the future. This may suggest that future Gen AI advancements may shift focus from speed to other dimensions of productivity, such as quality enhancement, cognitive support, and decision-making improvements. Lastly, more complex tasks that take longer time to complete, with very little Gen AI impact in terms of current turnaround time, may still see notable efficiency gains over time through further adoption of Gen AI in different sub-sets of the project/tasks.

V. CONCLUSION

This research paper highlights the transformative role of Generative AI in improving workplace efficiency by reducing task turnaround times across various functions. The findings demonstrate that Generative AI has led to an 80% to 90% reduction in time spent on manual, repetitive tasks, with a clear impact across different skill levels and service functions. However, the extent of these reductions varies depending on task complexity. While AI significantly enhances efficiency in straightforward, routine tasks, its impact diminishes in more specialised and multi-step tasks.

A key observation is the diminishing returns on Gen AI-driven efficiency gains over time. The analysis shows that as Gen AI adoption matures, the magnitude of time savings decreases, particularly for tasks that are already relatively fast to complete. For example, while early AI adoption resulted in substantial time reductions, long-term improvements—such as reducing a 3-minute task

to 2.75 minutes or a 10-minute task to 9.2 minutes over five years—suggest that Gen AI's efficiency gains are reaching a practical limit. This indicates that while AI continues to refine processes, the potential for significant reductions in task duration may slow down as automation approaches its optimal level.

Moreover, the findings suggest that future AI advancements may shift focus from speed to other dimensions of productivity, such as quality enhancement, cognitive support, and decision-making improvements. As tasks become more complex, AI's role may evolve beyond simple automation towards assisting with creative, analytical, and strategic work rather than purely reducing time spent.

Overall, this study reinforces that while Gen AI remains a powerful tool for workplace efficiency, its impact is not uniform across all tasks, and diminishing returns must be considered in long-term AI adoption strategies. Future research should explore how Gen AI influences non-time-based productivity metrics, such as work quality, accuracy, and employee workload reduction, to better assess its full potential in modern work environments.

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