

The Impact of AI-Driven Design Tools on Time Efficiency in Graphic Design Project Management: A Study Using Figma

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ABSTRACT

This study examines the impact of artificial intelligence (AI) features in Figma on time efficiency in graphic design project management. As digital transformation accelerates, AI-enabled tools are increasingly used to enhance workflow performance, automate tasks, and improve collaboration in project-based environments. Grounded in the Technology Acceptance Model (TAM) and the Resource-Based View (RBV), this study adopts a quantitative approach to investigate the relationship between Figma AI features and time efficiency.

Data were collected from 130 respondents using a structured questionnaire and analyzed using statistical techniques, including descriptive analysis, correlation, and regression. The findings reveal a statistically significant positive relationship between Figma AI features and time efficiency, indicating that functionalities such as automation, real-time collaboration, and component reuse contribute to faster task completion, reduced delays, and improved workflow coordination.

The results highlight the growing importance of AI-driven tools in enhancing project performance within graphic design environments. The study contributes to existing literature by providing empirical evidence on the role of AI in improving time efficiency and extends theoretical insights related to technology adoption and resource utilization.

From a practical perspective, the findings offer valuable implications for designers, project managers, and organizations seeking to optimize workflows through digital tools. However, the study is limited by its cross-sectional design and focus on a single platform, suggesting the need for future research across multiple tools and contexts.

Keywords: Artificial Intelligence (AI), Figma, Time Efficiency, Project Management, Workflow Optimization.

INTRODUCTION

Artificial intelligence (AI) has become a key driver of digital transformation, significantly reshaping project management practices across various industries. In recent years, the integration of AI into creative and design environments has introduced new opportunities for improving efficiency, collaboration, and workflow optimization. In graphic design project management, where tasks are iterative, time-sensitive, and highly collaborative, the need for efficient processes has become increasingly critical.

Modern graphic design projects involve multiple stages, including ideation, prototyping, feedback integration, and final delivery. These stages often require continuous coordination among team members, which can lead to delays due to miscommunication, repetitive manual tasks, and workflow inefficiencies. As project timelines become more constrained, organizations and design professionals are increasingly seeking innovative solutions to enhance time efficiency and improve overall project performance.

Figma, a cloud-based design platform, has emerged as a leading tool in the digital design industry due to its integration of AI-driven features. These features include automated functionality, real-time collaboration,

component reuse, and workflow optimization tools that aim to reduce manual effort and improve user coordination. Unlike traditional design tools, Figma enables multiple users to work simultaneously on shared projects, thereby enhancing communication and reducing delays in project execution.

Despite the growing adoption of AI-enabled design platforms, there remains limited empirical research examining the direct impact of AI features on time efficiency in graphic design project management. Existing studies have largely focused on general technology adoption and digital transformation, with less emphasis on how specific AI functionalities contribute to measurable improvements in workflow performance. This gap highlights the need for focused research evaluating the effectiveness of AI-driven tools in improving time efficiency in design project environments.

Therefore, this study aims to examine the impact of Figma AI features on time efficiency in graphic design project management. By investigating the relationship between AI-driven functionalities and workflow performance, the study seeks to provide empirical insights that contribute to both academic literature and practical applications in modern project management.

Problem Statement

Despite the rapid advancement and widespread adoption of artificial intelligence (AI) in digital design tools, achieving time efficiency in graphic design project management remains a persistent challenge. Modern design workflows are characterized by iterative processes, continuous revisions, and the need for real-time collaboration among team members. These complexities often result in inefficiencies such as repetitive manual tasks, coordination delays, and miscommunication, which can negatively impact project timelines and overall performance.

One of the core issues in graphic design project environments is the reliance on traditional workflows that are not fully optimized for efficiency. Designers frequently spend considerable time on repetitive adjustments, layout modifications, and coordination with team members, which reduces productivity and delays project delivery. Although AI-driven tools such as Figma introduce advanced features intended to streamline workflows, their actual impact on efficiency has not been sufficiently examined.

A significant challenge lies in the gap between technological capabilities and practical outcomes. While Figma provides AI-enabled functionalities such as automation, real-time collaboration, and workflow optimization, it is unclear to what extent these features translate into measurable improvements in project execution time. In many cases, organizations adopt new technologies without fully understanding their impact on performance, leading to underutilization or inefficient implementation.

Furthermore, existing research has largely focused on general aspects of technology adoption and digital transformation, with limited attention given to the specific role of AI features in enhancing time efficiency within graphic design project management. This creates a critical knowledge gap, as there is insufficient empirical evidence linking AI-driven design tools to tangible efficiency outcomes.

Therefore, this study seeks to address this gap by examining the impact of Figma AI features on time efficiency in graphic design project management. By providing empirical insights into how AI functionalities influence workflow performance, the study aims to support more effective adoption and utilization of AI-driven tools in modern design environments.

Theoretical Foundations

This study draws upon two key theoretical frameworks that together explain how technology adoption and resource utilization influence performance outcomes in project management environments.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) provides a foundational framework for understanding how users adopt and utilize new technologies. According to TAM, two primary factors—perceived usefulness and perceived ease of use—determine an individual’s intention to use a system. Perceived usefulness refers to the degree to which a user believes that technology enhances their performance, while perceived ease of use relates to the level of effort required to use the system effectively.

In the context of this study, Figma AI features such as automation, real-time collaboration, and workflow optimization enhance perceived usefulness by improving task efficiency and reducing manual workload. At the same time, Figma’s intuitive interface and integrated functionality contribute to perceived ease of use, making it easier for users to adopt and use these features. As a result, TAM explains that adopting AI-driven tools improves workflow performance and increases efficiency in graphic design project management.

Resource-Based View (RBV)

The Resource-Based View (RBV) emphasizes the importance of internal resources and capabilities in achieving competitive advantage and improved organizational performance. According to RBV, valuable, rare, and inimitable resources enable organizations to enhance efficiency and achieve superior outcomes.

In this study, Figma AI features are conceptualized as strategic technological resources that enhance workflow efficiency. Automation and collaboration features strengthen design teams’ ability to complete tasks efficiently and coordinate effectively. By leveraging these AI-driven capabilities, organizations and individuals can optimize design processes, reduce time wastage, and improve project performance.

Integration of Theories

Integrating TAM and RBV creates a comprehensively linked framework: TAM clarifies why and how users interact with AI features, while RBV explains how these AI features, as valuable organizational resources, boost performance. This integration logically suggests that effectively using Figma AI features makes graphic design project management more time-efficient.

LITERATURE REVIEW

Artificial intelligence (AI) is transforming digital work environments, especially in fields demanding efficiency and collaboration. AI automates repetitive tasks, improves decision-making, and boosts productivity. In project management, these abilities reduce delays and support timely project completion (Dwivedi et al., 2021).

In graphic design, digital collaboration tools play a crucial role in facilitating communication and coordination among team members. Platforms such as Figma enable real-time collaboration, allowing multiple users to work simultaneously on shared design projects. This collaborative functionality helps reduce communication gaps, improve task synchronization, and enhance workflow efficiency (Alalwan et al., 2020). Additionally, AI-driven features such as auto-layout, component reuse, and smart alignment help minimize manual effort and increase consistency in design processes.

Studies on digital transformation show AI improves workflow and productivity. AI-powered tools automate and optimize processes, allowing faster, more accurate work (Tarafdar et al., 2021). This is crucial in graphic design, where efficiency drives project success and timely delivery.

Most research on AI and collaboration tools covers general technology adoption, not the specific effects of AI features in design platforms. Few studies focus on time efficiency in graphic design project management. The link between AI capabilities and workflow efficiency remains underexplored.

Therefore, this study addresses this gap by examining the impact of Figma AI features on time efficiency in graphic design project management. By focusing on a widely used design platform, the study provides empirical insights into how AI technologies improve workflow performance and project efficiency.

RESEARCH METHODOLOGY

Research Design and Approach

This study adopts a quantitative research design within a positivist paradigm, which assumes that relationships between variables can be measured objectively using statistical methods. The research is classified as explanatory research, as it aims to examine the causal relationship between Figma AI features and time efficiency in graphic design project management. A cross-sectional survey design was employed, collecting data at a single point in time to provide a snapshot of respondents' experiences and perceptions.

Conceptual Framework and Variables

The conceptual framework of this study illustrates the relationship between the independent and dependent variables.

Independent Variable:

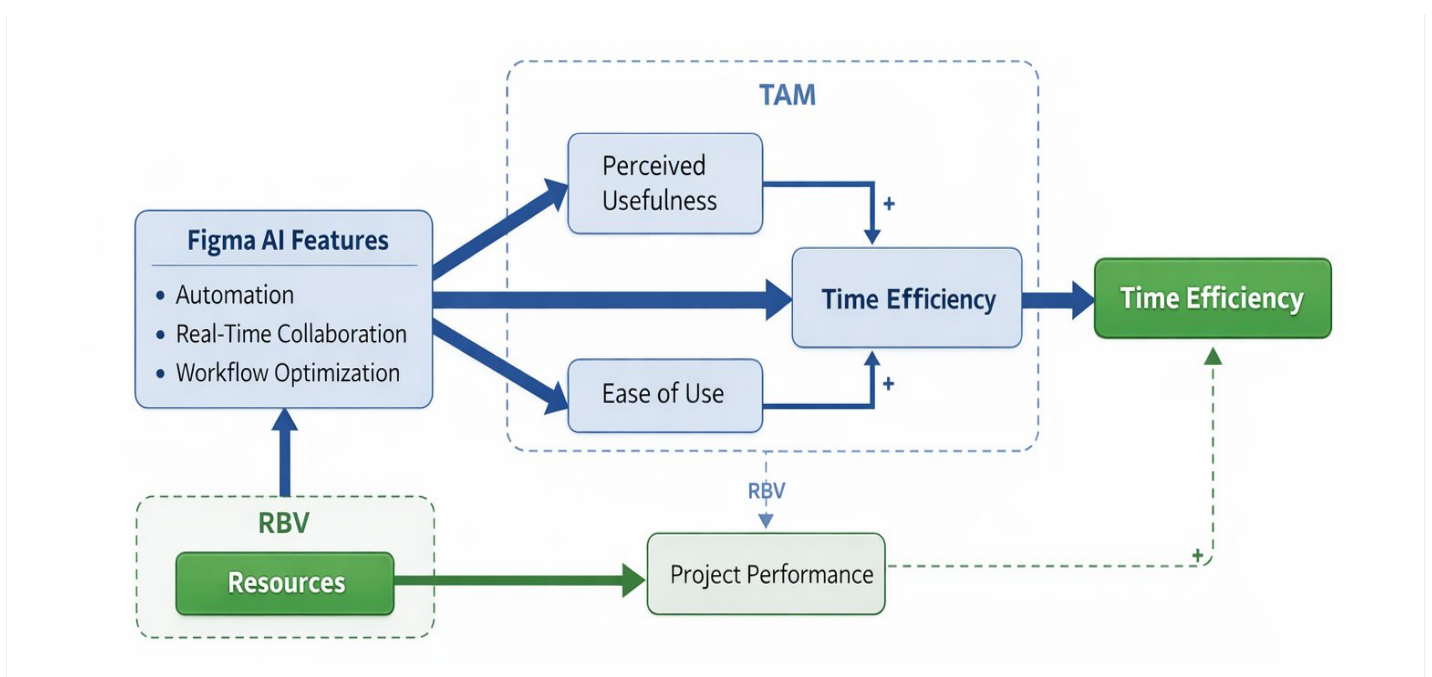
Figma AI Features (automation, real-time collaboration, workflow optimization)

Dependent Variable:

Time Efficiency (task completion speed, reduced delays, workflow effectiveness)

The study assumes that the use of AI-driven features positively influences time efficiency in graphic design project management.

Figure 1: Conceptual Framework of the Study



The conceptual framework illustrates the relationship between Figma AI features (independent variable) and time efficiency (dependent variable). It explains how AI-driven functionalities influence workflow performance in graphic design project management

Sampling and Data Collection

The target population of this study consists of individuals involved in graphic design projects, including graphic designers, UI/UX designers, and project team members who actively use Figma in their workflows.

A non-probability convenience sampling technique was used due to accessibility and time constraints. This approach was selected due to time and accessibility constraints, although it may limit the generalizability of the findings.

Data was collected through an online questionnaire distributed via digital platforms such as social media and professional networks. A total of 130 valid responses were collected and analyzed.

Measurement Instrument

The data collection instrument was a structured questionnaire consisting of two main sections. The first section captured demographic information, while the second section measured the study variables. All items were assessed on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

The measurement items for Figma AI features included automation, collaboration, and workflow optimization, while time efficiency was measured through indicators such as task completion speed and reduced delays.

Data Analysis Techniques

The collected data were analyzed using statistical methods to examine relationships among variables. The analysis included:

- **Descriptive Analysis** to summarize respondent characteristics
- **Reliability Analysis (Cronbach's Alpha)** to assess internal consistency
- **Correlation Analysis** to examine relationships between variables
- **Regression Analysis** to test the impact of Figma AI features on time efficiency.

These techniques provide a comprehensive framework for evaluating the study's hypothesis and ensuring the reliability and validity of the findings.

Findings and Analysis

Demographic Profile

The demographic profile of respondents provides an overview of the sample characteristics and ensures the relevance of the data collected. A total of 130 valid responses were obtained from individuals actively involved in graphic design projects. The respondents included graphic designers, freelancers, and project team members with practical experience in using Figma.

The sample reflects a diverse group in terms of gender, age, and professional background, which enhances the reliability of the findings. Most respondents reported regular use of Figma in their workflow, indicating that the data collected is based on real-world experience and practical application of AI-driven design features.

The demographic profile of respondents is presented in Table 1. The results show that the majority of respondents are female (53.8%), while 46.2% are male. In terms of age distribution, most respondents fall within the 26–35 age group, indicating that the sample consists primarily of young professionals actively engaged in graphic design projects.

Table 1. Demographic Profile of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	60	46.2
	Female	70	53.8
Age	18–25	50	38.5

	26–35	55	42.3
	36+	25	19.2

Note. N = 130.

Data Screening and Normality

Prior to analysis, data screening was conducted to ensure accuracy and completeness. The dataset was examined for missing values and outliers, and no significant issues were identified. Normality was assessed using skewness and kurtosis; all values fell within acceptable ranges (skewness between -2 and +2; kurtosis between -7 and +7). These results confirm that the data are normally distributed and suitable for parametric analysis.

Table 2. Normality Test Results

Variable	Skewness	Kurtosis
Figma AI Features	-0.85	1.45
Time Efficiency	-0.72	1.20

Note. Values within acceptable range (± 2 for skewness, ± 7 for kurtosis).

Descriptive Analysis of Key Variables

Descriptive analysis was conducted to examine the general trends and patterns in the data. The results indicate that respondents generally have a positive perception of Figma AI features, with mean values reflecting agreement on the effectiveness of automation, real-time collaboration, and workflow optimization functionalities.

Similarly, the responses related to time efficiency show that participants perceive improvements in task completion speed, reduction of delays, and overall workflow performance. These findings suggest that AI-driven features play a significant role in enhancing efficiency in graphic design project environments.

Descriptive analysis was conducted to examine the general trends and patterns in the data.

Table 3. Descriptive Statistics of Key Variables

Variable	Mean	Standard Deviation
Figma AI Features	4.12	0.65
Time Efficiency	4.05	0.70

Note. Values are based on a 5-point Likert scale.

Reliability and Validity Assessment

To ensure the accuracy and consistency of the measurement instrument, reliability analysis was conducted using Cronbach’s Alpha. The results indicate that both constructs—Figma AI features and time efficiency—demonstrated high internal consistency, with values exceeding the recommended threshold of 0.70. This confirms that the measurement items are reliable and suitable for further analysis.

Additionally, factor analysis results confirmed the validity of the constructs. The Kaiser-Meyer-Olkin (KMO) measure exceeded the acceptable level, and Bartlett’s Test of Sphericity was statistically significant ($p < 0.05$), indicating that the dataset is appropriate for factor analysis. All items loaded significantly onto their respective constructs, supporting the validity of the measurement model.

The reliability of the measurement scales was assessed using Cronbach’s Alpha, as shown in Table 3. The results indicate that both constructs exceed the recommended threshold of 0.70, confirming strong internal consistency.

Table 3. Reliability Analysis

Variable	Number of Items	Cronbach's Alpha
Figma AI Features	5	0.88
Time Efficiency	5	0.91

Note. Values above 0.70 indicate good reliability.

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis was performed to assess the construct validity of the measurement model. The Kaiser-Meyer-Olkin (KMO) measure exceeded the acceptable threshold of 0.60, and Bartlett's Test of Sphericity was statistically significant ($p < 0.05$), indicating that the data were suitable for factor analysis. The results showed that all items loaded strongly onto their respective factors, with factor loadings above 0.50, confirming the validity of the constructs.

Table 4. KMO and Bartlett's Test

Test	Value
KMO Measure	0.85
Bartlett's Test (Sig.)	0.000

Note. $KMO > 0.60$ and $p < 0.05$ indicate suitability for factor analysis.

Correlation Analysis

Correlation analysis was conducted to examine the relationship between Figma AI features and time efficiency. The results reveal a strong positive correlation between the variables ($r = 0.769$, $p < 0.01$), indicating that increased use of AI-driven features is associated with higher levels of efficiency in graphic design project management.

This finding suggests that AI functionalities such as automation and real-time collaboration contribute to improved workflow performance and reduced project delays.

Table 4 presents the results of the correlation analysis. The findings reveal a strong positive relationship between Figma AI features and time efficiency ($r = 0.769$, $p < 0.01$), indicating that increased use of AI features is associated with higher efficiency.

Table 5. Correlation Matrix

Variable	1	2
1. Figma AI Features	1	
2. Time Efficiency	0.769**	1

*Note. * $p < 0.01$ (strong positive correlation).

Regression Analysis

Regression analysis was performed to assess the impact of Figma AI features on time efficiency. The results indicate that Figma AI features have a significant positive effect on time efficiency ($\beta = 0.750$, $p < 0.05$). The model explains approximately 59.1% of the variance in time efficiency ($R^2 = 0.591$), demonstrating a strong predictive relationship between the variables.

Based on these findings, the study hypothesis is supported:

H1: Figma AI features have a significant positive impact on time efficiency.

This result confirms that the integration of AI-driven functionalities in design tools significantly enhances workflow efficiency and project performance.

Regression analysis results are presented in Table 5 and Table 6. The findings indicate that Figma AI features have a significant positive effect on time efficiency ($\beta = 0.750, p < 0.05$). The model explains 59.1% of the variance ($R^2 = 0.591$), demonstrating a strong predictive relationship.

Table 6. Model Summary

R	R ²	Adjusted R ²
0.769	0.591	0.587

Table 7. Regression Coefficients

Variable	Beta (β)	Sig. (p-value)
Figma AI Features	0.750	0.000

Note. $p < 0.05$ indicates statistical significance.

Hypothesis Testing

Based on the regression results, the alternative hypothesis (H1) is accepted. Specifically, the findings show that Figma AI features significantly increase time efficiency in graphic design project management.

The regression results indicate that Figma AI features have a significant positive effect on time efficiency ($\beta = 0.750, p < 0.05$). Therefore, the alternative hypothesis (H1) is accepted.

DISCUSSION AND IMPLICATIONS

The findings of this study provide strong empirical support for the positive impact of Figma AI features on time efficiency in graphic design project management. The results of correlation and regression analyses indicate that AI-driven capabilities such as automation, real-time collaboration, and workflow optimization significantly improve workflow performance and reduce task completion time. These findings confirm that integrating AI features plays a critical role in improving efficiency in digital design environments.

From a theoretical perspective, the results are consistent with the Technology Acceptance Model (TAM), which suggests that users are more likely to adopt technologies that enhance their performance. In this study, Figma AI features increase perceived usefulness by simplifying complex design processes and improving workflow efficiency. This encourages users to adopt and rely on these features, ultimately improving productivity. Additionally, the findings support the Resource-Based View (RBV), which emphasizes leveraging technological resources to achieve superior performance. Figma’s AI capabilities are valuable resources that enhance operational efficiency and improve project outcomes.

From a practical perspective, the findings offer important implications for designers, project managers, and organizations. The results suggest that adopting AI-driven design tools can significantly improve time management, reduce delays, and enhance overall workflow efficiency. In modern project environments where speed and collaboration are critical, platforms like Figma enable teams to work more effectively and deliver projects faster. Furthermore, the findings highlight the importance of training and supporting users to fully utilize AI features, ensuring that organizations maximize the benefits of technology adoption.

Moreover, the study emphasizes the growing importance of digital transformation in project management practices. As organizations increasingly rely on collaborative and AI-powered tools, the ability to integrate these technologies into daily workflows becomes a key factor in achieving competitive advantage. By

leveraging AI effectively, organizations can optimize processes, improve team member coordination, and enhance overall project performance.

In summary, this study shows that AI-driven design tools are essential for efficiency in modern project management. The findings strengthen both academic and practical cases for adopting advanced technologies to improve workflows and project outcomes.

It is important to note that this discussion is strictly based on the empirical findings obtained from the data analysis presented in this study. No new data or unsupported assumptions have been introduced in this section. The interpretation of results is grounded in the statistical evidence and aligned with the theoretical frameworks discussed earlier, ensuring the validity and consistency of the conclusions.

However, despite these contributions, several limitations should be acknowledged. The use of non-probability convenience sampling may limit the representativeness of the findings and introduce potential sampling bias. Additionally, the cross-sectional design restricts the ability to capture long-term effects of AI adoption on time efficiency. The study's focus on a single platform, Figma, may also limit the generalizability of the results to other design tools and environments. Furthermore, the reliance on self-reported data may introduce response bias, as participants' perceptions may not fully reflect actual behavior.

To address these limitations, future research is encouraged to adopt probability sampling techniques to improve representativeness and reduce bias. Expanding the scope of analysis to include multiple AI-driven design platforms, such as Adobe XD and Sketch, would enhance the generalizability of findings. In addition, longitudinal research designs could provide deeper insights into the long-term impact of AI adoption on workflow efficiency. Incorporating qualitative methods, such as interviews or case studies, would also offer richer insights into user experiences, challenges, and practical implementation issues. Finally, future studies may explore moderating variables such as user expertise, organizational support, and project complexity to better understand factors influencing time efficiency in design project management.

CONCLUSION

This study examined the impact of Figma AI features on time efficiency in graphic design project management, aiming to understand how AI-driven capabilities influence workflow performance. The findings provide strong empirical evidence that the use of AI features significantly enhances time efficiency by improving task execution speed, reducing delays, and optimizing workflow processes. The statistical results confirm that Figma AI features are a key determinant of efficiency in digital design environments.

The study contributes to existing literature by providing empirical support for established theoretical frameworks, particularly the Technology Acceptance Model (TAM) and the Resource-Based View (RBV). The results demonstrate that AI features increase perceived usefulness and serve as valuable technological resources that enhance performance outcomes. This reinforces the importance of adopting technology and effectively utilizing resources to improve project management efficiency.

From a practical perspective, the study highlights the importance of integrating AI-driven tools into graphic design workflows. Organizations and professionals can achieve higher productivity and better project outcomes by leveraging features such as automation, real-time collaboration, and workflow optimization. The findings suggest that adopting AI-enabled platforms is no longer optional but essential for maintaining efficiency and competitiveness in modern project environments.

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