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**“Assessing the Role of Digital Tools and Technologies in Enhancing Productivity
and Project Success”**

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ABSTRACT

This study explores the effect of digital tool utilization on assignment success and specializes in how those tools influence productivity, perceived effectiveness, and project effects. In an increasing number of digital global, project managers and teams are adopting technological answers to streamline strategies, enhance productivity, and enhance normal project success. The research makes use of quantitative methods, which include descriptive statistics, correlation analysis, and multiple regression analysis, to study the relationships among digital tool usage, productivity, perceived effectiveness, and project success. This study investigates the role of digital tools and technologies in enhancing productivity and achieving project success in modern organizational settings.

To achieve these objectives, the study employed a quantitative research method using a survey-based questionnaire distributed among professionals across various industries. Responses were analysed using descriptive and inferential statistics, particularly focusing on Likert-scale data to measure perceptions of effectiveness and impact. The findings suggest a strong correlation between the integration of digital technologies and positive project outcomes, including time savings, improved communication, and higher overall performance. The study concludes with practical implications for managers and future researchers aiming to leverage technology for strategic success. The correlation analysis indicates that digital tool usage not only boosts productivity but also enhances the perceived effectiveness of tool, which in turn, results in more a hit project execution. The regression analysis in addition confirms that digital tool usage, productivity improvement, and project complexity are all extensive elements in determining assignment success. Among those, digital tool utilization is the most influential predictor. The findings suggest that organizations must spend money on digital tool whilst additionally ensuring that employees are appropriately organized and supported at some point in the adoption system.

Keywords: Digital tool usage, project success, productivity improvement, perceived effectiveness, project management, technology adoption, regression analysis, correlation analysis

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CHAPTER 1

1 INTRODUCTION

1.1 Research Background

Digital transformation has become a pillar of modern organisational strategies, completely reworking traditional approaches across industries. There has been a significant advancement in how project management is achieved with the use of digital tools and technology that provides contemporary methods to manage time, resources, and risks. These advancements are crucial for a generation where projects are becoming ever more complex and demanding agility, teamwork and accuracy (Haleem et al., 2022). The study aimed to study digital transformation as a tool for increased productivity and successful execution of project management permeating information about the influence of digital tools in project management adoption; and tools effectiveness (Ikram et al., 2021).

The developing integration of digital tools and generation into project management practices has transformed how projects are planned, finished, and monitored (Lacka et al., 2021). Digital transformation in project management refers to the adoption of digital tools and technology, which incorporates cloud computing, synthetic intelligence (AI), and project management software program applications, to streamline workflows, enhance decision-making, and optimize help usage.

Similarly, AI-powered analytics offer actionable insights that assist managers appearance in advance to risks, allocating assets and making certain project deliverables align with organisational goals (Wang et al., 2022). Digital transformation has emerged as an essential enabler in addressing the challenges, providing progressive answers that enhance productivity and pick out the danger of assignment control success. Tools like Microsoft Project, Asana, and Trello have revolutionized challenge management, allowing businesses to collaborate successfully despite geographical obstacles (Zhang and Chen, 2024).

Furthermore, the digital tool to be had makes it vital for establishments to select answers that align with their assignment control goals. This study aims to assess the location of digital tool and generation in enhancing productivity and project fulfilment. It explores the effect of digital transformation on difficult results, evaluates the benefits and challenges of integrating digital solutions, and identifies tremendous practices for a hit implementation (Benyam et al., 2021). The study seeks to contribute to the growing frame of know-how on digital transformation in project management and provide actionable insights for practitioners and corporations navigating this vital shift (Razzaq et al., 2021).

The rapid pace of digital transformation has considerably inspired project management, reshaped conventional techniques and introduced superior tool and technologies that discover productivity and make sure project management. Digital transformation in challenge management includes integrating digital tools, technology, and strategies to enhance performance, collaboration, and decision-making during project lifecycles (Alsheyadi et al., 2024). This shift addresses the developing complexity of projects in a current dynamic business enterprise environment, wherein the need for agility, precision, and timely transport is paramount.

The adoption of digital tool which incorporates project management software program programs, collaboration structures, and analytics tools has been linked to advanced useful resource allocation, conversation, and tracking capabilities. For instance, project management systems like Microsoft Project and Trello provide features collectively with project scheduling, workload distribution, and actual-time updates, which streamline techniques and discover group productivity (Raj et al., 2021). Similarly, the cloud-based tool facilitates seamless collaboration during geographically dispersed groups, a critical detail in the fulfilment of current, allotted initiatives (Javaid et al., 2022).

Digital technology, along with artificial intelligence (AI) and machine learning (ML) have emerged as transformative enablers in challenge control. AI-powered tool can expect potential project delays, optimize aid allocation, and provide data-driven insights to manual decision-making (Marnewick, 2020). Additionally, data analytics complements the

capacity to display performance metrics and perceive areas requiring development, thereby aligning projects with organisational objectives (Surya et al., 2021).

Research shows a strong correlation between digital transformation and project effects. According to Vahdat, (2022), corporations that adopt digital tool are more likely to gather better tiers of assignment fulfilment, which include assembly closing dates, staying within charge variety, and turning in predicted well. However, challenges which include resistance to change, excessive implementation prices, and the digital expertise hole save you the seamless adoption of this generation (Zhao et al., 2023).

Despite those challenges, the functionality of digital transformation in the use of project control is obvious. The function of digital tool and technology in project management is critical for businesses aiming to decorate their productivity and gain a sustainable increase in increasingly more competitive landscapes. The study seeks to find out these dynamics, building on competitive literature to pick out nice practices and address implementation obstacles.

1.2 Problem Statement

The complexity of modern project management has extensively improved due to globalization, dynamic customer needs, and the developing scale of initiatives. Traditional methods regularly lack the agility and performance required to fulfil those challenges, resulting in delays, price overruns, and compromised projects. Digital tools and technology have emerged as capability solutions to address those inefficiencies, presenting superior abilities for project management, useful resource allocation, and actual-time collaboration (Bereczki and Kárpáti, 2021). However, the adoption of these tools stays choppy, with many organisations struggling to combine them efficaciously into their workflows.

This project is compounded by restricted knowledge of ways unique digital tools influence key project outcomes, consisting of timeliness, financial adherence, and standard high quality. Existing research highlights the capacity of digital tools to identify productivity and enhance decision-making, however, the practical applications of those findings regularly

face resistance because of skill gaps, economic constraints, and organisational inertia (Hendrawan et al., 2024). Moreover, even as tools including AI-powered analytics and cloud-based platforms have proven promise, the lack of empirical evidence linking their utilization to expanded project fulfilment quotes creates uncertainty for managers and stakeholders. These gaps are critical for allowing organisations to fully capitalize on the possibilities presented by using digital transformation.

1.3 Research Aim

This study aims to investigate the role of digital tools and technologies in enhancing productivity and achieving project success in modern project management.

1.4 Research Questions

- RQ1. How do digital tools and technologies enhance productivity in project management?
- RQ2. What is the impact of digital transformation on the success rates of projects?
- RQ3. Which specific digital tools are most effective in improving various aspects of project management?

1.5 Research Objectives

- RO1. To identify the most used digital tools in project management and evaluate their features.
- RO2. To assess the impact of digital tools on crucial project outcomes, such as timeliness, budget adherence, and quality.
- RO3. To explore the relationship between the use of digital tools and the productivity of project teams, providing recommendations for optimizing tool integration.

1.6 Significance of Study

This study is significant because it contributes to the developing need for proof-based strategies to optimize the use of digital tools and technologies in project management. Understanding how those tools enhance productivity, decision-making, and collaboration is essential for project managers and agencies seeking to remain aggressive in a rapidly digitizing panorama. Research suggests that businesses adopting digital solutions, along with cloud-based collaboration tools and AI-driven project management platforms, can acquire advanced efficiency and adaptability (Liu et al., 2022).

The only digital tool and its impact on project results, this study offers practical insights for diverse stakeholders. Project managers can advantage of expertise in which tools are satisfactory proper to their goals, allowing them to make knowledgeable selections about generation adoption. Organisations can benefit from strategic steering on enforcing digital transformation initiatives that align with their objectives, improving success rates and supporting usage (Schettino et al., 2024). Additionally, software program developers can use the findings to lay out extra person-centric tools tailor-made to the needs of project groups.

The broader academic network even advantage from this study because it addresses a fantastically underexplored vicinity in project management literature. The research contributes to advancing know-how on digital transformation and its role in improving project fulfilment. Ultimately, this study's objective is to empower businesses to leverage digital tools efficaciously, fostering productivity and innovation in an increasingly competitive and technology-driven international (Wysocki, 2019).

1.7 Scope of Study

The scope of this study specializes in assessing the role of digital tools and technologies in enhancing productivity and achieving project management within the domain of project management. As companies an increasing number of face the challenges of handling complicated initiatives, digital transformation gives a pathway to streamline operations, optimize useful resource allocation, and enhance team collaboration (Lee et al., 2022).

The research encompasses the analysis of diverse digital tools, which include cloud-based platforms, project management software programs, and artificial intelligence (AI) programs, and evaluates their impact on key performance metrics consisting of timeliness, budget adherence, and high quality.

This study is often targeted at project managers, organisational leaders, and decision-makers concerned with adopting and enforcing digital tools. The geographical awareness is large, taking into consideration globally applicable insights, the industry awareness is diverse because the digital tool is applied throughout multiple sectors, together with creation, IT, healthcare, and schooling. The scope of the study also includes addressing ability challenges related to digital transformation. Research highlights problems inclusive of resistance to trade, talent gaps, and the cost of technology adoption, which can restrict the effectiveness of digital tools (Arslan et al., 2022). The study gives actionable suggestions to facilitate seamless integration and maximize the benefits of digital transformation.

This study does not focus on technical configurations or software improvement elements however as an alternative study the practical implications and results of the use of digital tools. The literature contributes to digital transformation in project management, it bridges the gap between idea and exercise, supplying a basis for similar exploration and innovation inside the subject (Gupta et al., 2024).

1.8 Dissertation Structure

The dissertation is structured as follows:

Chapter 1 provides a comprehensive overview of digital transformation in project management, including its evolution, key drivers, and challenges. It explores the theoretical foundations and establishes the relevance of this study in the context of existing literature.

Chapter 2 analyses specific digital tools and technologies used in project management. This chapter studies their features, applications, and effectiveness in enhancing productivity and decision-making.

Chapter 3 evaluates the impact of digital transformation on project success, focusing on critical outcomes such as timeliness, budget compliance, and team performance. This chapter also explores the challenges organisations face in adopting digital tools and the strategies to overcome them.

Chapter 4 discusses the research methodology, detailing the design, data collection methods, and analytical approaches employed in this study.

Chapter 5 the Conclusion chapter synthesizes the findings, highlights the implications for practitioners and organisations, and provides recommendations for future research.

CHAPTER 2

2 LITERATURE REVIEW

2.1 Introduction

Digital transformation has reshaped challenge management, allowing corporations to optimize workflows, identify collaboration, and improve decision-making. The conventional project management methodologies to data-driven techniques have been facilitated through improvements in artificial intelligence (AI), significant data, cloud computing, and collaborative tools. This chapter evaluated existing literature on digital transformation in project management, figuring out key study themes, comparing methodologies, and highlighting gaps within the literature. The studies on (1) theoretical perspectives on digital transformation, (2) the effect of digital tools on project success, (3) obstacles to digital adoption, and (4) emerging developments shaping the future of project management.

2.2 Theoretical Perspectives on Digital Transformation in Project Management

Several theoretical models explain the adoption and impact of digital technologies in project management.

2.2.1 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), developed by Davis (1989), posits that user acceptance of new technology is primarily influenced by two core factors: Perceived Usefulness (PU) and Perceived Ease of Use (PEU). In the context of this research, which explores the impact of digital tools on project outcomes within marketing strategies in UK fashion companies, TAM provides a relevant theoretical framework. The adoption and effective use of digital tools such as customer analytics platforms, AI-powered campaign automation, and cloud-based collaboration software are closely linked to how marketing professionals perceive these tools in terms of ease and usefulness.

If marketers view digital tools as easy to use and beneficial in enhancing performance, they are more likely to integrate them into their daily workflows, thereby increasing the overall digital maturity of the organization. This aligns with findings by Kala Kamdjoug (2024), who demonstrated that higher PEU and PU correlate with greater adoption rates of technology within project teams. In this research, TAM helps explain the variance in tool usage and project outcomes reported by participants.

2.2.2 Diffusion of Innovation (DOI) Theory

The Diffusion of Innovation (DOI) Theory, delivered by Everett Rogers in 1962, explains how new thoughts, practices, and technologies spread inside a social gadget or corporation through the years. This theory identifies five key factors that affect the adoption of innovation: relative advantage, compatibility, complexity, trialability, and observability. In the context of this research examining the effect of digital tool on challenge outcomes in UK fashion organizations DOI provides a beneficial lens to understand how digital innovations, including advertising automation, CRM systems, and assignment collaboration gear, are integrated into organizational workflows.

According to Daramola et al. (2024), groups with a robust way of life of innovation and openness to trade are more likely to project management software and different digital tool correctly. Within mission-primarily based environments like advertising and marketing teams, early adopters regularly set the tone for broader adoption, influencing their friends via seen success and verified performance. In this observe, DOI enables to interpret the varying prices of digital adoption discovered across agencies and how these variations potentially impact challenge fulfilment, crew productiveness, and marketing overall performance.

2.3 Impact of Digital Tools on Project Success

Digital transformation in project management has substantially contributed to improving project results, mainly in terms of performance, cost savings, and stakeholder collaboration. The integration of digital tools has converted traditional project management tactics, making them greater streamlined and powerful (Nenni et al., 2024).

Project management software program including Trello, Asana, Jira, and Microsoft Project has automated various administrative and repetitive projects, allowing project teams to cognizance on more strategic aspects of project execution (Zhao et al., 2023).

These tools facilitate seamless project tracking, deadline management, and workflow optimization, ultimately improving average challenge performance. Research through (Ikwanusi et al., 2024), showed that AI-powered project scheduling can boost performance by using as a good deal as 30%, reducing and minimizing project delays. In addition to improving performance, digital tools play a crucial function in cost and price range management. Cost overruns are a major project in challenge management, regularly main to financial strain and project failure (Hassan et al., 2024).

The implementation of a digital cost management system, which encompasses the SAP Project System and Oracle Primavera, has provided organizations with real-time budget monitoring talents, allowing project managers to track costs and allocate resources greater successfully (Attah et al., 2024). According to a document with the aid of the Project Management Institute (PMI, 2021), organizations that adopt digital budgeting tools revel in better economic management and decreased project costs. Furthermore, (Aldoseri et al., 2024), highlighted that integrating predictive analytics into price range planning enables more accurate monetary forecasting, minimizing the risk of rate variety overruns and ensuring that projects continue to be financially possible.

Risk management is a very different and crucial place in which digital transformation has tested massive benefits. AI-driven chance assessment tools have revolutionized the manner project risks are diagnosed, analysed, and mitigated (Rialti and Filieri, 2024). This tool makes use of ancient project data to predict potential risks and recommend proactive mitigation strategies, thereby decreasing uncertainties related to project execution. Tominc et al. (2024), found those businesses leveraging AI for risk management experience 25% fewer challenge failures, as predictive analytics complements selection-making and allows project managers to address ability troubles earlier than they expand. The ability to anticipate risks and implement pre-emptive measures guarantees smoother

project execution and minimizes disruptions due to unexpected challenges (Schiuma et al., 2024).

Digital collaboration structures together with Microsoft Teams, Slack, and Google Drive have emerged as essential for facilitating real-time conversation and statistics sharing (Bhuiyan et al., 2024). Olaniyi et al. (2024) emphasized that digital collaboration tool reduces facts silos and decorates understanding-sharing amongst team contributors, main to greater informed preference-making and advanced challenge coordination.

Overall, the impact of digital tools on project success is profound, with studies constantly demonstrating their effectiveness in improving productivity, cost management, chance mitigation, and collaboration. However, the successful adoption and implementation of digital tools require careful making of plans, education, and alternate management to maximize their potential benefits Naji et al., 2024). As technology continues to conform, project managers should stay up to date on emerging digital innovations to preserve a competitive gain and ensure the continuing success of their projects.

2.4 Barriers to Digital Transformation in Project Management

While digital transformation in project management gives numerous advantages, its adoption is regularly hindered by several giant limitations. One of the primary challenges is resistance to alternate, as employees and challenge managers can be reluctant to project new technologies because of worries approximately process displacement and a loss of technical capabilities. Research with the aid of Tursunbayeva and Gal, (2024), indicates that personnel who've been accustomed to standard challenge management practices often view digital transformation as a disruptive force in preference to an enhancement.

Rinchen et al. (2024), emphasize that a digital transformation requires efficient trade management techniques, which include a strong leadership guide, non-stop training, and clear communication approximately the benefits of the latest technologies. According to a file through Onesi-Ozigagun et al. (2024), 60% of agencies present process digital transformation experience cybersecurity challenges, highlighting the crucial need for

sturdy safety features. Cyberattacks focused on cloud-based project management systems can result in data loss, economic harm, and operational disruptions (Zadeh et al., 2024).

The excessive cost of enforcing digital tools is another tremendous barrier, specifically for small and medium-sized corporations (SMEs). Acquiring advanced project management software, keeping cloud storage, and educating personnel require significant economic investment. Hokmabadi et al. (2024), highlight that whilst larger agencies also have the financial assets to adopt digital solutions, SMEs often warfare with price range constraints. Additionally, ongoing maintenance costs, subscription expenses, and software upgrades in addition uploaded to the monetary burden. However, cloud-based answers have emerged as a cost-effective opportunity, allowing organizations to get project-to-project management tool on a subscription basis rather than making significant premature investments (Sharabati et al., 2024).

Many businesses depend upon outdated software and conventional infrastructure, making it difficult to integrate present-day digital tools seamlessly. Zhang et al. (2024) noticed that compatibility problems among new and old structures can result in inefficiencies, statistics migration difficulties, and disruptions in project workflows. Organizations often face resistance from personnel who are accustomed to legacy structures and discover it challenging to conform to new systems (Musarat et al., 2024). API-based total answers also provide a practical approach by enabling interoperability among current legacy structures and new project management software. Companies can minimize disruptions and ensure a more successful transition (Omowole et al., 2024).

Despite these boundaries, companies that proactively cope with resistance to trade, invest in cybersecurity measures, explore cost-powerful digital answers, and put in force structured integration techniques can effectively navigate the complexities of digital transformation. The long-term benefits of enhanced efficiency, cost financial savings, stepped-forward collaboration and higher project consequences outweigh the challenges, making digital adoption an essential step for current project management (Faruque et al., 2024).

2.5 Emerging Trends in Digital Project Management

Project management is rapidly evolving with the emergence of superior digital technology, which is redefining how projects are deliberate, executed, and monitored. Among the most transformative trends is the integration of synthetic intelligence (AI) and automation into project management practices. AI-powered tools are projected to automate up to eighty of project-associated projects by 2030 (PwC, 2022), considerably reducing administrative workload and enhancing decision-making accuracy. AI-driven challenge management solutions utilize system learning algorithms to expect project risks, optimize aid allocation, and streamline scheduling, thereby enhancing standard project efficiency.

Research by Nwabekwe et al. (2024), highlighted that AI-primarily based automation minimizes human errors in project planning and execution, leading to improved productivity and higher adherence to project timelines. Additionally, natural language processing (NLP) enables AI tools to research project documentation and generate insights that help project managers make data-driven decisions. As organizations retain project AI-driven solutions, the function of human project managers is expected to shift toward more strategic decision-making and oversight, whilst ordinary duties become increasingly automated (Rajagopal et al., 2024).

Blockchain technology is also gaining traction in project management because of its capacity to decorate transparency, security, and consideration in project documentation. Elia et al. (2024), argue that blockchain's decentralized ledger machine ensures tamper-proof report-keeping, decreasing the risk of fraud and disputes amongst stakeholders. Traditional project management frequently is based on centralized documentation, making facts manipulation and miscommunication common challenges (Kala Kamdjoug, 2024). However, blockchain gives a secure and immutable report of transactions, making sure that all challenge-associated agreements, financial transactions, and deliverables are saved transparently.

Furthermore, smart contracts self-executing agreements saved on blockchain can automate value approaches based on predefined project milestones, ensuring well-timed disbursement of price range and decreasing delays due to bureaucratic inefficiencies

(Oliveira and Gomes, 2025). Research through Sagala and Ōri, (2024), suggests that the combination of blockchain in challenge manipulation is no longer the most effective enhanced responsibility however moreover strengthens stakeholder collaboration by providing a single supply of reality for project data. Digital reality (VR) and augmented reality (AR) technology are also revolutionizing project management through enhancing challenge visualization and stakeholder engagement. In industries the side of manufacturing, engineering, and manufacturing, VR and AR tools permit project teams to create immersive simulations of challenge designs, allowing stakeholders to discover and interact with digital prototypes before real implementation (Daramola et al., 2024).

AR application, on the other hand, facilitates on-site project execution by covering digital records in bodily environments. For instance, AR-powered smart glasses can show project blueprints to construction employees, minimizing error and enhancing on-website performance (Zhang et al., 2024). These technologies are also being used for worker training and talent improvement, permitting employees to exercise complex project responsibilities in a risk-unfastened digital environment. As VR and AR tool emerge as extra accessible and cost-efficient, their adoption in challenge management is anticipated to grow, leading to extra green project execution and improved stakeholder communication (Nenni et al., 2024).

Traditional challenge management frameworks, together with the Waterfall method, regularly try to adapt to rapidly converting project requirements, main to inefficiencies and delays. In contrast, Agile methodologies, which originated in the software program development quarter, sell adaptive planning and incremental development, making them distinctly suitable for dynamic project environments (Ikwanusi et al., 2024). Digital systems together with Jira, Trello, and Monday.Com facilitate Agile project management by allowing real-time collaboration, and backlog prioritization.

Additionally, Hybrid project management, which mixes Agile and traditional methodologies, is gaining recognition as businesses are looking for stable structured project-making plans with the flexibility of Agile practices. Research by Attah et al. (2024), showed that Hybrid procedures identify project responsiveness with the aid of allowing

teams to contain Agile techniques even as retaining standard project governance. This method is particularly useful for significant-scale initiatives that require each distinct long-term period making plans and the capability to adapt to unforeseen challenges (Hassan et al., 2024).

Overall, the future of digital project management is being formed using rising technology, contributing to more suitable efficiency, transparency, collaboration, and adaptability. AI and automation are streamlining project procedures, blockchain is strengthening agreement with and protection, VR and AR are revolutionizing challenge visualization, and Agile and Hybrid methodologies are improving project flexibility (Tominc et al., 2024). As digital transformation continues to accelerate, businesses that proactively adopt those innovations benefit an aggressive benefit by enhancing challenge success costs and optimizing resource usage.

2.6 Contribution and Gaps to Existing Literature

Digital transformation in project management has been widely explored, with several studies emphasizing the benefits of digital tools in improving performance, lowering charges, and improving collaboration (Schiuma et al., 2024). However, there are significant gaps in understanding which precise digital tools have the most profound impact on exceptional aspects of project success, along with productivity, budget adherence, and change management (Olaniyi et al., 2024).

Existing literature acknowledges that tool like Trello, Asana, and Microsoft Project decorate challenge tracking and workflow automation, but there is constrained comparative analysis on which of those tools are maximum useful for specific project types and industries (Rialti and Filieri, 2024). Moreover, preceding research frequently awareness of digital transformation as a popular idea without assessing how special tool contributes to productivity enhancements at varying ranges of project execution (Naji et al., 2024). This study deals with this difficulty by analysing the function of digital tools in one-of-a-kind phases of project management, from initiation to closure (Bhuiyan et al., 2024).

Another area in which this study contributes to current literature is in comparing the role of digital tool in price range adherence and monetary management. Cost overruns continue to be a prime project in challenge management, but there are confined studies on how predictive analytics and AI-driven economic planning tools can mitigate those risks (Tursunbayeva and Gal, 2024). While a few research have explored the benefits of SAP Project System and Oracle Primavera in price range monitoring, a comprehensive examination of their comparative effectiveness is missing. This research fills this gap by assessing how digital budgeting tool affects economic performance and project cost predictability (Onesi-Ozigagun et al., 2024).

Additionally, change management remains a crucial but underexplored element of digital transformation in project management. AI-driven risk assessment tool has been proven to lessen project failures by predicting capacity risks primarily based on historical data (Davis and Song, 2019). However, there is a loss of empirical studies comparing traditional threat assessment strategies with AI-based total answers (Rinchen et al., 2024).

From a theoretical perspective, the prevailing literature with the aid of presenting a nuanced analysis of digital tool effectiveness throughout extraordinary project dimensions. Practically, it offers teams data-driven suggestions for choosing, imposing, and optimizing digital tool to identify productivity, economic manipulation, and risk management. This study helps project managers, policymakers, and enterprise leaders navigate the complexities of digital transformation, ensuring that digital tools are leveraged to their full potential in attaining project success.

2.7 Summary of Chapter 2

The literature overview explores the enormous function of digital tool in challenge management, emphasizing their capacity to identify productivity, streamline workflows, and improve financial manipulation. Various digital structures facilitate project automation, better scheduling, and real-time collaboration, leading to accelerated performance and decreased delays. Advanced technology together with predictive

analytics and AI-driven decision-making similarly contribute to cost management using minimizing monetary risks and optimizing aid allocation.

While current research highlighted the benefits and challenges of digital transformation, there is a need for deeper analysis of which precise tool has the maximum huge impact on unique components of project management. This study aims to identify this gap by assessing the effectiveness of digital tool in enhancing productivity, financial adherence, and risk management. The findings provide practical hints for optimizing the combination of digital solutions, imparting treasured insights for both researchers and practitioners in challenge management.

CHAPTER 3

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research technique used to examine the effect of digital transformation on marketing techniques inside the UK fashion industries. The Research Onion model (Saunders et al., 2019) presents a based totally method, guiding the selection of studies philosophy, approach, and statistics collection strategies. This chapter also outlines the research framework, facts series techniques, and analytical strategies used in the observe.

3.2 Research Philosophy

This study adopts a positivist studies philosophy, which is measurable, and independent of interpretations. The positivist paradigm also permits the use of quantitative methodologies such as surveys, which allow the collection of standardized information, ensuring consistency and reliability in findings (Wang et al., 2022). Positivism is appreciably applied in quantitative studies as it guarantees empirical statistics and statistical analysis to installation patterns, relationships, and causality between variables (Razzaq et al., 2021).

Other common research philosophies include **interpretivism**, **realism**, and **pragmatism**. **Interpretivism** emphasizes subjective understanding, social context, and the meaning individuals assign to their experiences. It often uses qualitative methods such as interviews or observations. **Realism** shares similarities with positivism but also acknowledges that human interpretation and context influence observations. Meanwhile, **pragmatism** is flexible, focusing on research questions rather than fixed philosophical boundaries, and often combines both qualitative and quantitative methods.

This research adopts **positivism** because the study aims to objectively examine the relationship between digital marketing tools (such as social media and email marketing) and marketing effectiveness. Using standardized surveys and statistical techniques such as correlation and regression supports the empirical, unbiased examination of variables, making positivism the most appropriate guiding philosophy for this quantitative study.

3.3 Research Approach

This study follows a deductive approach, which ensures a dependent investigation, bearing in mind clear conclusions based on data-driven proof. Furthermore, this approach aligns with the positivist philosophy, because it emphasises objectivity, replicability, and the capability to generalize findings throughout comparable contexts (Alsheyadi et al., 2024). In the context of this research, the study builds upon established theories of digital marketing, consumer behaviour, and technological adoption to study their impact on marketing strategies in UK fashion corporations. The study systematically assesses those predictions through the use of statistical methods along with correlation and regression analysis.

Alternative research approaches consist of inductive and abductive reasoning. Inductive tactics begin with records series and pass towards idea improvement based totally on patterns and observations. It is regularly used in exploratory research and is greater commonplace in qualitative research. Abductive reasoning, meanwhile, involves moving from side to side between theory and records to generate new insights, frequently combining qualitative and quantitative factors.

The deductive approach is most appropriate for this study because it allows the researcher to test theoretical relationships within a structured, empirical framework. The clear hypotheses and measurable variables in this study make it best for making use of deductive good judgment, assisting the research purpose to verify or refute theoretical assumptions through statistical evaluation.

3.4 Methodological Choice

A quantitative research methodology has been selected for this study because it allows for the collection and analysis of numerical data to study the position of digital transformation in shaping marketing strategies (Surya et al., 2021). Quantitative methods offer measurable and comparable consequences, decreasing subjectivity and increasing the reliability of findings. In this study, structured survey questionnaires are used to gather responses from marketing experts in UK-style companies.

The quantitative approach enables statistical techniques together with correlation analysis, regression modelling, and speculation checking to identify tremendous relationships between digital marketing too and business performance. This study can quantify the effectiveness of numerous digital techniques, investigate the impact of digital transformation on consumer engagement, and study the adoption levels of digital too across extraordinary style manufacturers. Additionally, quantitative techniques permit for broader generalizability, making the findings applicable to a bigger populace of organizations within the UK fashion enterprise (Bereczki and Kárpáti, 2021).

3.5 Research Strategy

In this study, survey questionnaires were administered to marketing professionals working in UK fashion industries to accumulate insights into their use of digital equipment, perceptions of digital transformation, and its impact on marketing effectiveness (Hendrawan et al., 2024). The research approach for this study is survey-based totally, as it permits for the efficient series of data from a big and various institution of respondents. The survey questions are designed to seize data on the varieties of digital marketing and marketing strategies used, the extent of digital adoption, and key overall performance signs such as customer engagement, sales conversions, and brand awareness. Surveys are specifically powerful in quantitative research because they allow standardized statistics collection, making sure consistency in responses. Using surveys also helps statistics collection from a geographically dispersed populace, making it a cost-effective and scalable method for collecting empirical evidence (Lacka et al., 2021).

3.6 Data Collection Techniques and Procedures

Data for this study was collected online using a structured questionnaire developed advanced and disbursed through Google Forms, an extensively used digital survey tool that guarantees accessibility and ease of reaction tracking. The questionnaire was designed with the usage of a 5-factor Likert scale, allowing respondents to specify their stage of agreement with numerous statements related to digital transformation and marketing techniques. This layout guarantees that responses are quantifiable and appropriate for statistical analysis. The survey became allotted by professional email lists and networking platforms along with LinkedIn, focused on marketing experts working in UK-based fashion industries. This method helped achieve a higher response rate from industry experts while ensuring the anonymity and voluntary participation of respondents.

The focused populace includes marketing and marketing managers, digital strategists, and e-trade professionals who have direct enjoyment of the digital tools of their marketing operations. The study pursuits to obtain a comprehensive expertise of digital transformation's function in marketing and marketing within the style area. Additionally, secondary data from enterprise reports, digital marketing analytics, and previous research are integrated to guide the findings (Liu et al., 2022).

3.7 Time Horizon

This study adopts a cross-sectional research design, which means that data is accrued at a single point in time instead of over an extended length. A cross-sectional technique is appropriate for inspecting present-day trends in digital transformation and its immediate impact on marketing strategies within UK-style organizations (Gupta et al., 2024). Since digital marketing equipment and techniques are unexpectedly evolving, data at a specific second gives treasured insights into prevailing industry practices and rising trends. The cross-sectional design allows for figuring out patterns, correlations, and key factors influencing digital adoption in marketing (Lee et al., 2022).

3.8 Data Analysis Techniques

The collected data was analysed using the **IBM SPSS Statistics** software program, a broadly recognized device for undertaking robust quantitative analyses. Statistical techniques carried out blanketed descriptive evaluation, correlation analysis, and regression evaluation. Descriptive evaluation is used to summarise the important thing characteristics of the dataset, which includes measures inclusive of the suggest, median, and standard deviation, to apprehend the distribution of responses. Correlation analysis assessed the electricity and direction of relationships between virtual adoption and marketing overall performance signs, such as customer engagement and income. Regression analysis was used to **predict the influence of digital tools** on sales performance, customer interaction, and brand visibility. These analytical strategies were selected to make certain that the look gives you legitimate, reliable, and actionable insights into how digital transformation is shaping marketing techniques within the UK fashion enterprise (Lee et al., 2020).

3.9 Ethical Considerations

The study adheres strictly to ethical research guidelines, ensuring informed consent, participant anonymity, and facts safety during the study's manner. Before participation, all respondents were provided with a **university-approved ethics** consent form, which outlined the motive, strategies, capacity dangers, and benefits of the observation. Participation turned into entirely voluntary, and individuals retained the right to withdraw at any point without effect. All gathered data changed into anonymised, de-identified, and securely saved on password-blanketed structures, reachable most effectively to the studies crew. In line with educational integrity, ethical approval is obtained from the university's ethics committee before carrying out the survey, ensuring that the studies comply with institutional and professional requirements.

CHAPTER 4

4 DATA ANALYSIS AND FINDINGS

4.1 Introduction

Chapter 4 gives an entire analysis of the information accumulated via the survey and interviews. The motive of this bankruptcy is to study and interpret the results of numerous statistical techniques, together with descriptive data, reliability analysis, correlation analysis, and regression analysis. The findings may be used to reply to the study's questions and to discover the relationship between digital tool and their impact on project management effects which includes productivity, financial adherence, and danger control. Additionally, this chapter gives an interpretation of the effects, imparting insights into the consequences of digital tools for project control practices.

4.2 Analysis

In this phase, the study presents the findings from the information analysis finished with using multiple statistical techniques. The analysis is hooked up to cover descriptive information, reliability analysis, correlation analysis, and regression analysis. The statistical strategies employed are appropriate for the sort of facts gathered and will assist in attracting meaningful conclusions concerning the impact of digital tools in challenge control.

4.2.1 Descriptive Statistics

Descriptive records give and define of the information collected from respondents, summarizing key traits and developments. This consists of measures which includes imply, median, elegant deviation, and frequency distributions. Descriptive information assists in information the important inclinations and unfold of the facts.

Table 1: Descriptive Statistics of Digital Tools Usage

Variable	Mean	Standard Deviation	Range
Frequency of Tool Usage	4.1	0.8	1-5
Perceived Effectiveness	3.9	0.7	2-5
Project Success Rate	4.3	0.6	3-5
Productivity Improvement	3.8	0.6	2-5

This table provides a snapshot of the general trends observed in the dataset related to the usage of digital tools, their perceived effectiveness, and their impact on project outcomes.

- **Frequency of Tool Usage:** The mean score of 4.1, with a median of 4 and a low standard deviation of 0.8, indicates that digital tools are frequently used among participants and this behaviour is consistent across the sample. This implies a strong integration of digital tools in routine project management practices, suggesting a high level of digital maturity in these organizations.
- **Perceived Effectiveness:** A mean of 3.9 and median of 4 with a standard deviation of 0.7 indicates that most respondents perceive digital tools as effective, with minimal disagreement. This implies that the tools are not only being adopted but are also delivering perceived value in terms of utility and usability.
- **Project Success Rate:** The high mean rating of 4.3 and low standard deviation of 0.6 imply that respondents consistently experience higher project success when using digital tools. This suggests a positive correlation between digital tool usage

and successful project outcomes, reinforcing the practical benefit of adopting digital technology in project workflows.

- **Productivity Improvement:** The mean of 3.8 and median of 4, with a small standard deviation of 0.6, show that digital tools are widely viewed as improving productivity. The uniformity of this perception implies that regardless of the specific digital tools used, there is a shared belief in their ability to enhance team output and operational efficiency.

4.2.2 Reliability Analysis

Reliability analysis assesses the consistency of the information accrued from respondents. The maximum not unusual technique used to evaluate reliability is Cronbach's alpha, which evaluates the inner consistency of a scale. A Cronbach's alpha price above 0.7 is typically considered suited for the reliability of the tool.

Table 2: Reliability Statistics

Scale	Cronbach's Alpha
Frequency of Tool Usage	0.85
Perceived Effectiveness	0.76
Project Success Rate	0.88
Productivity Improvement	0.81

The Cronbach's alpha values for all scales exceed the threshold of 0.7, indicating that the survey instrument is reliable. The highest reliability is studied in the "Project Success" scale (0.88), suggesting that the responses related to project success are consistent. The "Digital Tool Usage" scale also shows good reliability (0.85), confirming the validity of the data collected on tool usage.

4.2.3 Correlation Analysis

Correlation analysis measures the energy and route of relationships among or more variables. This method enables one to become aware of whether and the way variables which includes digital tool utilization and project success are associated. Pearson's correlation coefficient (r) is used to quantify the relationships.

Table 3: Correlation Matrix

Variable	Digital Tool Usage	Perceived Effectiveness	Project Success	Productivity Improvement
Frequency of Tool Usage	1			
Perceived Effectiveness	0.613**	1		
Project Success Rate	0.72**	0.56**	1	
Productivity Improvement	0.61**	0.65**	0.61**	1

The correlation between the frequency of tool utilization and perceived effectiveness ($r = 0.613$, $p < 0.01$) shows a sturdy positive relationship. This indicates that as digital tools are used extra regularly, their effectiveness is looked at if it would be higher by project groups. When personnel and project managers frequently interact with digital tools, they become more familiar with their functionalities and benefits, leading to more appreciation and confidence in their utilization. This location highlights the importance of education and the continuous use of digital tools in maximizing their perceived value.

A robust correlation exists between the frequency of tool usage and project success ($r = 0.62$, $p < 0.01$), indicating that extended use of digital tool substantially contributes to success challenge consequences. This indicates that businesses that actively combine project control tools, automation software, and records analytics systems revel in better fees of the project finishing touches inside scope, time, and budget. The results reinforce

the function of digital transformation in present-day project management and spotlight the need for corporations to include technological improvements to beautify normal assignment success.

The relationship between frequency of tool usage and productivity improvement ($r = 0.61$, $p < 0.01$) indicates that greater adoption of digital tools is associated with stepped-forward performance and performance. Digital assignment management tool streamlines workflows automates repetitive projects and facilitates higher resource allocation, all of which contribute to more advantageous productivity. This finding helps the argument that corporations must invest in digital tool to optimize painting strategies, ensuring that teams can focus on excessive fee obligations instead of administrative burdens.

A moderate positive correlation is found between perceived effectiveness and challenge success ($r = 0.56$, $p < 0.01$), indicating that when project teams consider digital tool to be powerful, there is a better probability of project success. This suggests that sincerely adopting digital tools isn't enough; groups must additionally make sure that employees find them person-friendly and treasured in accomplishing assignment dreams. Companies must prioritize choosing tools with intuitive interfaces, complete functionalities, and good enough guide structures to maximise their effect on project consequences.

The correlation between perceived effectiveness and productivity improvement ($r = 0.65$, $p < 0.01$) similarly underscores the importance of consumer delight with digital tools. When employees understand digital tools as powerful, they're more likely to use them successfully, mainly to progress productivity. This finding highlights the function of proper implementation strategies, inclusive of schooling programs and user engagement initiatives, to beautify the perceived usefulness of digital tools and, in flip, power productivity profits.

Finally, the correlation between project success and productivity improvement ($r = 0.61$, $p < 0.01$) indicates that successful projects are often related to better team efficiency. Productivity improvement through digital tools contributes to higher project execution,

effective collaboration, and streamlined project workflows, all of which immediately affect project success rates. Organizations should, consequently, be conscious of adopting tools that no longer best improve productivity but additionally align with standard project goals to ensure the choicest results.

In precis, all the correlations in the desk are statistically considerable ($p < 0.01$), confirming strong relationships among digital tool usage, perceived effectiveness, productivity improvement, and assignment success. The findings emphasize the necessity of frequent tool usage, personal pride, and productivity enhancement to acquire a successful project execution. Organizations must put money into digital transformation initiatives while making sure that personnel are well-ready and snug with digital tool to maximize their effectiveness.

4.2.4 Regression Analysis

Regression analysis is used to evaluate the causal dating among independent variables (e.g., digital tool utilization) and structured variables (e.g., project success). In this study, a multiple regression version is employed to explore how digital tools impact project success at the same time as controlling for other variables

Table 4: Multiple Regression Analysis for Project Success

Variable	Beta	t-Value	p-Value
Digital Tool Usage	0.45	4.38	0.000
Productivity Improvement	0.30	2.81	0.001
Project Complexity	0.22	3.04	0.001

The multiple regression analysis measures the impact of **digital tool usage, productivity improvement, and project complexity on project success**. The regression model provides **beta coefficients, t-values, and p-values**, which indicate the strength, significance, and individual contribution of each independent variable to project success.

Digital Tool Usage and Project Success: The beta coefficient for digital tool usage is 0.45, with a t-value of 4.38 and a p-value of 0.000. This result suggests that digital tool utilization has a sturdy fine and statistically sizeable effect on project success. Since the p-cost is under 0.05, the connection is statistically widespread, confirming that more usage of digital tools contributes to higher assignment success prices. The beta price of 0.45 shows that for each one-unit increase in digital tool usage, project success improves with the aid of 0.45 tools, conserving other variables regularly. This study highlights the vital role of digital transformation in ensuring higher challenge execution, improved efficiency, and successful project completion.

Productivity Improvement and Project Success: The beta coefficient for productivity improvement is 0.30, with a t-value of 2.81 and a p-value of 0.001. The positive beta value indicates that productivity improvement has a moderate but significant impact on project success. A one-unit increase in productivity improvement is associated with a 0.30-unit increase in project success, assuming other factors remain unchanged. Since the p-value is well below 0.05, this relationship is statistically significant. This suggests that project teams that experience higher efficiency and better project execution due to digital tools are more likely to complete projects successfully.

Project Complexity and Project Success: The beta coefficient for project complexity is 0.22, with a t-value of 3.04 and a p-value of 0.001. The fine coefficient indicates that as challenge complexity increases, project success is likewise affected, even though to a lesser extent than the opposite variables. A one-unit increase in project complexity ends in a 0.22 value increase in project success, assuming all different factors continue to be steady. The statistically widespread p-cost suggests that challenge complexity performs a position in figuring out project success, likely due to the fact companies with complex projects tend to undertake more sophisticated project management techniques and digital tool, leading to improved outcomes.

The effects of the multiple regression analysis verify that digital tool utilization, productivity improvement, and project complexity are all significant predictors of project success. Among them, digital tool usage has the most effective impact, accompanied by way of

productivity improvement and project complexity. The model shows that groups that efficaciously combine digital tool and improve group productivity are more likely to obtain hit project consequences, even in complex project environments.

These findings underscore the significance of digital transformation in modern project manage. Companies need to prioritize the adoption of digital tools that beautify productivity at the same time as making sure that project agencies are organized to control complex projects correctly. Additionally, agencies ought to focus on instructing personnel and optimizing workflows to maximise the benefits of digital transformation and enhance common project success costs.

4.3 Findings and Discussion

The findings of this take study offer strong empirical proof assisting the fantastic impact of digital tool utilization on project success, productivity improvement, and perceived effectiveness. Descriptive facts located that digital tool is frequently utilized by respondents, with a high suggest rating of 4.1, indicating their critical role in project management. The low famous deviations throughout all variables advocate an ordinary version of digital tool adoption and its perceived advantages among project agencies. These findings align with previous research emphasizing the developing reliance on digital transformation in present-day project execution (Westerman et al., 2014). As businesses more and more integrate digital tool into their workflows, they decorate efficiency, coordination, and average project performance (García-Holgado and García-Peñalvo, 2021).

The reliability analysis in addition showed the internal consistency of the size scales, with Cronbach's alpha values exceeding the 0.7 threshold for all constructs. The highest reliability rating (0.88) for project success shows that respondents continually similarly perceived assignment effects, reinforcing the robustness of the accrued records. This is in keeping with the argument using Hair et al. (2019) that a dependable measurement scale is essential in shooting significant insights. The robust reliability of digital tool usage (0.85) additionally suggests that respondents' engagement with generation in project

management remains strong and dependable, further validating the study's conceptual framework (Bhuiyan et al., 2024).

Correlation analysis verified widespread tremendous relationships among digital tool utilization, perceived effectiveness, productivity development, and project success, with all correlations being statistically enormous at $p < 0.01$. The most powerful correlation ($r = 0.72$) becomes located between digital tool usage and challenge success, reinforcing the perception that groups that leverage digital project management structures experience higher success quotes (Schiuma et al., 2024). This locating aligns with research through Henderson and Boje (2016), which highlights that technological improvements facilitate the challenge of entirety, lessen inefficiencies, and enhance collaboration, ultimately main to successful assignment effects.

Additionally, the correlation between perceived effectiveness and productivity improvement ($r = 0.65$) indicates that after personnel find digital tool beneficial, they are more likely to enjoy performance gains, assisting Davis' (1989) Technology Acceptance Model (TAM), which posits that perceived usefulness directly affects technology adoption and effectiveness (Naji et al., 2024). The multiple regression analysis in addition demonstrated these relationships, demonstrating that digital tool utilization ($\beta = 0.45, p = 0.000$) is the strongest predictor of project success. This result is consistent with research using Verhoef et al. (2021), who found that digital transformation notably improves organizational agility and project completion costs.

Productivity improvement ($\beta = 0.30, p = 0.001$) also played a significant role in improving project success, corroborating previous studies that emphasize the function of digital tools in streamlining workflows and decreasing operational activities (Brynjolfsson and McAfee, 2014). The inclusion of project complexity ($\beta = 0.22, p = 0.001$) as a predictor of project success indicates that even as digital tools contribute positively, the nature of projects themselves can have an impact on consequences. More complicated projects often require sophisticated digital answers, which, while successfully carried out, can lead to better project performance (Kerzner, 2017). The findings highlight the transformative position of digital tool in project control, reinforcing the argument that generation adoption

is not just a model but a necessity for contemporary businesses (Sharabati et al., 2024). The robust correlations and regression results emphasize that the common and powerful use of digital tools enhances performance, boosts productivity, and improves basic project outcomes (Omowole et al., 2024).

These results align with existing literature on digital transformation and task manage, underscoring the want agencies to spend money on technological infrastructure, worker schooling, and exchange control strategies to maximise the advantages of digitalization (Wang et al., 2020). Furthermore, the study gives practical implications for managers, suggesting that beyond merely adopting digital equipment, companies have to make certain their effective integration into workflows and foster a lifestyle of digital competence to stress sustained success.

4.4 Implications

- The study contributes to the existing literature on digital transformation by providing empirical evidence of the impact of digital tool usage on project success, productivity, and perceived effectiveness.
- It reinforces the Technology Acceptance Model (TAM) by demonstrating that perceived effectiveness significantly influences productivity improvement and project success.
- The findings align with project management theories that emphasize the role of technology in improving efficiency and reducing complexity in project execution.
- Investing in employee training and digital literacy programs is essential to maximize the effectiveness of digital tools and enhance their impact on productivity.
- Managers should focus on selecting user-friendly and functional digital tools that align with project requirements to increase perceived effectiveness and adoption rates.
- The study highlights the need for continuous assessment of digital tool performance to ensure they are meeting project objectives and driving productivity gains.

- Firms dealing with complex projects should implement advanced digital solutions and provide adequate support to ensure successful project execution.
- Digital transformation strategies should be integrated into project planning and execution to enhance operational efficiency.
- Organizations must develop policies and frameworks that facilitate seamless adoption and usage of digital tools across different project teams.
- Companies should encourage a culture of digital innovation by leveraging automation, AI-driven analytics, and cloud-based solutions to streamline project workflows.
- The findings suggest that businesses need to align their digital tool implementation with project goals to ensure measurable improvements in project outcomes.

4.5 Chapter 4 Summary

This chapter presented the analysis and interpretation of information amassed on the effect of digital tools on assignment success, productivity, and perceived effectiveness. Descriptive records supplied insights into the general tendencies, showing that digital tool usage is frequent, and respondents perceive them as powerful in improving challenge effects. Reliability analysis confirmed the inner consistency of the survey instrument, with Cronbach's alpha values exceeding the appropriate threshold, ensuring the reliability of the measured constructs.

Correlation analysis proved robust fine relationships between digital tool utilization, perceived effectiveness, productivity improvement, and project success. The findings indicated that increased usage of digital tools enhances project success charges, improves productivity, and fosters a better perception of tool effectiveness. These consequences support the significance of digital transformation in present-day project control, highlighting that groups need to make certain frequent tool adoption and consumer engagement to acquire the most beneficial effects.

A couple of regression analyses further established the causal impact of digital tool utilization, productivity improvement, and project complexity on project success. Digital

tool utilization emerged as the strongest predictor, confirming that groups leveraging digital tools efficaciously revel in higher project success prices. Productivity development also performed a considerable function, suggesting that digital tools beautify efficiency and streamline workflows, contributing to the project finishing touch inside scope, time, and budget. Additionally, assignment complexity turned out to be a huge issue, indicating that businesses handling complicated projects are much more likely to rely upon digital answers for better results.

The findings make contributions to the prevailing literature on digital transformation in project management, emphasizing the need businesses to integrate digital tools strategically. The study underscores the significance of non-stop training, right implementation techniques, and user engagement to maximize the advantages of digital adoption. The implications advise that agencies need to prioritize digital investments and create a supportive environment for technological innovation to beautify project performance.

CHAPTER 5

5 CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the key findings of the study and their implications for project control. It presents an end based on the analysis, highlights regions for future research, and gives realistic pointers for businesses seeking to optimize the use of digital tools in challenge control. The study has validated that digital tool utilization considerably impacts project success, productivity development, and perceived effectiveness, reinforcing the importance of digital transformation in cutting-edge challenge environments.

5.2 Conclusion

The study investigated the role of digital tools in assignment management, which specializes in their impact on mission success, productivity, and perceived effectiveness. The findings observed a sturdy great correlation between digital tool usage and mission success, indicating that organizations that actively integrate digital answers reap higher consequences. Productivity development also emerged as a key aspect, demonstrating that digital tool complements efficiency, streamlines workflows, and decreases operational inefficiencies.

Reliability evaluation confirmed that the survey tool used in this study modified into robust, with Cronbach's alpha values exceeding the correct threshold. Correlation analysis confirmed vast relationships among digital tool usage, perceived effectiveness, productivity development, and venture success. Multiple regression analysis similarly showed that digital tool utilization has become the strongest predictor of undertaking success, followed using productivity development and task complexity. These outcomes align with the present literature, which emphasizes the transformative capacity of digital tool in modern venture control.

Despite the challenges stay within the adoption and integration of digital equipment. Some organizations face resistance to change, lack technical knowledge, or stumble upon budgetary constraints that avoid digital adoption. Addressing the ones challenges requires strategic making plans, proper schooling, and a robust willpower from management to pressure digital transformation efficiently.

This study has comprehensively explored the effect of digital tool utilization on assignment success, focusing on how that equipment affect productiveness, perceived effectiveness, and common project consequences. The findings provide sturdy evidence that digital tools play a vital role in enhancing project overall performance during various dimensions. Specifically, the effects from the correlation and regression analyses confirmed that increased digital tool usage leads to higher assignment success, superior productivity, and extra-perceived effectiveness of the tools.

The study found that digital tool utilization is the maximum sizable predictor of challenge success, underscoring the importance of integrating digital tool into project control practices. By adopting these tools, businesses can enhance efficiency, streamline workflows, and decrease the complexity worried in managing projects. This result is in keeping with preceding research that highlights the advantages of digital transformation in challenge control, especially in phrases of improving project shipping instances, cost management, and overall project fine (Brynjolfsson and McAfee, 2014). Furthermore, the correlation between productivity improvement and project success suggests that digital tool does not handiest beautify paintings efficiency but additionally contributes to achieving desired assignment effects, whether in terms of scope, timeline, or budget.

Another key finding of the study is the considerable relationship between perceived effectiveness and project success. The facts indicated that after project teams understand digital tool as powerful, their probability of completing projects increases. This highlights the significance of selecting digital tools that align with personal needs and organizational dreams. Tools that are perceived as clean to use and impactful are more likely to be followed and utilized to their complete capability, as indicated through the rather

excessive mean scores for perceived effectiveness and project success within the descriptive records.

Additionally, the study sheds light on the challenges companies faces in enforcing digital tools. Despite the clear advantages, there remains resistance to the adoption of new technologies, particularly in corporations that are either unexpected with digital tool or confined using factors such as price range barriers or lack of expertise. These findings advocate that enforcing digital tools isn't sufficient; groups must ensure that the tool is nicely included in present systems, that employees are accurately educated, and that a lifestyle of digital transformation is cultivated.

The study's more than one regression analysis furnished a deeper knowledge of the elements contributing to challenge success. It confirmed that while digital tool usage became the strongest predictor, productivity improvement and project complexity additionally played widespread roles. As organizations encounter increasingly more complex projects, the ability to manipulate these projects correctly and the use of digital tool becomes extra crucial. The interaction between project complexity and the tool's skills emphasize the need for a nuanced approach when adopting digital solutions. It also indicates that future Tool needs to deal with the developing demands of complicated project environments.

This research reaffirms the transformative capacity of digital tools in project management. Digital tool isn't simply improving productivity; it fundamentally converts how projects are conceived, deliberate, and completed. The findings offer compelling evidence for businesses to invest in those tools, ensure proper implementation, and foster a culture that embraces digital transformation. However, successful implementation requires more than simply the adoption of generation it calls for a comprehensive approach that consists of schooling, stakeholder buy-in, and continuous assessment to ensure the tool is leveraged to its greatest capacity.

5.3 Limitations of the study

While this research provides valuable insights into the role of digital tools and technologies in enhancing productivity and project success, several limitations must be acknowledged. First, the study's sample size and diversity were limited, as it primarily involved professionals from specific industries and regions. This restricts the generalizability of the findings across all sectors or cultural contexts. Additionally, the study relied heavily on self-reported data collected through surveys and interviews. Such data is inherently subjective and may be influenced by biases like social desirability or memory inaccuracies, potentially affecting the accuracy of the results.

Moreover, the research was conducted under time constraints imposed by academic deadlines, limiting the depth of both qualitative and quantitative data collection. More extensive interviews or a larger dataset might have yielded deeper insights. Another limitation lies in the lack of focus on specific digital tools or software platforms. While the study explored general trends and perceptions, it did not examine the functionalities or unique contributions of individual tools, which could limit the practical applicability of the results for organizations using specific technologies.

Furthermore, the research presents a cross-sectional view, capturing data at a single point in time rather than examining long-term impacts. A longitudinal approach could have provided more comprehensive insights into how digital tools affect different phases of a project lifecycle. Lastly, the study did not control for external variables such as project size, organizational structure, leadership style, or digital maturity level. These factors could have significantly influenced how digital tools impacted productivity and project outcomes. A more controlled approach would have enhanced the precision of the findings.

5.4 Future Study

While this study has contributed valuable insights, it also highlights areas that require further investigation. Future research could explore:

- The long-term impact of digital tool usage on project management efficiency and financial performance.

- The role of artificial intelligence (AI) and machine learning in project management decision-making.
- Comparative studies across industries to determine if the impact of digital tools varies based on project complexity and organizational structure.
- The psychological and behavioural aspects of digital tool adoption, particularly employee resistance and adaptation strategies.
- Case studies focusing on successful digital transformation initiatives in project management to identify best practices and lessons learned.

By addressing these areas, future research can provide a more comprehensive understanding of how digital tools shape project management in diverse organizational settings.

5.5 Recommendations

Based on the findings of this study, the following recommendations are proposed to enhance digital tool integration in project management:

- Organizations need to actively promote the use of digital tools with the aid of demonstrating their benefits in improving performance, productivity, and project success.
- Regular training classes should be performed to make sure employees are proficient in the usage of digital tools efficiently. Providing technical assistance can also reduce resistance to adoption.
- Companies need to carefully compare and pick digital tool that aligns with their project needs, considering usability, scalability, and integration with present systems.
- Creating an organizational subculture that embraces digital transformation can foster greater attractiveness and usage of digital tools. Leaders' ought to recommend technological advancements and encourage innovation.

- Regular exams must be carried out to determine the effect of digital tool on project performance, allowing agencies to make necessary adjustments and enhancements.
- Companies ought to perceive ability boundaries together with price range constraints, resistance to change, and lack of expertise, and put in force targeted strategies to conquer them.
- Leveraging AI-driven project control tools can beautify choice-making, danger analysis, and predictive analytics, in addition to enhancing challenge results.
- Encouraging using cloud-primarily based assignment management tool can improve communique and collaboration amongst crew individuals, especially in far off or hybrid work environments.

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Questionnaire

"Assessing the Role of Digital Tools and Technologies in Enhancing Productivity and Project Success"

SECTION A: Background Information

1. Gender: Male Female Other
2. Age Group: Under 25 25–34 35–44 45+
3. Position: Junior Mid-level Senior Executive
4. Years in organization: <1 1–3 3–5 5+

A 5-point Likert scale for responses:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Digital Tool Adoption and Usage

		SDA	DA	N	AG	SAG
1	I use digital tools (e.g., Trello, Slack, Asana, MS Teams) regularly in my work.	1	2	3	4	5
2	My organization promotes the use of digital platforms for project-related tasks.	1	2	3	4	5
3	Digital technologies are seamlessly integrated into my team's daily operations.	1	2	3	4	5
4	I feel confident using digital tools without requiring constant assistance.	1	2	3	4	5
5	The use of digital tools is a standard expectation in my organization.	1	2	3	4	5

Impact on Productivity

		SDA	DA	N	AG	SAG
1	Digital tools help me complete my work more efficiently than traditional methods.	1	2	3	4	5
2	I am more organized due to the digital tools I use.	1	2	3	4	5
3	Digital platforms assist me in tracking progress and meeting deadlines.	1	2	3	4	5
4	I can manage my time better using digital tools.	1	2	3	4	5

5	Digital technologies reduce the amount of manual or repetitive work I do.	1	2	3	4	5
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Project Success and Outcomes

		SDA	DA	N	AG	SAG
1	Projects I work on are more successful when digital tools are used effectively.	1	2	3	4	5
2	Team collaboration has improved due to digital platforms.	1	2	3	4	5
3	Communication across departments has become more transparent and efficient.	1	2	3	4	5
4	Project objectives and KPIs are easier to monitor using digital tools.	1	2	3	4	5
5	Project delivery times have improved since using digital project management systems.	1	2	3	4	5

Perceived Organizational Performance

		SDA	DA	N	AG	SAG
1	Adopting new digital tools is often challenging for my team.	1	2	3	4	5
2	Lack of proper training limits the effective use of digital technologies.	1	2	3	4	5
3	High costs of digital tools and licenses are a barrier to full adoption.	1	2	3	4	5
4	Some digital platforms are too complex and not user-friendly.	1	2	3	4	5
5	Technical issues with digital tools often disrupt productivity.	1	2	3	4	5

Form RE1**RESEARCH ETHICS CHECKLIST**

May 2018

This checklist should be completed for every research project which involves human participants. It is used to identify whether a full application for ethics approval needs to be submitted.

Before completing this form, please refer to the University Code of Practice on Ethical Standards for Research Involving Human Participants. The principal investigator and, where the principal investigator is a student, the supervisor, is responsible for exercising appropriate professional judgment in this review.

This checklist must be completed before potential participants are approached to take part in any research.

Section I: Applicant Details

1. Name of Researcher (applicant):	Paras Bhandari
2. Status (please click to select):	Masters Student
3. Email Address:	pb14bbs@bolton.ac.uk
4a. Contact Address:	University of Bolton Deane Road, Bolton, BL3 5AB
4b. Telephone Number:	07587751259

Section II: Project Details

5. Project Title:	Digital Transformation in Project Management: Assessing the Role of Digital Tools and Technologies in Enhancing Productivity and Project Success
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Section III: For Students Only:

6. Course title and module name and number where appropriate School/Centre:	MSc Entrepreneurship and Innovation Module Name: Professional Dissertation Module Code: CDM7003 University of Bolton
7. Supervisor's or module leader's name:	Dr. Odom Giamene
8. Email address:	wd4bbs@bolton.ac.uk
9. Telephone extension:	07951342602

Declaration by Researcher (Please tick the appropriate boxes)

Yes	I have read the University's Code of Practice
Yes	The topic merits further research
Yes	I have the skills to carry out the research
Yes	The participant information sheet, if needed, is appropriate
Yes	The procedures for recruitment and obtaining informed consent, if needed, are appropriate
Yes	The research is exempt from further ethics review according to current University guidelines
yes	Where relevant, I have read the ethical guidelines of the regulatory body that is relevant to my discipline and verify that the research adheres to these guidelines

Comments from Researcher, and/or from Supervisor if Researcher is Undergraduate or Taught Postgraduate student:

Section IV: Research Checklist

Please answer each question by ticking the appropriate box

	YES	NO
1. Will the study involve participants who are particularly vulnerable or who may be unable to give informed consent (e.g. children, people with learning disabilities, emotional difficulties, problems with understanding and/or communication, your own students)?	yes	
2. Will the study require the co-operation of a gatekeeper for initial access to the groups or individuals to be recruited (e.g. students at school, members of self-help group, residents of nursing home)?		no
3. Will deception be necessary, i.e. will participants take part without knowing the true purpose of the study or without their knowledge/consent at the time (e.g. covert observation of people in non-public places)?	yes	
4. Will the study involve discussion of topics which the participants may find sensitive (e.g. sexual activity, own drug use)?		no
5. Will drugs, placebos or other substances (e.g. food substances, alcohol, nicotine, vitamins) be administered to or ingested by participants or will the study involve invasive, intrusive or potentially harmful procedures of any kind?		no
6. Will blood or tissues samples be obtained from participants?		no
7. Will pain or more than mild discomfort be likely to result from the study?		no
8. Could the study induce psychological stress or anxiety or cause harm or negative consequences beyond the risks encountered in normal life?		no
9. Will the study involve prolonged or repetitive testing?		no
10. Will financial inducements (other than reasonable expenses and compensation for time) be offered to participants?		no

11.	Will participants' right to withdraw from the study at any time be withheld or not made explicit?		no
12.	Will participants' anonymity be compromised or their right to anonymity be withheld or information they give be identifiable as theirs?		no
13.	Might permission for the study need to be sought from the researcher's or from participants' employer?		no
14.	Will the study involve recruitment of patients or staff through the NHS?		no

If ALL items in the Declaration are ticked AND if you have answered NO to ALL questions in Section IV, send the completed and signed (in 'Declaration') RE1 to your School/Centre Research Ethics Officer for information. You may proceed with the research but should follow any subsequent guidance or requests from the School/Centre Research Ethics Officer or your supervisor/module leader where appropriate. Undergraduate and taught postgraduate students should retain a copy of this form and submit it with their research report or dissertation (bound in at the beginning). MPhil/PhD students should submit a copy to the Board of Studies for Research Degrees with their application for Registration (R1). **Work which is submitted without the appropriate ethics form will be returned unassessed.**

If ANY of the items in the Declaration are not ticked AND / OR if you have answered YES to ANY of the questions in Section IV, you will need to describe more fully in Section V of the form below how you plan to deal with the ethical issues raised by your research. **This does not mean that you cannot do the research, only that your proposal will need to be approved by the School/Centre Research Ethics Officer or School/Centre Research Ethics Committee or Sub-committee. When submitting the form as described in the above paragraph you should substitute the original Section V with the version authorized by the School/Centre Research Ethics officer.**

If you answered YES to **question 14**, you will also have to submit an application to the appropriate external health authority ethics committee, after you have received approval from the School/Centre Research Ethics Officer/Committee and, where appropriate, the University Research Ethics Committee.

Section V: Addressing Ethical Problems

If you have answered YES to any of questions 1-13 please complete below and submit the form to your School/Centre Research Ethics Officer.

Project Title / Dissertation Title
Digital Transformation in Project Management: Assessing the Role of Digital Tools and Technologies in Enhancing Productivity and Project Success

Principal Investigator/Researcher/Student

Supervisor

Summary of issues and action to be taken to address the ethics problem(s)

Digitalization is the process through which businesses adopt and incorporate digital technologies across the company, altering how it performs and gives value to consumers. Regarding project management, digital transformation refers to an element of change wherein project-related processes are facilitated, accelerated, or improved through digital technologies. The emergence of complex projects coupled with the need to operate efficiently and quickly makes using instrumental digital assets essential in 21st-century project management. This study is in response to this gap to present empirical evidence on the tools' impact on the project and how they should be used optimally. The primary source of data collection will be an interview questionnaire, which will be structured. The specific areas of the subject to be covered in this questionnaire will include demography, technology incorporation, perceived impact on productivity, and project outcomes.

Declaration

I understand that it is my responsibility to follow the University's Code of Practice on Ethical Standards and any relevant academic or professional guidelines in the conduct of my project/study. **This includes providing appropriate information sheets and consent forms, and ensuring confidentiality in the storage and use of data.** If there is any significant change to the design or conduct of my project/study I will immediately notify the School/Centre Research Ethics Officer and I understand that this may require me to submit a new application for ethics approval.

Signed: Paras Bhandari /Researcher

Approved: Director of Studies / Module Leader

Date: 28.11.2024

For use by School/Centre Research Ethics Officer:

- No ethical problems are raised by this proposed study - Retain this form on record

- Appropriate action taken to maintain ethical standards

- The research protocol should be revised to eliminate the ethical concerns or reduce them to an acceptable level, using the attached suggestions

- Please submit School/Centre Application for Ethics Approval (Form RE2(D))

- Please submit University Application for Ethics Approval (Form RE2(U))

Retain this form on record and return a copy of section V to Researcher

Signed: _____

Date: _____

Research Ethics: Consent Form

December 2024

Full title of Project: *Assessing the Role of Digital Tools and Technologies in Enhancing Productivity and Project Success*

Researcher: Paras Bhandari , Master's Student

University of Bolton

Deane Road, Bolton, BL3 5AB

Email: pb14bbs@bolton.ac.uk

Tel. 07587751259

Please Initial Box

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason.
3. I agree to take part in the above study.

Note for researchers:

Include the following statements if appropriate, or delete from your consent form:

4. I agree to the interview / focus group / consultation being audio recorded
5. I agree to the interview / focus group / consultation being video recorded
6. I agree to the use of anonymised quotes in publications

Name of Participant

Date

Signature

Paras Bhandari

28.11.2024

Paras Bhandari

Name of Researcher

Date

Signature