(REVIEW ARTICLE)

Innovative project management as a catalyst for youth-led innovation in Nigeria's emerging tech ecosystem

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Abstract

Nigeria's technology ecosystem has expanded rapidly in recent years, with young digital innovators driving digital startups across diverse sectors. Government initiatives such as compulsory entrepreneurship education in tertiary institutions and recent digital skills programs like the 3 Million Technical Talent (3MTT) have created an enabling environment for these innovations to thrive. Despite the visibly massive potential, many ventures continue to experience high failure rates due to operational nuisances such as poor planning, weak project execution, and misaligned strategies. To address this gap, the concept paper argues how innovative project management practices such as Agile combined with emerging technologies can serve as a catalyst for enhancing innovation and improving the survival and scalability of youth-led startups in Nigeria. The paper further shows how with the integration of flexible frameworks with digital tools, startups can streamline workflows, prioritize business objectives, improve resource allocation, manage risks more effectively, enhance stakeholder collaboration and ultimately lead to better decision making. The study proposes a practical framework that emphasizes continuous learning, digital upskilling, and cross-sector collaboration to address common startup challenges. Expected outcomes include improved project delivery times, cost efficiency, higher quality outputs, and stronger stakeholder satisfaction. The paper concludes that embedding project management best practices into youth-driven innovation is critical for strengthening Nigeria's digital ecosystem and advancing inclusive economic growth.

1. Introduction

Transforming innovative ideas into viable ventures remains a challenge for many young entrepreneurs in sub-Saharan Africa, particularly in Nigeria. Startups in the region face persistent uncertainties stemming from limited infrastructure, inadequate funding, and skill gaps, especially in how day-to-day tasks are planned, executed and managed. These uncertainties have been observed to be overwhelming in the global south, especially in sub-Saharan African countries (Ajah, Ononiwu, & Nche, 2022).

The majority of digital start-ups introduced to the market do not survive (Griva et. al., 2023), Studies estimate that over 80% of African digital startups fail within their first few years. "Evidence suggests that about 90% of digital start-ups eventually fail" (Li, Zou, & Chan, 2022).

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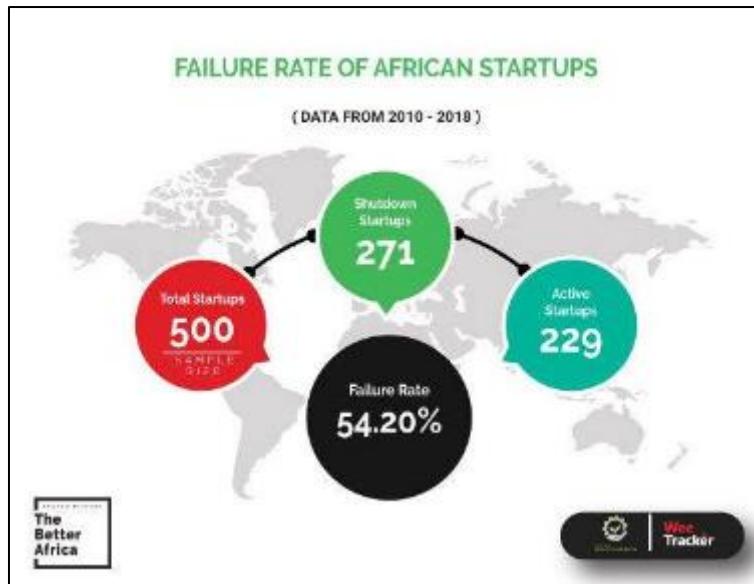
Source: weektracker

**Figure 1** African startup failure rates—percentage reaching Series B

With a high record of failure persistence in the market, especially in developing economies like Nigeria, entrepreneurs' quest to gain acceptance and viability in the market remains problematic (Ghezzi & Cavallo, 2018).


Source: Nairametric

Figure 2 Nigerian startups that failed in 2023 even after raising over $70 million

Notably, some digital start-ups that did not survive during entry into the Nigerian market include Pivo, Lazerpay, 54gene, Vibra, KuBitX, OLX, Efritin, WeChat, and Easy Taxi (Nairametrics, 2023), with many more still struggling even after raising rounds of significant funding.
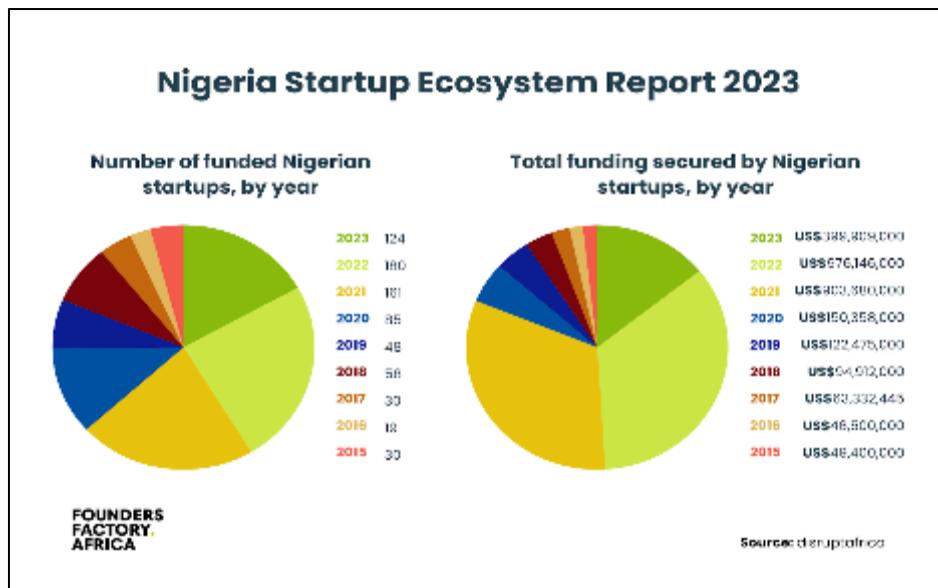
Source: Founders Factory. Africa

Figure 3 Seed-stage funding distribution in Nigeria (2023–2024)
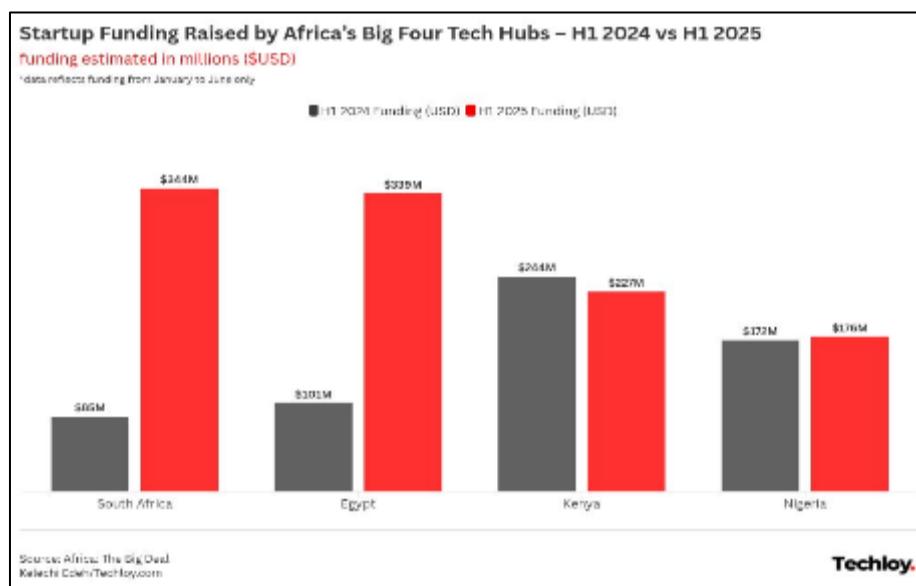
Source: Techloy

Figure 4 Nigeria's tech funding trends (H1 2025 vs. 2024). Includes top funding deals

2. Overview of project management gaps in Nigeria

2.1. Emerging Paradigms in Project Management Practice

The growing complexities of projects demand a shift towards more sophisticated and changeable project management approaches. Traditional methods are increasingly becoming complemented by technology-driven strategies that provide enhanced capabilities for managing project timelines, resources, and risks. Technologies like project management software, data analytics, and artificial intelligence (AI) are revolutionizing how projects are planned and executed, allowing for greater precision and adaptability.

Source: PMI
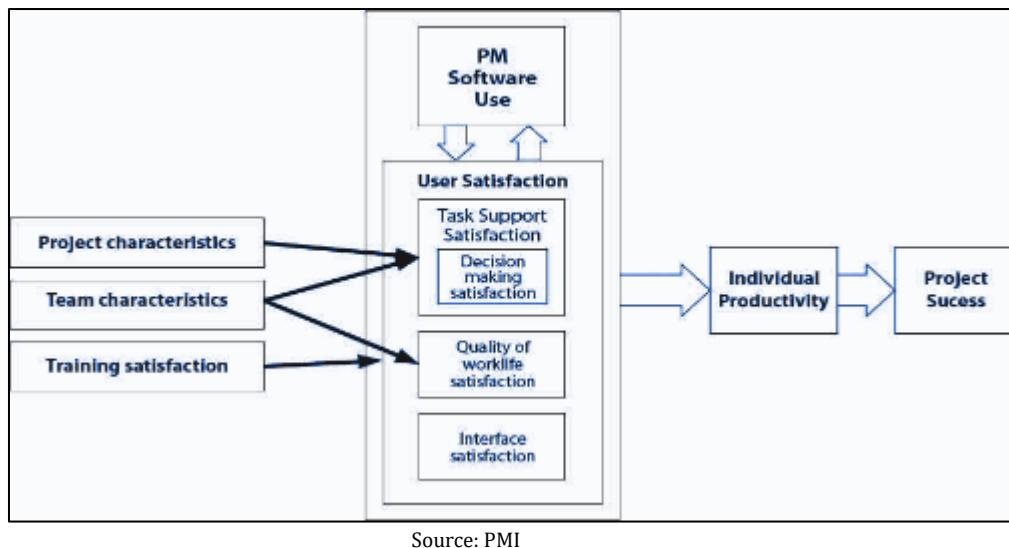
Figure 5 How PM Software can be applied to optimize projects

This paper explores how the integration of project management into these youth-led technology startups not only improves operational efficiency but also contributes to the overall success of daily tasks and projects by ensuring timelines, budgets and risks are effectively managed. For such companies, the adoption of innovative project management strategies is not merely an option but a necessity that largely enhances their chances of their survival.

Innovative project management strategies are crucial for enhancing efficiency and achieving success in Nigerian projects, particularly in the context of rapid technological advancements (Christianah et. al., 2024). Project management practices are evolving to integrate advanced technologies that offer substantial improvements in planning, execution, and monitoring. This integration is essential for addressing the uncertainties and challenges faced by technological startups in Nigeria, which often cascades into complex logistics, diverse stakeholder needs, and resource constraints.

The adoption of project management in the technology landscape is also driven by the increasing complexity of the global project environments and the need for competitive advantage.

2.2. Technological Enablers for Sustainable Project Outcomes in Nigeria

In Nigeria, digital technology organizations are increasingly recognizing the benefits of incorporating digital tools and methodologies to stay aligned with international best practices and to effectively manage the growing demands of their projects. This shift not only improves operational efficiency but also positions Nigerian projects to achieve better alignment with global standards and expectations (Ahmed & Goh, 2019, Kerzner, 2013; Shenhar et al., 2001).

For instance, project management software can help overcome logistical issues related to infrastructure development in remote areas, while data analytics software can provide insights into optimizing resource allocation and risk management. Additionally, tools like Asana and Trello help to keep remote and distributed teams and entire organizations focused on their goals, projects and tasks; meaning digital technology startups in Nigeria can have access to some of the best talents regardless of their locations and their introduction into the team can further build team resilience to some changes. AI-driven tools can enhance decision-making by predicting potential issues and recommending corrective actions based on historical data and project trends (Zhang et al., 2012; Cooke-Davies, 2002). Furthermore, tools such as Slack, Microsoft Teams, and Zoom have become integral to daily operations, enabling real-time interactions and collaboration regardless of geographical locations (Daim et al., 2021). These platforms offer numerous opportunities; including streamlining communication, supporting the sharing of documents, project tracking, and task management, thus enhancing overall project efficiency.
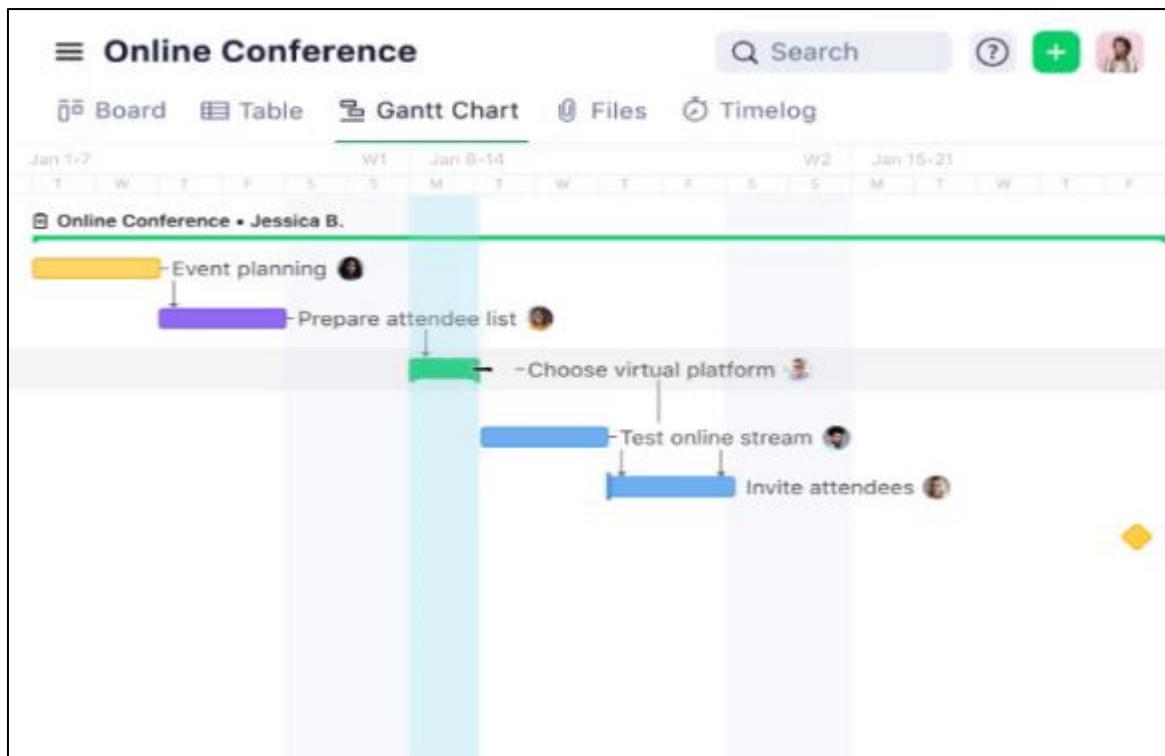
Source: Fit Small Business

Figure 6 A gantt chart displaying a list of project activities laid out against dates

With the adoption of innovative project management approaches, alongside the leverage of technological advancements, Nigerian startups can achieve greater efficiency, reduce risks, and ultimately enhance their chances of survival.

3. Emerging trends in digital project management

Due to the ongoing evolution of the global digital technology ecosystem, project management applications in digital technology as a whole are changing quickly. Emerging trends are changing how projects are managed and carried out as more and more businesses, both new and old, embrace digital solutions. These changes are fueled by the adoption of digital collaborative and resource allocation tools, risk management tools to mitigate adverse impacts of uncertainties, and an intensified focus on agile methodologies.

3.1. Artificial Intelligence (AI) and Machine Learning (ML)

Advancements in fields like Artificial Intelligence (AI) and Machine Learning (ML) have become instrumental to these technological advancements, recasting project management through enhanced decision-making and automation. AI algorithms are used to process vast amounts of data and identify patterns and trends that might be missed by human analysis, facilitating more informed project decisions (Sharma, 2019). According to (Sivarajah et al., 2017), AI-driven tools can predict project risks, optimize resource allocation, and suggest corrective actions, thus improving project outcomes and efficiency. Similarly, (Yang et al., 2020) postulates that Machine Learning (ML) models can continuously learn from historical project data to refine predictions and recommendations, providing project managers with increasingly accurate insights over time.

3.2. Big Data Analytics, Predictive Modeling and Collaborative Tools

Further enhancing project management capabilities, Big Data Analytics and Predictive Modeling enables more precise forecasting and real-time analysis, it allows project managers to gain data driven insights into project performance, thus giving room for early corrections and risk management. Historical data is also used to anticipate future occurrences/outcomes using predictive modelling techniques, this way, impacts of uncertainty are significantly reduced because decisions are made proactively. These capabilities are crucial for managing complex projects and addressing challenges before they escalate.

Another significant trend impacting project management in today's digital space is the adoption of digital collaborative tools. The post-covid era has seen an increasing rise in the adoption of remote and hybrid work models with organizations around the world increasingly relying on digital platforms to facilitate collaboration and communication among decentralized teams. Tools such as Google workspace Slack, Microsoft Teams, Trello, Asana, Jira, Monday.com and Zoom have become integral to daily operations, enabling real-time interactions and collaboration regardless of geographical locations. Cloud-based project management platforms are also transforming the field by offering scalable and flexible solutions for managing projects. Platforms such as Asana, Trello, Jira and Monday.com provide centralized access to project information, allowing team members to collaborate effectively and track progress from anywhere.

3.3. Cloud Solutions and Flexible Methodologies

These cloud solutions support seamless integration with other digital tools, facilitate data storage and retrieval, and ensure that project information is up-to-date and accessible to all stakeholders. This accessibility brings immense value to project environments that are characterized by constant change, uncertainty and complexity, where adaptability and flexibility is required to manage projects. And hence the growing use of project management models such as Agile where timely information and collaborative decision-making are essential.

The increased focus on agile and flexible methodologies is a key trend shaping the future of project management. Agile methodologies, including Scrum and Kanban, have gained prominence due to their ability to adapt to rapidly changing environments and evolving project requirements. Agile emphasizes iterative development, frequent feedback, and adaptive planning, which are particularly beneficial in projects characterized by uncertainty and change (Moe et al., 2021).
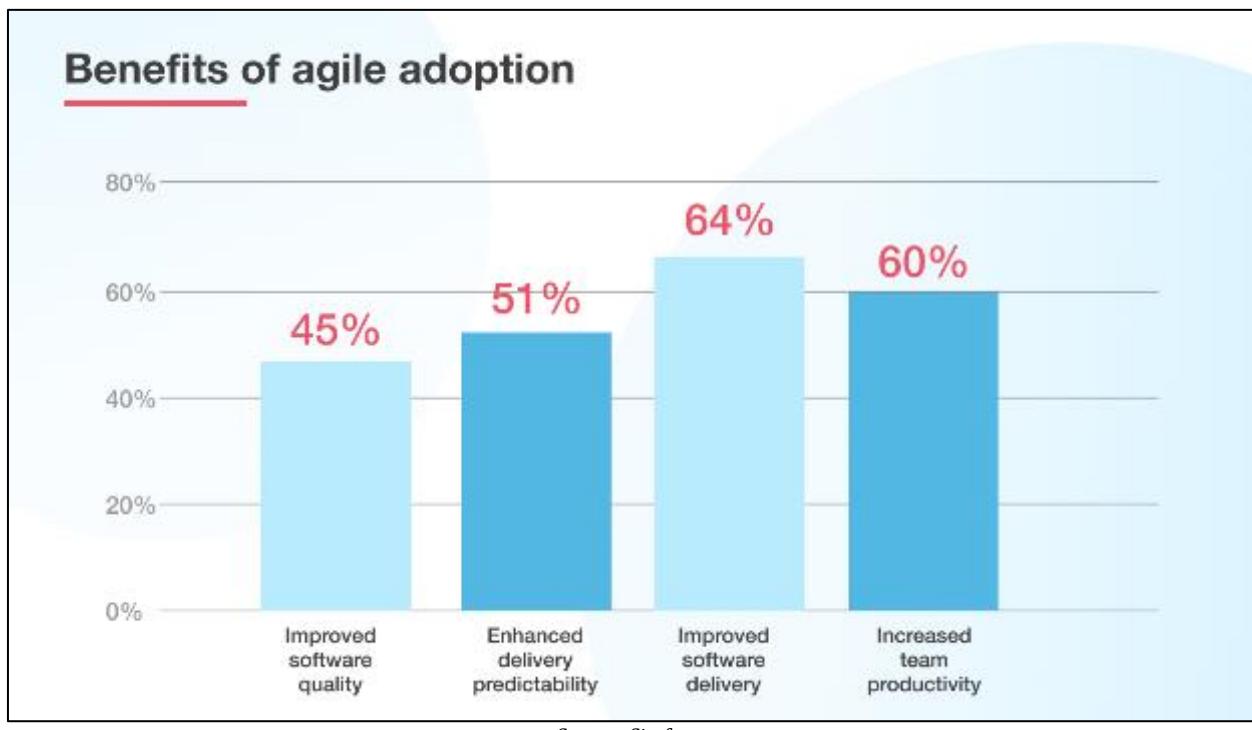
Source: Simform

Figure 7 Illustrates how Agile adoption in some organizations improved software delivery

The Agile methodology gives cross-functional teams the flexibility and responsiveness needed to respond rapidly to changes within the project, it allows teams to quickly respond to new information and make strategy adjustments when needed. The facilitation of structured but adaptable project management through events, artifacts and defined roles is powered by scrum which is an Agile framework. Scrum creates provisions for continuous feedback and refinement by allowing teams to break work into short sprints in order to deliver incremental improvements. This iterative approach enables project managers to address issues promptly, incorporate stakeholder feedback, and ensure that project deliverables align with evolving business goals (Schwaber & Sutherland, 2017).

Looking forward, the strategic adoption of emerging technologies and agile methodologies will continue to shape the future of digital transformation in project management. Organizations must remain adaptable and responsive to market

dynamics, leveraging digital tools to drive innovation, accelerate time-to-market, and sustain long-term growth in an increasingly digital-first world (Osemeike et. al., 2024).

Agile methodologies offer benefits that extend beyond improved adaptability and responsiveness, it prompts greater collaboration and communication among teams with user satisfaction being the primary objective for every incremental work done. The digital start-up space in Nigeria driven by youths with constantly shifting consumer choices can particularly leverage the many benefits this framework offers, especially known that this space is characterized by rapidly changing market conditions.

4. Evolving challenges in the digital age

Project management has seen transformative changes as a result of the constantly evolving digital age, alongside these changes are new challenges that call for strategic responses. Challenges in achieving successful digital transformation include legacy system integration, data security concerns, skill gaps among team members, and resistance to cultural change. Addressing these challenges requires proactive risk management, investment in training and development programs, and collaboration with technology partners to navigate complexities and ensure seamless implementation (Osemeike et. al., 2024). Digital startup businesses that successfully manage digital transformation not only save money and increase operational effectiveness, but they also add value by improving customer experiences and positioning themselves more competitively.

To harness the full potentials of digital advancement in project management, dealing with these challenges has become sacrosanct. Also, as new technologies emerge, the ability of project managers to stay relevant is largely dependent on their ability to continually update their knowledge and capabilities.

4.1. Training and Professional Development in Managing Technological Change

As postulated by (Garcia et al., 2020), training programs and professional development initiatives are necessary to equip project managers with the skills required to navigate alongside these constantly changing technologies. According to a report by the World Economic Forum (2020), organizations need to invest in training and development programs to upskill employees and prepare them for the demands of a digital environment. Also, the management of technological change and integration projects is not without challenges, it presents another significant challenge which requires staff upskilling to deal with.

It is important that project managers check for compatibility related issues between new tools and legacy systems, more often than not, this can be complex and resource-intensive. Alignment of digital transformation goals with organizational objectives ensures clarity of purpose and enhances stakeholder engagement throughout the transformation journey (Osemeike et. al., 2024).

Integrating new digital tools into established workflows often requires extensive customization and testing to ensure compatibility and functionality, which can be both time-consuming and costly (Boulton et al., 2017).

4.2. Budget and Cost Implication

Some notable challenges to digital transformation are budget and resource allocation. Implementing new technologies often involves substantial financial investment, including costs for software acquisition, system integration, and ongoing training and maintenance (Cohen et al., 2018). Organizations must carefully plan and allocate resources to support digital transformation initiatives while managing budget constraints. Prioritization and managing finances effectively are critical in ensuring that investments in digital tools align with strategic goals and deliver quantifiable benefits. The inability to manage technological change effectively often results in operational inefficiencies and team members resisting these changes. (Marler et al., 2017) underpinned that, effective change management practices are essential to facilitate smooth transitions, including stakeholder engagement, communication strategies, and phased implementation plans.

4.3. Cybersecurity and Data Privacy Threats

It is also important to note the increasing reliance of project management on digital tools and platforms which has aggravated growing concerns of cybersecurity and data privacy threats. These cyberattacks significantly have gross impacts on businesses, they threaten financial losses, disrupt operations and cause immeasurable reputational damage to these organizations; small businesses rarely can survive this, worse off in Nigeria. As reported by Nairametrics (2023), three (3) Nigerian fintech companies lost over 5 billion naira to cases of hacks and fraud, not many startups

within the country can survive that, and hence the need for robust cyber security protective measures which will largely come with staff upskilling.

Putting strong security measures in place is essential to protecting project data, resources and guaranteeing compliance to data protection laws. Some proven security measures include encryption, secure authentication protocols and routine security audits. All organizations including youth led digital startups in Nigeria should adopt comprehensive cybersecurity protection strategies that prevent against a wide range of cybersecurity threats; including phishing attacks, malware denial-of-service attacks and insider threats. Additionally, it is essential that project teams are well educated on cybersecurity best practices, while imbibing a general culture of cybersecurity consciousness within the organization. Having such measures in place helps in mitigating risks associated with project management in the digital space and ensures the confidentiality and integrity of project data.

In conclusion, the digital age has brought about significant advancements in youth-led-organizations in Nigeria, however, these advancements come along with unique challenges. The ability to rapidly adapt to these changes largely influences how these organizations deal with the challenges and determines their survival. In doing so, continuous learning, effective change management and the adoption of new tools and methodologies must be used. The successful integration of the right project management practices into youth-led startups presents a transformative opportunity for Nigeria's emerging tech ecosystem. A study by Christianah et. al., (2024) reports that, by embracing advanced tools and methodologies, project managers can overcome traditional challenges, enhance efficiency, and drive project and organizational success.

Additionally, the complexity and cost of integrating digital tools with legacy systems demand careful planning and resource allocation. Addressing these challenges effectively is crucial for harnessing the full potential of digital advancements in project management and achieving successful project outcomes. Cybersecurity and data privacy concerns necessitate robust security measures and a proactive approach to protecting sensitive project information.

5. Opportunities for enhancing project management

There are innumerable opportunities that are brought into project management if the right advanced technological tools and flexible methodologies are integrated; this allows more effective management of tasks, resources, and risks. For example, the use of AI and data analytics in decision making often lead to smarter decisions taken which in turn increases the overall health of the organization especially in a rapidly evolving economic ecosystem like Nigeria.

Technological innovations like AI and data analytics have proven to help revolutionize decision making in project management. For instance, a subset of AI known as predictive analytics is used in risk management by project managers where they are able to anticipate potential issues before they arise. The development of mitigation strategies tailored to forecasting risks and reducing the likelihood of failures in projects is hinged on this proactive approach. Predictive models use historical data to identify patterns and predict future outcomes, which is particularly valuable in complex projects with numerous variables (Kumar et al., 2020). Aside from improving accuracy in risk assessments, this approach further enhances the ability of project managers to make informed decisions that can steer projects towards success.

By offering a thorough grasp of project performance and resource utilization, data-driven insights can aid in project optimization. Sutherland & Ritchie (2019) also postulate that analyzing large datasets, project managers can identify inefficiencies, bottlenecks, and areas for improvement. For instance, data analytics can reveal trends in project progress, resource allocation, and budget adherence, enabling managers to make adjustments in real-time (Miller et al., 2020). Arguably, the overall effectiveness of project management and how it ensures the efficient use of resources is guided by data-informed decisions.

Tools that allow real time collaboration and communication enhances effective working of teams across various locations and time zones. According to Davis & Bostrom (2021), these tools facilitate immediate information sharing and feedback, which is crucial for maintaining project momentum and addressing issues as they arise. The use of collaborative platforms such as Discord, Notion, Slack and/or Microsoft Teams is becoming increasingly common. With such tools, project teams now have the ability to seamlessly communicate and efficiently manage tasks more. Another advantage of enhanced flexibility and agility is the ability to adapt quickly to market and project change in a dynamic ecosystem like Nigeria. These changes are a crucial fabric of all technologically driven projects because of the shifting requirements and external pressure faced by project managers on these projects.

A research by Sunderland (2014) posits that Agile methodologies, which emphasize iterative development and responsiveness to change, allow project teams to adjust their plans and priorities swiftly. On such projects, adaptability

is essential for maintaining project relevance and aligning with evolving business objectives (Hoda et al., 2018). As technological organizations strive to succeed, it is essential they hone their capacity to pivot effectively in response to new information or changes in the market, this significantly increases their chances of survival. Digital transformation enables organizations to explore new business models and operational approaches that were previously unavailable (Bharadwaj et al., 2013). With this transformation, project managers in a volatile ecosystem like Nigeria can leverage emerging technologies and tools such as advanced analytics to spur innovation and improve project outcomes. For example, project management software, cloud-storage platforms and data analytics tools play a vital role in enhancing project planning, execution, storage, monitoring and prediction. And with such tools there is better coordination, precise forecasting and a more efficient allocation and management of resources. It is proven that effectively adopting these tools as an organization can lead to enhanced project performance, customer satisfaction and a competitively advantaged market position.

As discussed earlier, there are innumerable opportunities for enhancing project management through advanced technologies and methodologies. The use of AI and data analytics enables improved decision-making and project optimization; giving more predictive insights and data-driven performance evaluations. For organizations to ensure that projects are flexible enough to respond to changes effectively and maintain relevance, these organizations must adopt agility as a framework. Furthermore, as long as business environments continue to change, there will be more uncertainties which essentially will lead project management's continuous evolution to stay competitive while leveraging new opportunities in the digital space. Also, the successful implementation of digital tools and the challenges that comes with this integration will greatly shape project management and in turn affect the performance of youth led tech organizations in Nigeria.

6. Case studies and examples

In order to provide useful insights into the dynamics of digital project management, this investigation explores case studies and examples that demonstrate both the successful use of digital tools and the difficulties encountered. The construction sector offers a noteworthy illustration of the effective use of digital tools in project management. Building information modelling, or BIM, has transformed project management by making it possible for building projects to be planned and carried out more effectively.

BIM can be applied by architects, engineers, contractors, project managers, etc. to achieve objectives such as reducing design errors, reducing time and cost, improving design and construction integration, and increasing coordination and cooperation among different sections (Rozita & Saghatforoush, 2020).

For instance, the expansion of Terminal 2 at Helsinki Airport included several improvements, such as new jetways, parking spaces, and a multi-modal travel center to consolidate services under one roof. With BIM, the project team was able to collaborate effectively and utilize 3D models for better visualization and decision-making throughout the project stages (Novatr, 2023). They further reported that the application of BIM in the AEC industry led to arrays of remarkable project accomplishments, ranging from impressive skyscrapers and expansive railway stations to hospitals, wineries, wastewater treatment plants, and storage tanks, all of which were efficiently designed and built with the aid of BIM. Novatr (2023) concluded that BIM gave the project team the ability to streamline the use of time, cost, and labor, BIM further proved to be an invaluable asset in the creation of infrastructure across multiple sectors. Lessons learned from the Helsinki Airport project emphasize the critical role the integration of digital tools played in the project.

The application of Agile approaches in software development projects is another example that is specialized to a given industry. Bosch as a company created more adaptable management operations, smoother company-wide collaboration, and continuous planning processes, while Spotify increased transparency, flexibility, and speed. For more context, Spotify implemented the "Squad Framework," a special kind of Agile that divided teams into independent groups known as squads, each squad was responsible for a specific aspect of the product, allowing for faster decision-making and iterative development. This gave Spotify the ability to maintain alignment with company goals while allowing teams the freedom to innovate and adapt rapidly, eventually leading to the company's success with the Agile methodology.

Nevertheless, there are certain difficulties faced when incorporating digital tools into project management. Resolving integration and security difficulties is one of the most common obstacles encountered. The deployment of digital tools frequently necessitates integrating new technologies with pre-existing systems, which can be challenging and prone to technical blockers and team resistance.

For instance, Birmingham City Council set out on a bold mission to update its human resources and financial systems, the project's goals were to improve service delivery and streamline processes. Critical components were not working

when the system went online in April 2022, which caused important accounting processes to be interrupted and by September 2023, they declared bankruptcy. According to a CIO (2025) report, BCC's Oracle ERP project was marred by project mismanagement, exposing serious shortcomings in technical supervision, governance, and vendor management.

Another instance of a digital integration project running into difficulty can be seen when General Electric (GE) started a major effort aimed at asserting itself in the digital software space by building a huge IoT platform, adding sensors to products and transforming its business models for industrial products. Despite pouring billions of dollars into GE Digital and its thousands of employees, the company's stock price continued to drop and other products suffered (Forbes, 2021). Without any true strategic direction, GE attempted to do too much. According to a Forbes (2021) report, the organization was just too big to change everything at once, especially without a clear idea of what it wanted to accomplish. A small group of driven individuals leading the charge, rather than thousands of workers, is frequently the most effective way to execute digital transformations, and the Agile methodology particularly emphasizes that. These challenges are visibly experienced by Nigerian digital organizations too, and sadly, chances of recovery as a startup seemingly shrinks.

This experience emphasizes the necessity of a thorough plan to address potential digital tool integration flaws and the significance of careful planning and testing throughout the integration process. In digital transformation, other change-related obstacles include employee reluctance and inadequate training. Another case study to consider is seen in a large manufacturing company that experienced resistance from its project management team when introducing the team to a new project management software (Ekechukwu et. al., (2024). Attempts to overcome this barrier involved the company implementing a change management strategy that included comprehensive training programs, clear communication about the benefits of the new system, and ongoing support for employees (Agarwal & Selen, 2009). This approach amplifies the need for organizations to tackle digital transformation holistically, factoring in both cultural and operational challenges. Worthy to note is that with the increasing reliance on digital platforms for task optimization, the protection of sensitive project data from cyber threats is sacrosanct.

Worthy to note is the case of the implementation of a secure project management platform at a financial institution which faced challenges related to data breaches and unauthorized access. According to Bertino & Sandhu, (2005), to mitigate these risks, the institution adopted advanced cybersecurity measures, including encryption, multi-factor authentication, and regular security audits. Thus further proving that the prioritization of data security when adopting digital tools and ensuring that robust security measures are enforced to protect project data against potential threat is very important.

Successfully implementing digital tools into management of projects has a massive impact on the performance of an organization as demonstrated by industry-specific examples such as Spotify. Early adoption, clear communication, and alignment with corporate objectives are critical success elements. To guarantee the effective adoption and use of digital tools, however, obstacles including integration and security problems, change aversion, and the requirement for cybersecurity measures must be overcome. Youth led digital innovations in Nigeria can leverage the full potential of digital tools and change focused methodologies like Agile to build and correct fast, manage risks, resources and increase their chances of success in the ecosystem.

7. Future outlook

The role of project management in the digital age globally is undergoing radical transformation, emerging technologies and evolving methodologies are redefining the outlook of digital projects and the success of youth led startups. As organizations continue to navigate more complex and dynamic business environments, the ability of these organizations to successfully leverage new opportunities and overcome challenges is largely dependent on how flexible they are able to adapt their projects to changes. The prediction of future trends and making of strategic recommendations to enhance success of projects in an agile business/project environment hinges on the right application of project management backed by the right technologies as these technologies play an important role in shaping the application of project management.

Undoubtedly, digital innovations such as Machine Learning (ML) and Artificial Intelligence (AI) are continuously transforming the way projects are planned, implemented and tracked, with the use of predictive analytics, project managers are able to anticipate and manage potential risks. Project management procedures can be further streamlined by using machine learning algorithms to automate repetitive chores and deliver real-time insights. A practical example can be seen with the use of AI tools in analyzing historical data and forecasting project timelines, estimating resources and managing stakeholders more accurately hence improving the efficiency and outcomes of projects. An additional

example can be seen in the use of Machine Learning algorithms for automating routine tasks and providing real-time insights.

Another emerging trend to consider in the application of project management is the role of big data in making decisions. As reported by Mayer-Schönberger & Cukier, (2013), the ability to analyze large volumes of data can offer unprecedented insights into project performance, stakeholder behavior, and market trends. Furthermore, project managers can use data-driven approaches to optimize resource allocation, monitor project progress and identify potential issues early on in the project. Effective decision-making is the cornerstone of successful software engineering projects. Given software development's complexity and dynamic nature, decisions must be made at various stages, from initial design and architecture to implementation, testing and deployment (Akbar, Smolander, Mahmood, & Alsanad, 2022). Data visualization plays a vital role in presenting information that is easy to comprehend and analyze, thus empowering engineers and stakeholders to make decisions grounded in evidence and aligned with project goals (John, Lang, Von Wehrden, John, & Wiek, 2020; Park & Gil-Garcia, 2022).
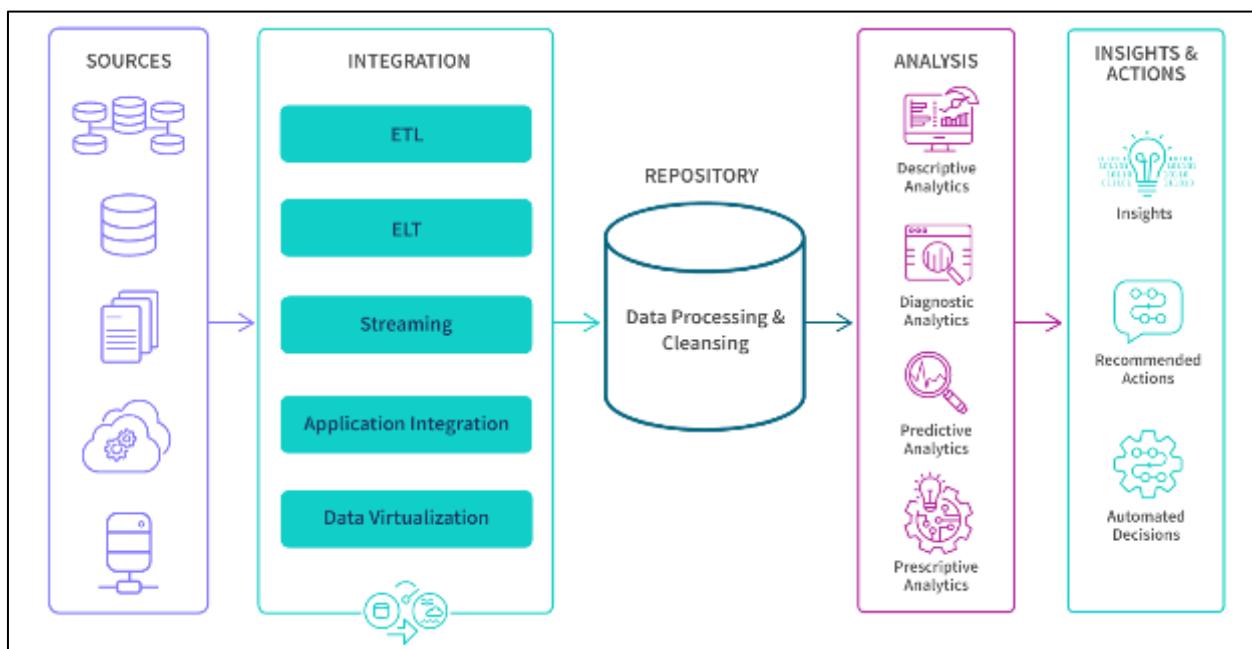
Source: Qlik

Figure 8 Demonstrate the steps involved in gathering data and using it to inform decisions

Project management is also being revolutionized by the Internet of Things (IoT), which makes it possible to collect and monitor data in real time from linked systems and devices. The IoT has the potential to revolutionize daily activities by providing individuals with real-time data that can be used to improve efficiency, safety, and productivity (Mounir, Raed, Ahmed & Abdulla, 2023).

A perfect example can be observed in the use of IoT sensors to track equipment performance, monitor environmental conditions, and provide valuable data for project optimization and risk management. Better project outcomes and better decision-making may result from the incorporation of IoT into project management procedures. The development of project management techniques and procedures, in addition to technology breakthroughs, is a major element influencing the field's future. Known for their adaptability and iterative nature, Agile and Scrum approaches are becoming more and more popular outside of the software development sector. The focus on flexibility and ongoing development fits in nicely with the dynamic nature of digital projects, allowing teams to react swiftly to shifting demands and market circumstances. Additionally, a key factor to staying competitive in a constantly evolving digital space like Nigeria is the integration of digital transformation into project management practices. Digital transformation involves adopting new technologies and processes to drive innovation and efficiency (Westerman et al., 2014).

Digital transformation represents a strategic overhaul of business models, operations, and management practices to fully leverage digital technologies and align with the demands of the digital economy (Hess, Matt, Benlian, & Wiesböck,

2016). It has become imperative for project managers to embrace digital tools and platforms for the enhancement of collaboration, workflow streamline, and the leverage of data analytics for better decision-making.

Strategic recommendations for project managers include embracing digital transformation and committing to continuous learning. Technologies and/or technology-related competences have been identified to be among the most important resources to positively affect innovation and wealth creation within a firm (Gruber et al., 2008; Shane, 2004). From Hargadon & Sutton, (1997) research findings, with the continuous advancement in technology, project managers must stay informed about emerging tools and methodologies to effectively leverage them in their projects. Hence the need to constantly invest in professional development and training to always get acquainted with updated knowledge relevant to digital project management, only this approach can ensure that youth led innovations and organizations generally are able to navigate the complexities of the digital age and drive successful project outcomes.

Another crucial piece of strategic advice for project managers is to invest in technology and security. The strict adherence to ensuring that appropriate security measures are in place to protect sensitive project data and reduce cyber threats cannot and should not be overlooked by these youth-led-organizations, their actions or inactions will contribute to survival or destruction as they navigate ever changing and dynamic business terrains.

In summary, the role of project management in youth-led innovations within the Nigerian digital space is characterized by the rapid evolution of technologies and methodologies, offering both opportunities and challenges. Project management procedures will continue to change as a result of emerging technologies like Artificial Intelligence (AI), Machine Learning (ML), Big Data Analytics, and IoT, which will improve decision-making, resource allocation, and overall project outcomes.

Agile as a project management methodology is reshaping how dynamic projects are delivered, its integration into youth-led startups emphasizes adaptability, collaboration and continuous improvement which are key survival components for projects in complex environments like Nigeria. Strategic recommendations for these startups operating within such ecosystems include embracing agile as a way of life in digital project transformation, committing to continuous learning and investing in technology and security to navigate the complexities of the digital age effectively. Having a clear understanding of these trends and dependencies, project managers leading these organizations can position such organizations for success.

8. Conclusion

The digital landscape in Nigeria is continuously shifting with more advancements in technology, constant changes in consumer behaviors, and evolving business models will continue to drive the innovative ecosystem. The survival of any company in such terrain will depend on its ability to leverage flexible project management approaches in overcoming evolving barriers. Successfully managing day-to-day organizational tasks ultimately enhances the survival rates of the organization, and the achievement of tasks objectives is largely defined by a dynamic interplay of emerging technologies, evolving methodologies and business needs.

Among the key issues covered are the revolutionary effects of digital tools and innovations on project management, such as the incorporation of cutting-edge technologies like artificial intelligence (AI), machine learning, and big data analytics, which greatly improve decision-making and project optimization. Furthermore, the adoption of Agile methodology and use of collaborative tools highlights the trend towards project management techniques that are more adaptable and responsive. Additionally, organizations face a number of challenges when attempting to execute digital transformation strategies, including antiquated legacy systems, skills gap, and opposition to change. Gaining a thorough understanding of these obstacles is essential to creating focused solutions that can promote more seamless transitions and improve overall organizational performance.

Project management is changing as a result of digital transformation, which consistently brings with it both new opportunities and difficulties. As such, companies must remain agile and responsive to these changes to stay competitive. Ongoing research can provide insights into best practices for managing these challenges, enabling companies to leverage their resources effectively and capitalize on new opportunities.

Examining how leadership and organizational culture affect youth-led startups and how it can further contribute to the resilience of these startups is crucial. Establishing a supportive atmosphere that encourages the survival of youth-led digital innovations/startups requires an understanding of how these elements affect employee engagement, cooperation, and creativity. Further study in this field will aid in determining the traits of successful transformation

initiatives' driving culture and leadership, ultimately pointing businesses in the direction of long-term success and sustainable growth in the digital economy space in Nigeria and the continent at large.

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