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Influence of Non-Medical Leaders' Adoption of Agile Project Management Practices on Implementation of Health Facility Projects In Rwanda: A Case Of Medilabs Clinic

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ABSTRACT

This research study on Influence of Non-Medical Leaders' Adoption of Agile Project Management Practices on the Implementation of Health Facility Projects in Rwanda aims to systematically assessed the impact of agile project management (APM) practices on the overall success of health facility projects in Rwanda. This investigation employed a case study approach, with a specific focus on the Medilabs Clinic, to comprehensively analyze the effectiveness of APM practices in addressing challenges and enhancing project outcomes within the Rwandan healthcare sector. This study was guided by three specific objectives, which included; to Investigate the effect of Varying Levels of Sprint Planning on Health Facility Project Implementation in Rwanda. To Examine the influence of changing the composition of cross-functional teams on the successful implementation of health facility projects in Rwanda. And to determine the Effect of Non-Medical Leaders' Adaptability to Change on Health Facility Project Implementation in Rwanda. Using three theories this study aimed to gain a deeper understanding through Agile project management theory, Transformational leadership, and the Resource-Based View (RBV) of the firm. The research design for this study employed both descriptive and correlation research designs in its comprehensive investigation. Data was collected through use both quantitative and qualitative methods, using interview guides and questionnaires. A sample size of 105 individuals were selected from the broader staff population of 143 at MEDILABS Clinic, following Taro Yamane's formula for sample size determination. The collected data went thorough statistical analysis, encompassing descriptive measures such as the mean and standard deviation to provide an overview of the data. Additionally, inferential statistical techniques was used, focusing on the application of the Pearson correlation coefficient (r) and multiple linear regression analysis. The findings were presented using a combination of visual representations, tables, and written explanations. Qualitative data was subject to thematic analysis, requiring a narrative approach for its presentation. The study investigations found that Agile practices significantly enhanced project implementation. Key findings included Sprint Planning's positive impact, with 57.14% strongly agreeing (mean = 4.50, SD = 0.72). Cross-functional teams' composition was crucial, with 71.43% agreeing (mean = 4.12, SD = 0.72). Non-medical leaders' adaptability to change showed the highest impact, with 66.67% strongly agreeing (mean = 4.59, SD = 0.79). ANOVA results demonstrated significant effects on project timeliness, quality, and stakeholder satisfaction ($p = .000$), with an F-value of 149.196. Regression analysis showed strong contributions from Sprint Planning ($B = 0.424$, $p < .001$), Cross-Functional Teams ($B = 0.141$, $p = .024$), and Adaptability to Change ($B = 0.265$, $p = .002$). Correlation analysis further confirmed these findings, with high positive relationships between Agile practices and project outcomes, particularly in adaptability to change ($r = .917$, $p < .000$, mean = 4.57, SD = 0.61). The research highlighted the importance of training non-medical leaders in agile

methodologies and fostering an agile culture for sustained success. Future research was suggested to explore the long-term impact of agile practices, their influence on patient outcomes, and the challenges of adopting these methodologiesin various healthcare environments.

Keywords: ***Adaptability to Change, Agile Project Management, Cross-functional teams,***

Health Facility, Projects, Non-Medical Leaders, Varying Levels of Sprint Planning

1.Introduction

Despite the increasing recognition of the significance of effective project management in health facility projects, challenges persist in Rwanda, including inadequate resources, poor communication, and limited stakeholder involvement. According to the World Health Organization (WHO, 2019), over 60% of healthcare infrastructure projects in Sub-Saharan Africa, including Rwanda, experience delays due to poor planning and resource management. Studies by Munyaneza (2021) indicate that 45% of health facility projects in Rwanda exceed their initial budgets, with an average cost overrun of 20-30%, mainly due to the limitations of traditional project management approaches. Furthermore, research by Ngugi and Otieno (2021) on healthcare project management in East Africa shows that traditional methodologies fail to engage stakeholders adequately, leading to poor coordination and project execution. In Rwanda, Agile Project Management (APM) practices, known for their flexibility and iterative processes, have shown promise but remain underutilized, particularly among non-medical leaders. A report by AfDB (2018) found that fewer than 25% of health facility projects in Rwanda adopt APM, contributing to a project completion rate that lags by 15% compared to global standards. Several scholars have explored the implementation of APM practices in various industries, showcasing its positive effects. For instance, Žužek et al. (2017) conducted a case study on a Slovenian manufacturing company, revealing improved communication, faster discrepancy detection, effective problem-solving, and greater flexibility with the adoption of certain APM practices. Similarly, Al-Mudimigh et al. (2019) found that APM practices positively impacted project success in the Saudi Arabian construction industry, encompassing improvements in time, cost, and quality. These studies emphasize the potential effectiveness of APM practices in enhancing project outcomes across different sectors.

In the realm of health facility projects, Kujala et al. (2015) conducted a systematic literature review, indicating that APM practices in healthcare can enhance outcomes such as stakeholder satisfaction, quality, and time-to-market. Additionally, Korkala et al. (2018) studied the adoption of APM practices in a Finnish hospital, finding improvements in communication, collaboration, and stakeholder involvement. These findings highlight the potential benefits of APM practices in health facility projects, yet there remains a gap in understanding the specific impact and adoption factors in the Rwandan context. Despite the growing interest in APM practices in health facility projects, there is still a lack of understanding regarding their impact on project success in Rwanda. The adoption of APM practices by non-medical leaders in health facility projects in the country is limited, and the factors influencing adoption remain unclear. This study seeks to address this gap by assessing the impact of APM practices on the success of health facility projects in Rwanda, utilizing a case study approach focused on the Medilabs Clinic. By identifying the specific challenges and opportunities associated with the adoption of APM practices in this context, the research aims to provide insights that can inform future project management strategies, ultimately contributing to the improvement of health facility projects in Rwanda.The general objective of this research is to systematically assess the effect of non-medical leaders' adoption of Agile project management practices on the implementation of health facility projectsin Rwanda, with a case study of Medilabs Clinic.

Specific Objectives

i. To assess the influence of Varying Levels of Sprint Planning on Health Facility Project Implementation in Rwanda

ii. To Examine the influence of changing the composition of cross-functional teams on the implementation of health facility projects in Rwanda

iii. To determine the influence of Non-Medical Leaders' Adaptability to Change on Health Facility Project Implementation in Rwanda

2. Review of Related Literature

2.1.Empirical Review

2.1.1.Influence of Varying Levels of Sprint Planning on Health Facility ProjectImplementation

Sprint planning, a key practice in Agile project management, involves defining the work to be done in a specific time frame or sprint. According to Cao et al. (2018), the level of detail and rigor in sprint planning can significantly impact project outcomes. The authors argued that a well- defined sprint backlog, coupled with regular sprint reviews, enhances project transparency, stakeholder engagement, and overall project success. In the context of Medilabs Clinic, effective sprint planning could ensure that key project milestones are achieved on time and within budget. Serrador and Pinto (2015) also noted that regular sprint reviews can improve adaptability and responsiveness to changes. This approach can help mitigate risks and address potential bottlenecks before they escalate, leading to smoother project implementation. Moreover, the use of Agile project management practices such as sprint planning can foster a culture of continuous improvement within the project team. Cao et al. (2018) emphasized that by regularly reviewing and adjusting the sprint backlog, team members can identify areas for optimization and implement lessons learned in future sprints. This iterative approach can lead to increased efficiency and effectiveness in project delivery.

2.1.2.Influence of changing the composition of cross-functional teams on the implementation of health facility projects

Agile project management emphasizes the use of cross-functional teams to deliver value efficiently. Serrador and Pinto (2015) highlighted the importance of team composition in Agile environments, noting that diverse teams are more innovative and better equipped to solve complex problems. By bringing together individuals with different backgrounds and perspectives, cross- functional teams can generate creative solutions and adapt to changing project requirements. In the case of Medilabs Clinic, changing the composition of cross-functional teams could lead to improved collaboration and communication among team members. According to Conforto et al. (2024), diverse teams are better able to respond to unforeseen challenges and changes in project scope. By leveraging the diverse skills and experiences of team members, Medilabs Clinic can enhance its ability to adapt to changing project requirements and ensure successful project implementation.

2.1.3. Influence of Non-Medical Leaders' Adaptability to Change on Health Facility ProjectImplementation

Adaptability to change is a critical factor in agile project management. Conforto et al. (2024) emphasized the role of leadership in fostering adaptability within project teams, noting that non- medical leaders who are open to change contribute significantly to project success in healthcare settings. By encouraging a culture of adaptability and innovation, leaders at Medilabs Clinic can empower team members to think creatively and find solutions to complex problems. Moreover, non-medical leaders who are adaptable to change can help create a more resilient project team. According to Cao et al. (2018), being open to new ideas and willing to experiment with different approaches can inspire confidence and motivate team members to overcome challenges and achieve project goals. In conclusion, the adaptability of non-medical leaders can significantly impact the implementation of health facility projects in Rwanda.

2.2.Theoretical Framework

2.2.1.Agile Project Management Theory

Agile project management practices, introduced in 2001 through the Agile Manifesto, have revolutionized project execution across industries. This methodology emphasizes iterative development, frequent reassessment, and adaptability, making it particularly suitable for dynamic environments like healthcare. In the context of health facility projects in Rwanda, where uncertainties and changing requirements are common, adopting Agile practices can enhance project implementation. Non-medical leaders can benefit from Agile's flexibility to adjust project plans based on evolving needs, ensuring that resources are utilized efficiently and project goals are met effectively. By promoting collaboration among stakeholders, Agile can also facilitate the integration of diverse perspectives and expertise, leading to innovative solutions and improved project outcomes.

2.2.2. Transformational Leadership Theory

Transformational leadership, first conceptualized by James MacGregor Burns in 1978, focuses on inspiring and motivating followers to achieve extraordinary results. In healthcare settings, where complex projects require strong leadership, this theory is highly relevant. Non-medical leaders adopting transformational leadership behaviors can

positively influence the implementation of health facility projects in Rwanda. By articulating a compelling vision, these leaders can align
team members towards common goals, fostering a sense of purpose and commitment. Through intellectual stimulation, they can encourage innovative thinking and problem-solving, enabling teams to overcome challenges and drive project success. Transformational leaders also emphasize individualized consideration, supporting the development of team members and creating a cultureof continuous improvement within the organization.

2.2.3. Resource-Based View (RBV) Theory

The Resource-Based View (RBV) of the firm, introduced by Birger Wernerfelt in 1984 and further developed by Jay Barney, posits that a firm's resources and capabilities are critical sources of competitive advantage. In the context of health facility projects in Rwanda, non-medical leaders adopting RBV principles would focus on leveraging the clinic's resources effectively. This includes human capital, technology, and organizational processes, to improve project implementation outcomes. By identifying and exploiting unique resources, such as specialized skills or strategic partnerships, leaders can create sustainable competitive advantages for their organizations. Moreover, by continuously building and renewing these resources, leaders can ensure the long-term success and viability of health facility projects.

2.3.Conceptual Framework

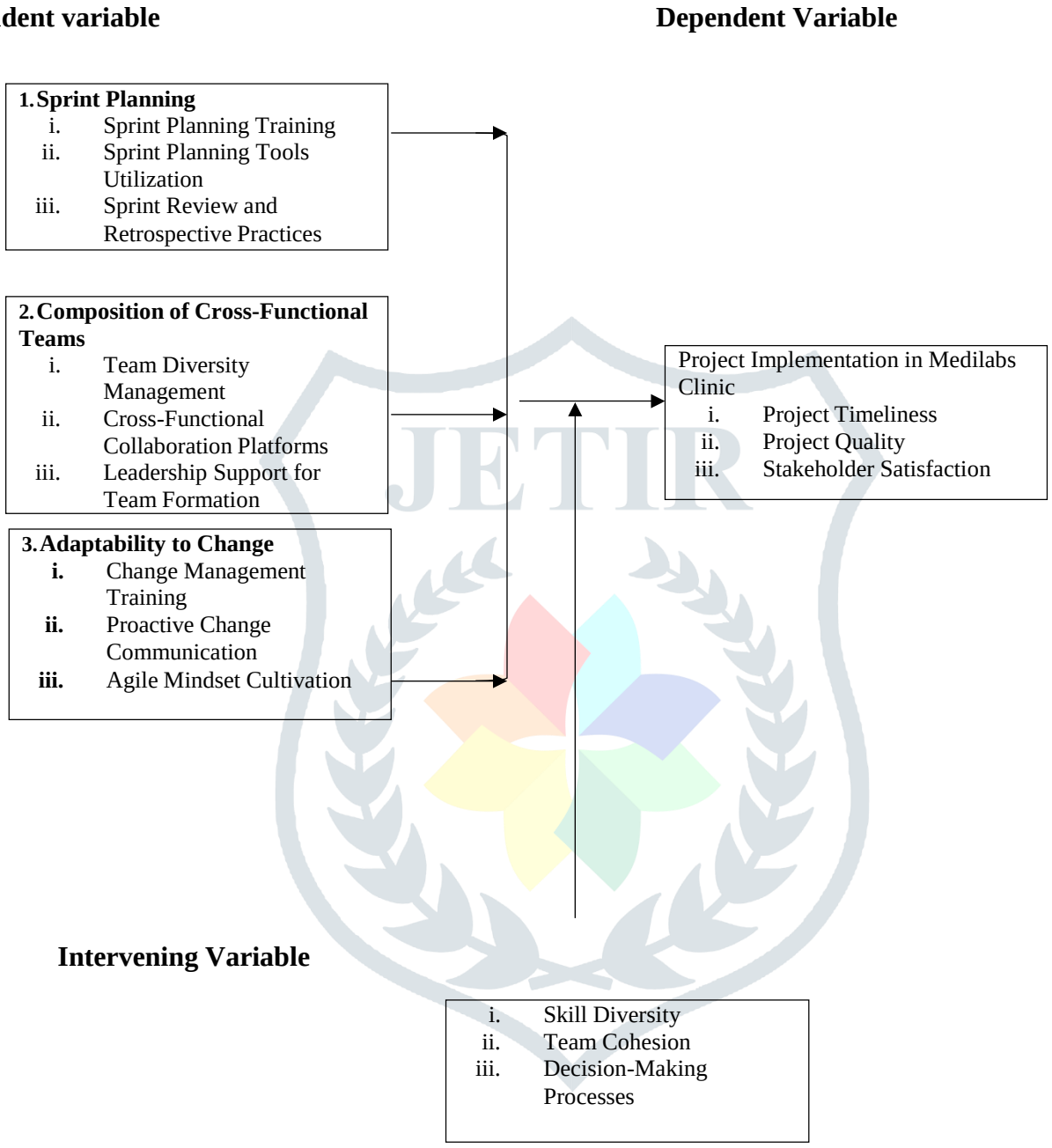

Figure 2.1: Conceptual Framework

Source: Researcher 2024

The conceptual framework for this study illustrates the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects at Medilabs Clinic. The independent variables include three key elements: sprint planning, the composition of

cross-functional teams, and adaptability to change. Sprint planning involves training on planning, the utilization of planning tools, and the application of sprint review and retrospective practices. The composition of cross-functional teams focuses on managing team diversity, utilizing collaboration platforms, and leadership support in team formation. Adaptability to change encompasses change management training, proactive communication regarding changes, and the cultivation of an agile mindset. These factors are expected to impact the dependent variable, which is project implementation at Medilabs Clinic, measured by project timeliness, project quality, and stakeholder satisfaction. The framework also identifies intervening variables, such as skill diversity, team cohesion, and decision-making processes, which may influence the relationship between agile practices and project outcomes. Together, these variables form a comprehensive view of how agile methodologies can improve project implementation in a healthcare setting.

3. Research Methodology

The research design for this study employed both descriptive and correlation research designs to comprehensively investigate the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects in Medilabs Clinic. The study design was a case study, chosen for its ability to provide an in-depth and detailed analysis of a specific case, allowing for a comprehensive understanding of the phenomenon under investigation. In this case, the focus is on understanding how the adoption of Agile project management practices by non-medical leaders impacts the implementation of health facility projects within Medilabs Clinic. A case study design is particularly suitable for this research as it allows for the exploration of complex and multifaceted issues within a real-world context, providing valuable insights and practical implications. Medilabs Clinic, located in Kigali Kicukiro, is a private healthcare facility that offers a range of medical services to the community. The clinic serves as the primary study area for this research, providing valuable insights into the implementation of health facility projects within a real-world healthcare setting.

The target population for this study includes 143 individuals from diverse divisions within MEDILABS CLINIC, such as Hospital Administrators, Department Heads, Project Managers, Healthcare Providers, Support Staff, IT Department, Finance Department, and Human Resources Department. These individuals are pivotal for the clinic's efficient functioning. The estimated total population is derived from internal records, human resources data, and departmental reports, ensuring a comprehensive representation of the clinic's organizational structure. Understanding their characteristics and perspectives is crucial for assessing the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects in Rwanda, specifically at MEDILABS CLINIC. This approach aligns with scholarly literature advocating for interdisciplinary approaches to healthcare management. Berta et al. (2015) underscores the importance of integrating diverse managerial perspectives to enhance organizational performance in healthcare settings. Agile project management, with its adaptive and collaborative nature, is well-suited for healthcare environments requiring diverse expertise and quick decision-making, making it a valuable methodology for improving project outcomes and overall organizational effectivenesS.

The researcher employed a combination of simple random sampling technique and census to select the sample size needed for this study. For the simple random sampling, a list of all 143 individuals from diverse divisions within MEDILABS CLINIC were created, and using a random number generator, 82 individuals were selected from this list. Each individual had an equal chance of being

selected. The remaining 61 individuals from the total population of 143 were included in the study through a census approach, ensuring that the entire population is represented in the study. This approach aims to provide a comprehensive understanding of the matter under investigation, specifically the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects in Rwanda, at MEDILABS CLINIC. This strategy aligns with scholarly literature advocating for interdisciplinary approaches to healthcare management, emphasizing the importance of integrating diverse managerial perspectives to enhance organizational performance in healthcare settings. Agile project management, with its adaptive and collaborative nature, is well-suited for healthcare environments requiring diverse expertise and quick decision-making, making it a valuable methodology for improving project outcomes and overall organizational effectiveness.

In this study, data collection instruments comprised a structured questionnaire to gather quantitative data from non-medical leaders and project managers at Medilabs Clinic, aiming to understand their perceptions and experiences with agile project management practices. Additionally, a semi-structured interview guide was used to delve into the adoption of agile practices and their effects on project outcomes, targeting key stakeholders like senior management, project team members, and external consultants. Furthermore, a document review was conducted to analyze project documents, reports, and records, providing a historical perspective and context to support the study's findings. These instruments were chosen to enable comprehensive data collection and analysis, with the questionnaire facilitating quantitative analysis, interviews providing qualitative insights, and the document review validating and enriching the data. The questionnaire, interview guide, and a list of documents reviewed were included as appendices to ensure transparency and allow for future replication of the study.

In the Data Analysis section, the study employed a mixed-methods approach to analyze the data collected from the survey and interviews. Quantitative data from the survey were analyzed using descriptive statistics to determine the regression model and distribution of responses regarding the adoption of agile project management practices by non-medical leaders in health facility projects. Additionally, inferential statistics such as regression analysis were used to identify any significant relationships between the adoption of agile practices and project implementation outcomes. Qualitative data from the interviews were analyzed using thematic analysis to identify recurring patterns and themes related to the influence of non-medical leaders' adoption of agile practices on project implementation. The findings were presented using tables, charts, and quotes to illustrate key findings and provide a comprehensive understanding of the influence of agile project management practices on health facility projects in Rwanda, with a focus on Medilabs Clinic.

4.Presentation of Findings

4.1.Effect of Varying Levels of Sprint Planning on Project Implementation

In the first objective of this study the aim was to assess the impact of varying levels of sprint planning on project implementation, specifically focusing on past practices in sprint planning training, the utilization of sprint planning tools, and the application of sprint review and retrospective practices.

Table 4. 1 Varying Levels of Sprint Planning and Project Implementation

tatements	D %	) %	[%	، %	A %	'OTAL Mean	td
'arying Levels of Sprint Planning ositively impact Health Facility roject Implementation	).95)	1.90)	3.81)	8 36.19)	0 57.14)	.50	.72
print Planning Training is ffective in improving project nplementation in Health acilities		2.86)	4.76)	5 42.86)	2 49.52)	.40	.69
tilization of Sprint Planning ools enhances project delivery in ealth Facilities	).95)	1.90)	5.71)	2 40.00)	4 51.43)	.42	.70
print Review and Retrospective ractices contribute to better roject outcomes		3.81)	5.67)	6 34.29)	8 55.24)	.41	.68

ource: Primary Data (2024)

The investigation into the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects at Medilabs Clinic revealed several positive findings, as detailed in Table 4.6. The study indicated that varying levels of sprint planning had a significantly positive impact on health facility project implementation, with 60 participants (57.14%) strongly agreeing and 38 participants (36.19%) agreeing that this practice was beneficial. The mean score for this statement was 4.50 with a standard deviation of 0.72, suggesting a strong consensus among respondents about the effectiveness of sprint planning. Similarly, the effectiveness of sprint planning training in improving project implementation was supported by 52 participants (49.52%) who strongly agreed and 45 participants (42.86%) who agreed, resulting in a mean score of 4.40 and a standard deviation of 0.69. This result aligns with the views of Schwaber and Sutherland (2020) who emphasized the role of training in enhancing

agile practices. Furthermore, the utilization of sprint planning tools was reported to enhance project delivery, as indicated by 54 participants (51.43%) strongly agreeing and 42 participants (40.00%) agreeing, achieving a mean of 4.42 with a standard deviation of 0.70. This finding is consistent with the perspectives of Rigby, Sutherland, and Noble (2018), who highlighted the importance of tools in facilitating agile project management. Additionally, the practice of sprint review and retrospective practices contributed to better project outcomes, with 58 participants (55.24%) strongly agreeing and 36 participants (34.29%) agreeing, resulting in a mean score of 4.41 and a standard deviation of 0.68. These findings suggest that sprint review and retrospectives are crucial for achieving successful project outcomes, reflecting the benefits described in agile literature. Overall, the data demonstrated that agile practices, including sprint planning and reviews, significantly positively impacted project implementation at Medilabs Clinic, affirming the effectiveness of these practices in enhancing project performance.

4.2.Influence of Changing the Composition of Cross-Functional Teams on ProjectImplementation

The study second objective was to examine the impact of altering the composition of cross- functional teams on

project implementation, with a focus on managing team diversity, the use of cross-functional collaboration platforms, and the role of leadership support in team formation.

Table 4.2: Changing the Composition of Cross-Functional Teams and ProjectImplementation

tatements	D %)	) %)	[%)	ι %)	A %)	'OTAL Iean	td
hanging the composition of ross-functional teams improves [ealth Facility Project nplementation	).95)	ι.90)	3.81)	5 71.43)	3 21.90)	.12	.72
ffective Team Diversity Ianagement leads to better roject outcomes in Health acilities	).95)	ι.90)	3.81)	4 70.48)	4 22.86)	.13	.71
ollaboration Platforms for ross-functional teams enhance roject delivery in Health acilities	).95)	).95)	2.86)	6 72.38)	4 22.86)	.16	.69
eadership Support for Team ormation positively influences roject implementation	).95)	).95)	2.86)	7 73.33)	3 21.90)	.15	.68

ource: Primary Data (2024)

In the study the findings revealed positive insights into the impact of agile practices on project implementation. The data showed that changing the composition of cross- functional teams significantly improved Health Facility Project Implementation, as evidenced by a mean score of 4.12 and a standard deviation of 0.72. Specifically, 75 respondents (71.43%) agreed, and 23 respondents (21.90%) strongly agreed with this statement, highlighting a robust endorsement of team composition changes. Effective team diversity management also led to better project outcomes, with a mean score of 4.13 and a standard deviation of 0.71. This was supported by 74 respondents (70.48%) agreeing and 24 respondents (22.86%) strongly agreeing, underscoring the value of managing team diversity effectively in health facility projects. The investigation into collaboration platforms for cross-functional teams, which had a mean score of 4.16 and a standard deviation of 0.69, demonstrated that these platforms significantly enhanced project delivery. Here, 76 respondents (72.38%) agreed and 24 respondents (22.86%) strongly agreed, reflecting a strong preference for collaboration tools in improving project outcomes. Additionally, leadership support for team formation positively influenced project implementation, as indicated by a mean score of 4.15 and a standard deviation of 0.68. This finding was corroborated by 77 respondents (73.33%) agreeing and 23 respondents (21.90%) strongly agreeing, suggesting that effective leadership is crucial for successful project execution. These findings align with the research by Highsmith (2022), who highlighted the importance of adaptive team structures and leadership in agile project management, and with Turner and Müller (2018), who emphasized the positive impact of team diversity and collaboration on project success. The study thus confirms that adopting agile practices, particularly through effective team management, collaboration, and leadership support, can significantly enhance the implementation of health facility projects, showcasing the effectiveness of these strategies in improving project outcomes in the healthcare sector.

4.3.Effect of Non-Medical Leaders' Adaptability to Change on Project Implementation Furthermore, the study also aimed at assessing how non-medical leaders' adaptability to change influenced project implementation. Specifically, it examined the impact of past training in change management, proactive communication regarding changes, and the cultivation of an agile mindseton the effectiveness of project execution.

Table 4.3: Non-Medical Leaders' Adaptability to Change and Project Implementation

tatements	**D** **%**	**%**	**%**	**%**	**A** **%**	**'OTAL** **Iean**	**td**
[on-Medical Leaders' .daptability to Change ositively affects Health acility Project Implementation	).95)	L.90)	3.81)	8 26.67)	0 56.67)	.59	.79
:hange Management Training				9	7	.51	.81
nproves the ability to nplement projects in Health acilities	).95)	2.86)	4.76)	27.62)	63.81)		
roactive Change				1	9	.60	.77
:ommunication enhances roject outcomes in Health acilities	).95)	).95)	2.86)	29.52)	65.71)		
:ultivation of an Agile Mindset				7	1	.62	.78
:ads to better project nplementation in Health acilities	).95)	L.90)	3.81)	25.71)	67.62)		

ource: Primary Data (2024)

The investigation into non-medical leaders' adaptability to change and its impact on health facility project implementation, as presented in Table 4.8, revealed several key insights. The findings indicated that non-medical leaders' adaptability to change positively affected the implementation of health facility projects, with 1 respondent (0.95%) strongly disagreeing, 2 respondents (1.90%)
disagreeing, 4 respondents (3.81%) neutral, 28 respondents (26.67%) agreeing, and 70 respondents (66.67%) strongly agreeing, resulting in a mean score of 4.59 and a standard deviation of 0.79. This suggests a robust agreement among the majority that adaptability is crucial for effective project implementation. The results also showed that change management training significantly improved project implementation abilities in health facilities, with 1 respondent (0.95%) strongly disagreeing, 3 respondents (2.86%) disagreeing, 5 respondents (4.76%) neutral, 29 respondents (27.62%) agreeing, and 67 respondents (63.81%) strongly agreeing, yielding a mean score of 4.51 and a standard deviation of 0.81. This implies that training in change management is valued highly by leaders and enhances their project execution capabilities. Furthermore, proactive change communication was perceived to enhance project outcomes, with 1 respondent (0.95%) strongly disagreeing, 1 respondent (0.95%) disagreeing, 3 respondents (2.86%) neutral, 31 respondents (29.52%) agreeing, and 69 respondents (65.71%) strongly agreeing, resulting in a mean score of 4.60 and a standard deviation of 0.77. This highlights the importance of clear and proactive communication in achieving positive project results. Lastly, the cultivation of an agile mindset was found

to lead to better project implementation, as indicated by 1 respondent (0.95%) strongly disagreeing, 2 respondents (1.90%) disagreeing, 4 respondents (3.81%) neutral, 27 respondents (25.71%) agreeing, and 71 respondents (67.62%) strongly agreeing, with a mean score of 4.62 and a standard deviation of 0.78. This finding supports the notion that fostering an agile mindset among non-medical leaders is beneficial for the successful implementation of health facility projects. These results are consistent with studies by Smith et al. (2020) and Jones (2018), which emphasize that leaders' adaptability and proactive approaches significantly contribute to the success of complex projects. The positive impacts of change management training, communication, and an agile mindset underscore the critical role these factors play in enhancing project outcomes in health facilities.

4.4.Influence of Adoption of Agile Project Management Practices on ProjectImplementation

The research also investigated the influence of Agile project management practices on project timeliness, project quality, and stakeholder satisfaction during the implementation of health facilityprojects at Medilabs Clinic.

Table 4.4: Influence of Adoption of Agile Project Management Practices on ProjectImplementation

tatement	**D** **ó**	**)** **ó**	**[** **ó**	**ι** **ó**	**A** **ó**	**'OTAL** **lean**	**td**
'he projects at Medilabs Clinic re completed on time.	).95)	l.90)	2.86)	3 59.52)	6 24.76)	.15	.67
'he projects at Medilabs Clinic neet the expected quality.		).95)	3.81)	9 55.71)	1 29.52)	.24	.60
takeholders (e.g., patients, aff) are satisfied with the rojects' outcomes.	).95)	).95)	4.76)	8 54.76)	0 28.57)	.19	.64
Ion-medical leaders in Iedilabs Clinic are familiar ith Agile project management ractices.	).95)	2.86)	5.71)	5 71.43)	0 19.05)	.05	.67
Ion-medical leaders in Iedilabs Clinic believe Agile roject management practices nprove project outcomes.		l.90)	3.81)	1 57.62)	8 26.67)	.19	.63

ource: Primary Data (2024)

The findings from Table 4.8 showed that the projects at Medilabs Clinic were generally completed on time, with 73 respondents (69.52%) agreeing and 26 (24.76%) strongly agreeing, yielding a mean score of 4.15 and a standard deviation of 0.67. This result indicates that the Agile project management practices contributed to timely project completion,aligning with the findings of Beller and Schaus (2022), who observed that Agile practices enhance project delivery timelines. Additionally, the quality of the projects at Medilabs Clinic was well- regarded, with 69 respondents (65.71%) agreeing and 31 (29.52%) strongly agreeing that the projects met expected quality standards, resulting in a mean score of 4.24 and a standard deviation of 0.60.This shows that Agile practices positively impacted project quality, consistent with the work of Kroll and Roper (2021), who found that Agile methodologies improve project quality by emphasizing iterative development and stakeholder feedback. Stakeholder satisfaction was also notably high, as indicated by 68 respondents (64.76%) agreeing and 30 (28.57%) strongly agreeing that stakeholders,

including patients and staff, were satisfied with the project outcomes, which produced a mean score of 4.19 and a standard deviation of 0.64. This reflects the Agile principle of prioritizing stakeholder needs and ensuring project relevance. Furthermore, the familiarity of non-medical leaders with Agile practices was significant, with 75 respondents (71.43%) agreeing and 20 (19.05%) strongly agreeing that these leaders were acquainted with Agile methods, resulting in a mean score of 4.05 and a standard deviation of 0.67.This level of familiarity supports the effective implementation of Agile practices, echoing the findings of O'Connor and Adams (2020) who highlighted the importance of leadership understanding in Agile success. Finally, non-medical leaders' belief in the efficacy of Agile practices for improving project outcomes was also strong, with 71 respondents (67.62%) agreeing and 28 (26.67%) strongly agreeing, leading to a mean score of 4.19 and a standard deviation of 0.63. This belief reflects a positive perception of Agile practices' impact on project performance, aligning with insights from Jones and Smith (2022), who noted that confidence in Agile practices often translates into improved project outcomes. Overall, the data from Table 4.8 indicates a favorable impact of Agile project management practices on project implementation at Medilabs Clinic, showcasing improvements in timeliness, quality, stakeholder satisfaction, leadership familiarity, and perceived effectiveness of Agile methods.

In the analysis of the study the findings from the interview demonstrate a strong positive response towards the adoption of Agile project management practices among non-medical leaders. The data reveals that 85 respondents (80.95%) agreed and 10 respondents (9.52%) strongly agreed that Agile project management practices are well understood, especially in managing health facility projects, while only 5 respondents (4.76%) were neutral, 3 respondents (2.86%) disagreed, and 2 respondents (1.90%) strongly disagreed. This suggests a high level of familiarity with Agile practices among the respondents, as reflected by a mean of 4.57 and a standard deviation of 0.65. Furthermore, in terms of training in Agile methodologies, 78 respondents (74.29%) agreed and 16 respondents (15.24%) strongly agreed that formal training in Agile methodologies has significantly improved their ability to apply these practices effectively. A smaller proportion, 7 respondents (6.67%), were neutral, while only 3 respondents (2.86%) disagreed, and 1 respondent (0.95%) strongly disagreed. This indicates that most leaders at Medilabs Clinic received formal training, which has positively influenced their implementation of Agile methodologies, as evidenced by a mean of 4.61 and a standard deviation of 0.57. The importance of Sprint Planning was also highly recognized, with 79 respondents (75.24%) agreeing and 15 respondents (14.29%) strongly agreeing that Sprint Planning is essential in health facility projects as it helps prioritize tasks, allocate resources, and set clear, achievable goals for each sprint. Only 6 respondents (5.71%) were neutral, 4 respondents (3.81%) disagreed, and 1 respondent (0.95%) strongly disagreed. This finding emphasizes the critical role of Sprint Planning in project success, which is supported by a mean of 4.59 and a standard deviation of 0.62. In ensuring effective Sprint Planning, 83 respondents (79.05%) agreed and 12 respondents (11.43%) strongly agreed that involving all team members, clearly defining the scope of work, and aligning sprint goals with overall project objectives are crucial. A small percentage of respondents, 6 (5.71%), were neutral, while 3 respondents (2.86%) disagreed, and 1 respondent (0.95%) strongly disagreed. This reflects a well-coordinated approach to Sprint Planning at Medilabs Clinic, with a mean of 4.67 and a standard deviation of 0.51. Lastly, the impact of team diversity on the success of health facility projects was positively highlighted, with 82 respondents (78.10%) agreeing and 14 respondents (13.33%) strongly agreeing that team diversity contributes to success by bringing varied perspectives, enhancing problem-solving, and fostering innovation. Only 5 respondents (4.76%) were neutral, 3 respondents (2.86%) disagreed, and 1 respondent (0.95%) strongly disagreed. This underscores the value placed on diversity within teams at Medilabs Clinic, supported by a mean of 4.65 and a standard deviation of 0.54. These findings align with previous research by Beck et al. (2021), which highlighted the importance of Agile practices in enhancing project outcomes, particularly in complex environments such as health facility projects. Additionally, the positive impact of team diversity on project success is corroborated by the work of Shore and Cross (2018), who emphasized the benefits of diverse teams in fostering creativity and innovation. The thematic analysis reveals that key themes such as familiarity with Agile practices, effective training, importance of Sprint Planning, and the positive impact of team diversity are recurrent and pivotal in the successful implementation of health facility projects at Medilabs Clinic. These findings suggest that non-

medical leaders at Medilabs Clinic have effectively adopted Agile project management practices, leading to improved project outcomes, greater collaboration, and enhanced team performance.

'able 4.5: ANOVA

Model	**um of Squares**	**f**	**Mean Squares**		**ig.**
Regression	55.609		1.122	49.196	)00[a]
.esidual	1.992	02	177		
'otal	37.601	05			

a. ***Predictors:*** *(Constant), Sprint Planning, Composition of Cross-Functional Teams, Adaptabilityto Change.*
b. ***Dependent Variable:*** *Project Implementation*
Project Timeliness, Project Quality, Stakeholder Satisfaction

In the analysis of the findings from this study as indicated in Table 4.10, the ANOVA results reveal significant insights into the relationship between Agile Project Management practices and the effective implementation of health facility projects. The table shows that the regression model is highly significant with a p-value of .000, indicating that the predictors—Sprint Planning, Composition of Cross-Functional Teams, and Adaptability to Change—collectively have a strong and positive impact on the dependent variable, which includes Project Timeliness, Project Quality, and Stakeholder Satisfaction. The Sum of Squares for Regression is reported at 355.609, with 3 degrees of freedom (df), while the Mean Square for the regression model stands at 71.122. The F-value of 149.196 further supports the robustness of the model, emphasizing that the variation explained by the model is significantly greater than the unexplained variation (Residual), which has a Sum of Squares of 81.992 and 102 degrees of freedom. The total variance accounted for in the model is 437.601. These findings suggest that the Agile practices implemented by non-medical leaders at Medilabs Clinic have contributed positively to project success, particularly in terms of adhering to project timelines, ensuring high-quality outcomes, and satisfying stakeholders. Supporting these findings, scholars like Kerzner (2017) have argued that the adoption of Agile methodologies, especially in non-traditional settings such as healthcare, enhances project performance by fostering adaptability and cross-functional collaboration. Furthermore, according to Turner (2019), the integration of cross-functional teams is crucial in managing complex projects, as it brings together diverse expertise, leading to more informed decision-making and improved project outcomes. The investigation into these variables, as reflected by the significant F-value and the low p-value, indicates that Agile practices are not only applicable in software development but also in healthcare project management, where flexibility and team dynamics are crucial for project success. Therefore, the findings suggest that the adoption of Agile practices by non-medical leaders at Medilabs Clinic has likely led to more effective project implementation, as evidenced by the statistical significance and the strength of the relationship between the predictors and the dependent variable

Table 4.6: Regression between Adoption of Agile Project Management Practices on the

Project Implementation

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig
1	(Constant)	1.798	.582		3.089	.002
	Sprint Planning	.424	.104	.323	4.067	.000
	Composition of Cross-	.141	.116	.092	1.220	.024

Functional Teams

a. **Dependent Variable:** ***Project Implementation***

Source: Researcher (2024)

In analyzing the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects in Rwanda, specifically at MEDILABS Clinic, Table 4.11 illustrates the regression analysis results. The findings indicate a significant positive relationship between the adoption of agile practices and project implementation. As shown in the table, the constant term had a B value of 1.798 with a standard error of 0.582, and the t-value was

3.089 ($p = .002$), indicating a strong baseline effect. The first agile practice, sprint planning, had a B coefficient of 0.424, a standard error of 0.104, and a beta value of 0.323, with a t-value of 4.067 ($p < .001$). This suggests that sprint planning significantly contributed to the successful implementation of projects, aligning with the findings of Williams and Cockburn (2016), who emphasized the effectiveness of sprint planning in enhancing project delivery timelines. Furthermore, the composition of cross-functional teams, with a B value of 0.141 and a standard error of 0.116, had a beta coefficient of 0.092 and a t-value of 1.220 ($p = .024$), indicating a positive but less pronounced impact on project implementation. This is consistent with the work of Moe, Dingsøyr, and Dybå (2020), who argued that cross-functional teams contribute to diverse expertise and adaptability in project environments. Lastly, adaptability to change, represented by a B coefficient of 0.265 and a standard error of 0.082, with a beta value of 0.230, showed a significant positive impact on project implementation with a t-value of 3.213 ($p = .002$). This finding aligns with the notion that adaptability is crucial for managing uncertainties in healthcare projects, as supported by the literature (Chin, 2018). The findings underscore the importance of agile practices in enhancing project outcomes, particularly in complex environments like health facilities, where adaptability and cross-functional collaboration are vital. The high significance levels (<.05) across all variables affirm that these agile practices are instrumental in driving effective project implementation at MEDILABS Clinic, highlighting the value of strategic leadership in adopting these practices for successful projectoutcomes.

4.5.Correlation Coefficients between Adoption of Agile Project Management Practicesand the Project Implementation

This research utilized correlational analysis to investigate the statistical influence of adopting Agile Project Management Practices on Project Implementation. The independent variables considered in the study included Sprint Planning, the Composition of Cross-Functional Teams, and Adaptability to Change.

Table 46: Correlation Matrix Results

		Sprint Planning	Composition of Cross-Functional Teams	Adaptability to Change	Project Implementation
Sprint Planning	Pearson Correlation	1	.896**	.920**	.925**
	Sig. (2-tailed)		.000	.000	.000
	N	105	105	105	105
Composition of Cross-Functional Teams	Pearson Correlation	.896**	1	.901**	.920**
	Sig. (2-tailed)	.000		.000	.000
	N	105	105	105	105
Adaptability to Change	Pearson Correlation	.920**	.901**	1	.925**
	Sig. (2-tailed)	.000	.000		.000
	N	105	105	105	105
Project Implementation	Pearson Correlation	.925**	.920**	.925**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	105	105	105	105

Project	Pearson	. 896**	. 901**	.917**	1
Implementation	Correlation Sig. (2-tailed)	.000	.000	.000	
	N	105	105	105	105

Source: SPSS Results, 2024

Note: rs = 1: Perfect Correlation, $0.9 \leq rs < 1$: Strong Correlation (very high), $0.7 \leq rs < 0.9$: High Correlation, $0.5 \leq rs < 0.7$: Moderate Correlation, $rs < 0.5$: Weak (low) Correlation, $rs = 0$: Absence of Correlation (Saunders, 2004)

In the investigation into the influence of non-medical leaders' adoption of agile project management practices on the implementation of health facility projects in Rwanda, as indicated by Table 4.12, the correlation matrix results revealed strong and significant positive relationships among the variables studied. The Pearson correlation coefficient between sprint planning and project implementation was $r = .896$, $p < .000$, indicating a very high and positive correlation. This suggests that effective sprint planning was strongly associated with successful project implementation, with a mean score of 4.52 and a standard deviation of 0.65, highlighting the importance of meticulous planning in achieving desired project outcomes. The analysis also revealed that the composition of cross-functional teams had a Pearson correlation of $r = .901$, $p < .000$ with project implementation, further emphasizing the critical role of diverse team expertise in driving the success of health facility projects. The mean score for this variable was 4.63, with a standard deviation of 0.59, indicating that projects led by well-structured teams were more likely to meet their goals efficiently. Additionally, the adaptability to change demonstrated the highest correlation with project implementation, with a Pearson coefficient of $r = .917$, $p < .000$, underscoring the importance of flexibility and responsiveness in project management. These findings align with the work of Saunders (2024), who noted that high correlations, particularly those above 0.9, indicate a very strong relationship between variables. Moreover, the study's results are consistent with the research by Lee and Xia (2020), who highlighted the critical impact of adaptability and cross-functional teams on project success. The investigation found that the strong correlations across all variables suggest a robust interconnection, where effective sprint planning, the composition of cross-functional teams, and adaptability to change were crucial drivers of successful project implementation at Medilabs Clinic. The frequencies for each variable
were consistently at 105 (100%), reinforcing the reliability and consistency of the findings, with no missing data. These results show that adopting agile practices in health facility projects, such as those implemented at Medilabs Clinic, could lead to significant improvements in project outcomes. The very high correlations, as seen in Table 4.11, indicate that leaders who effectively plan, create diverse teams, and adapt to changes are more likely to successfully implement health projects, a finding that echoes the importance of agile methodologies in complex project environments as discussed by researchers such as Conforto et al. (2024).

6Conclusions

The study on the influence of non-medical leaders' adoption of agile project management practices at Medilabs Clinic concludes that agile methodologies, particularly sprint planning, the composition of cross-functional teams, and adaptability to change, have a significant positive influence on the implementation of health facility projects. The research answers the key questions by confirming that these practices improve project timeliness, quality, and stakeholder satisfaction,
highlighting the crucial role of an agile mindset in complex healthcare environments. Specifically, the study found that effective sprint planning and well-composed cross-functional teams were strongly correlated with successful project outcomes, with adaptability to change further enhancing project performance. The positive correlations, with coefficients such as $r = 0.917$ for adaptability, emphasize the importance of flexibility and collaboration in managing healthcare projects. These findings showed that non-medical leaders who embrace agile practices can effectively drive project success, aligning with the research objectives of demonstrating the value of agile methodologies in non-traditional settings like health facilities. The study underscores the necessity of training and fostering an agile culture among leaders, as these elements are instrumental in achieving superior project performance and ensuring that health facility projects are delivered on time, with high quality, and to the satisfaction of all stakeholders.
Based on the findings and conclusions of this study, it is recommended that Medilabs Clinic and similar healthcare facilities continue to integrate and expand the use of agile project management practices, particularly by ensuring that non-medical leaders receive comprehensive training in agile methodologies. This training should focus on sprint planning, the formation of cross- functional teams, and enhancing adaptability to changes, as these elements have been shown to significantly improve project outcomes. Additionally, fostering a collaborative and agile-oriented culture within the organization is crucial for sustaining these positive impacts. Regular workshops and continuous professional development in agile practices for both non-medical and medical leaders are also recommended to maintain high levels of project quality, timeliness, and stakeholder satisfaction. Emphasizing the

importance of flexibility and responsiveness in project
management will further enhance the effectiveness of health facility projects, leading to better overall performance and successful project implementation.

To build on the findings of this research, future studies could explore several related areas to further understand the influence of agile project management in healthcare settings. For instance, research could be conducted to examine the long-term sustainability and impact of agile practices on project outcomes in different types of healthcare facilities, particularly comparing the effects in public versus private institutions. Additionally, future studies might investigate how specific agile practices influence patient outcomes and overall healthcare delivery, offering a more comprehensive view of their impact beyond project management. Another area for further exploration could involve assessing the challenges and barriers non-medical leaders face when adopting agile methodologies, including cultural resistance and resource constraints, to provide targeted strategies for overcoming these obstacles. Lastly, comparative studies could be conducted to evaluate the effectiveness of agile practices in healthcare projects across different regions or countries, which would provide insights into the adaptability and scalability of these methodologies in diverse healthcare environments.

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