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**MANAGERIAL COMPETENCE, INNOVATION CAPABILITIES AND PROJECT
PERFORMANCE OF DAIRY FARM PROJECTS
IN WESTERN UGANDA**

BY

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OF MAKERERE UNIVERSITY**

PLAN A

OCTOBER, 2024

DECLARATION

The dissertation is my novel effort and has never been presented elsewhere for any honors.

Signature..........

Date.....25/10/2024.....

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APPROVAL

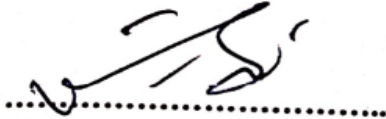
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DEDICATION

I dedicate this study to my family and God.

ACKNOWLEDGEMENT

I want to sincerely thank the Almighty God for making it possible for me to finish this program.

I am deeply grateful to my family for providing encouraging me to do this course.

I also extend my heartfelt appreciation to my supervisors, Dr. Violah Mpangwire and Mr. Richard Mwesige, for their consistent guidance and mentorship throughout the research process. I am unable to express my appreciation in words, but I would like to say thank you. I pray that their wishes will be fulfilled.

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ABSTRACT

This research intended to assess the contribution of managerial competence and innovation capabilities in enhancing the performance of projects in dairy farms in Western Uganda. Information was gathered from various regional farm managers through a cross-sectional survey design to establish how these resources affect the projects in terms of outcome in cost, quality, and adherence to schedules. The study also used correlation and regression analysis, correlating the interrelationships among the variables.

The most important positive correlation was between managerial competence and project performance since increasing levels of managerial skills enhance project outcomes significantly. Conversely, the only somewhat positive influence that innovation capability had on project performance level was quite contrary to the former prospective accomplishment condition. Hence, innovative practices may not achieve good project outcomes without strong managerial skills. The study further contributes to existing knowledge by declaring the differing impacts of managerial competence and innovation on whether and how success might be achieved with agricultural project settings.

In relation to the scope and emphasis of the study, the results cannot be claimed to be reflecting the whole scenario of agricultural innovation in all regions. Further research would have to extend the geographical coverage and combine various mixed approaches to combat the limitations of self-reporting and enrich the understanding of innovation-type performance linkage on project performances in different agricultural sectors. Therefore, this study informs not only farm management practice but also insights for policy formulation in relation to improving agricultural project management and innovation in developing countries.

CHAPTER ONE

1.0 Introduction

This chapter focuses on the background of the study, statement of the problem, objectives of the study, study questions, scope of the study, significance of the study and the conceptual framework.

1.1 Background of the Study

Dairy farming is of much importance in the global economy and food security by providing nutrition as well as income to millions of people around the world (World Health Organization). The sector also helps many rural communities avoid falling into poverty (Bhandari & Ravishankar, 2020). Regarding lean economic gains from the dairy sector, the most efficient method appears to be a project approach that allows separate task implementation in a sequence within budget constraints and time frames. Although economically important, the dairy farming sector faces challenges that hamper its performance and competition on a global scale. The major hindrances are low productivity; poor quality; inadequate infrastructure; and high input costs, making formidable obstacles. This is perhaps more visible in Sub-Saharan Africa where dairy farming is one important livelihood activity for many households (Kemboi et al., 2020). There is a need to improve the performance of the dairy sector so that it continues to contribute toward global economic development as well as food security.

Uganda, one of the countries in Sub-Saharan Africa, has a developed dairy industry, mainly found in the western region, a very significant sector regarding agricultural output and an essential way of reducing poverty and developing the rural areas in the country (Waiswa & Günlü, 2023). However, there are many barriers that prevent it from growing and becoming sustainable. These include milk adulteration and cream separation practices, low milk prices, as well as limited access to markets (Vidal, 2021). The existing bottlenecks have called for the identification and selection

of appropriate performance improvement measures for dairy farms projects in western Uganda. Thus, most of the interventions have concentrated on increasing milk production and improving marketing strategies while ignoring key managerial competencies and innovation capabilities among dairy farmers (DDA, 2022).

Amaral and Araujo, (2009) posit that project' management is the primary capability for a company to stay competitive and respond to external issues. Project manager competence is acknowledged as essential for organizational objectives and strategies (Hurt & Thomas, 2009). It is evident that project manager competence is significant in achieving strategic purposes and provide opportunities for innovation (Anantatmula and Rad, 2013). Managerial competence, a critical factor in project success, ensures that projects are completed according to specified requirements, within allocated budgets, and within the defined time schedule. More importantly, the modern notion of project performance recognizes the increasing importance of innovation capacity, mainly organizational and process innovation (Calik et al., 2017). According to Rajapathirana and Hui (2018), "incorporation of Innovation capability has a significant positive effect on project performance since organizations are able to develop and incorporate new ideas and technologies." These emphasize the need for not only managerial competence but also innovation-supporting capabilities as integral elements in effectively attaining project objectives.

Most of the earlier studies on dairy farming in Uganda have either focused on the technical and financial issue or addressed the social and environmental issues surrounding dairy production (Nkwasiwe et al., 2015; Kabunga et al., 2017; Kiggundu et al., 2019). However, not any one of these studies explicitly explored the relationships that exist between managerial skills, innovation potentials and project performances of dairy farms within western Uganda. This study tries to fill

this yawning gap through undertaking a contextual analysis of commercial dairy farms in the region through an examination of these variables. We therefore believe that it will offer valuable insight and information towards policy making, practice on the ground as well as contributing to sustainable development of the dairy sector in Uganda and beyond.

1.2 Statement of Problem

Dairy farming is a major source of income and livelihood for many homes in Uganda, especially in the western region, however dairy farms face several challenges that limit their growth and competitiveness (Waiswa & Günlü, 2023). Some of these challenges include the low productivity and quality of milk, the lack of adequate infrastructure and the high cost of inputs. These problems affect the performance of dairy farms by increasing their operational costs and disrupting their operational schedules hence resulting into reduced quality of milk and milk products. For example, between 2021 and 2023, the Dairy Development Authority registered more than 20 cases of milk adulteration in western Uganda (in the districts of Kiruhura, Isingiro, Kazo, and Ibanda among others), with farmers adding water and maize flour among other impurities into milk in a bid to increase the quantity of milk and fetch higher prices (Mwesige, 2022). Others engage in illegal centrifugation, to separate cream from milk before selling it (URN, 2023).

Efforts to improve the performance of dairy farms projects have focused on enhancing the production and marketing of milk products, but have largely ignored the role of managerial competencies and innovation capabilities of dairy farmers (DDA, 2022). Consequently, little has been done to unearth how the above factors affect the project performance of dairy farms in Western Uganda which is described as how far dairy farms meet their objectives in terms of cost, time, and quality. The few available studies examining the performance of dairy farming in Uganda

have concentrated most on either the technical or financial angle (Nkwasibwe, Kakuru, & Sentumbwe 2015; Waiswa & Günlü 2023) and others have looked at the social or environmental facets (Kabunga et al., 2017; Kiggundu et al., 2019). However, none of these studies have explicitly addressed the influence of managerial competencies and innovation capabilities on project performance of dairy farms. This study will therefore set out to fill this knowledge gap.

1.3 Purpose of the study

The purpose of the study was to examine the relationship between managerial competence, innovation capabilities and project performance of dairy farm projects in western Uganda.

1.4 Study objectives

The study was guided by the following study objectives.

- i) To examine the relationship between managerial competence and project performance of dairy farm projects in Western Uganda
- ii) To examine the relationship between innovation capabilities and project performance of dairy farm projects in Western Uganda
- iii) To examine the relationship between managerial competence, innovation capabilities and project performance of dairy farm projects in Western Uganda

1.5 Research questions

These research questions served as a guide for the investigation.

- i) What is the relationship between managerial competence and project performance of dairy farm projects in Western Uganda?
- ii) What is the relationship between innovation capabilities and project performance of dairy farm projects in Western Uganda?

- iii) What is the relationship between managerial competence, innovation capabilities and project performance of dairy farm projects in Western Uganda?

1.6 Scope of the study

This was determined in three forms as follows.

1.6.1 Subject Scope

The study focused on managerial competence and innovation capabilities and only discuss them in as far as they are related to project performance.

1.6.2 Geographical Scope

Western Uganda was considered because the region has the largest concentration of dairy farms in the country.

1.6.3 Time Scope.

The research was carried out at a single period as a onetime study within the operational life of the dairy farms.

1.7 Significance of the study

This study hopes to contribute to improving decision-making, operational efficiency, and resource allocation in Western Ugandan dairy farms by unveiling the intricate relationship between managerial competence, innovation capabilities, and project performance. This knowledge was to directly empower farm managers to make data-driven decisions, enhance operational efficiency and boost resource allocation.

This study will empower policymakers and regulators at regional and national levels to implement impactful interventions that directly support the growth and sustainability of Western Ugandan

dairy farms. This was through identifying key drivers of performance as well as informing policy design.

This study will add to the present information on dairy farming, by examining the neglected aspects of managerial competence and innovation capabilities and their effect on project performance. This research will provide empirical evidence and insights into the dairy farming sector in Uganda and other similar agricultural contexts worldwide. It will offer a framework for future research on the complex relationship between managerial practices, innovation, and agricultural project performance.

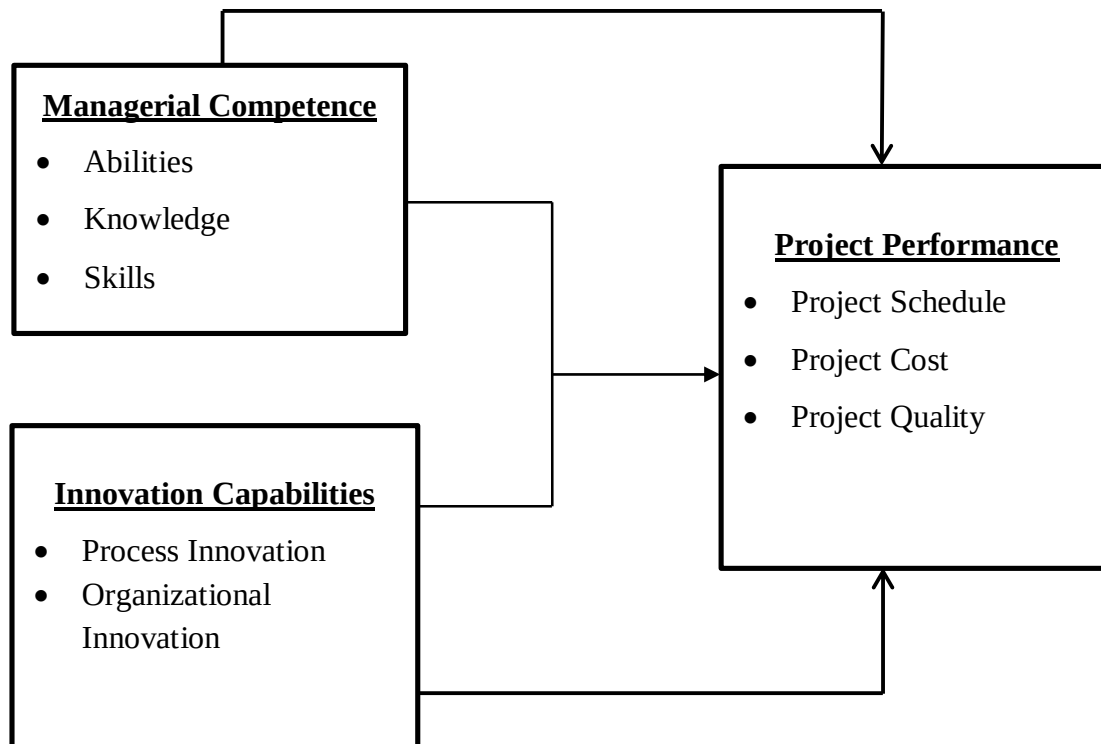
1.8 Conceptual framework

The study conceptualizes that managerial competence and innovation capability are independent variables that influence project performance. The study measured project performance in form of cost, quality and schedule. On the other hand, managerial competence was measured in terms of abilities, knowledge, and skills while innovation capabilities in terms of organizational and process capabilities. The conceptualization of project performance depending on managerial competence and innovation capabilities was derived from the contingency theory. Within the framework of contingency theory, project performance's dependence on managerial competence and innovation capabilities can be conceptualized through the idea that effective management and innovation strategies are contingent upon the specific context and demands of a given dairy farming operation.

Contingency theory suggests that there is no one-size-fits-all approach to management; instead, managerial practices and the ability to innovate must be tailored to suit the unique challenges and opportunities faced by dairy farms in western Uganda. In this context, effective management, characterized by the competence of farm managers, involves the ability to adapt to changing

circumstances, make informed decisions, and allocate resources efficiently. Likewise, innovation capability refers to a farm's capacity to creatively address issues such as low milk productivity and quality, high input costs (process innovation), and inadequate infrastructure (organization innovation). Under the contingency theory lens, project performance is contingent upon the alignment of managerial competence and innovation capabilities with the specific challenges faced by dairy farm projects in western Uganda. Hence, the success of dairy farming projects depends on the flexible adaptation of managerial and innovative approaches to the ever-evolving and context-specific demands of the sector.

Figure1: Conceptual framework



Source: Developed from literature and modified by the researcher: (Kyndt & Baert, 2015, Calik et al., 2017, Ahmed, 2023, Contingency theory by Donaldson (2001)).

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This section explored existing research on theories and the factors examined in this study: Managerial Competence, Innovation Capabilities, and Project Performance. It analysed how these variables are connected to help us understand how they influence each other and ultimately contribute to project performance.

2.1 Theoretical underpinning of the study

The contingency theory

The contingency theory by Donaldson (2001), formed the basis of this study. According to this theory, the project performance depends on how well their management and innovation strategies match the specific context and needs of their operations. The theory suggests that there is no universal way to manage firms; rather, management competences and innovation capabilities must be customized to fit the particular challenges and opportunities that firms face. In this context, effective management, which reflects the competence of farm managers, involves the ability to adjust to changing situations, make informed decisions, and allocate resources efficiently. Similarly, innovation capability refers to a farm's ability to creatively solve problems such as low milk productivity and quality, high input costs, and inadequate infrastructure. From the perspective of contingency theory, project performance is influenced by how well managerial competence and innovation capabilities align with the specific difficulties faced by dairy farm projects in western Uganda. Therefore, the success of dairy farming projects relies on the flexible adaptation of managerial and innovative approaches to the dynamic and context-specific demands of the sector.

2.2 Definition of concepts

Project performance

Project performance denotes to the actual results of a project in comparison to the expected results, set goals and objectives (Zhu et al., 2021). Successful project performance can be evaluated as the capacity to finish the project within the allocated budget and time frame, and in accordance with the intended parameters (Zid et al., 2020). According to Helmold and Samara (2019), the performance of a project is seen through Cost performance, Schedule performance, output quality and achievement of project objectives. Cost performance looks at whether project outputs are produced within the agreed budget while schedule performance looks at whether project outputs are delivered within the agreed timeframe. Additionally, Project quality looks at whether project outputs meet agreed project quality standards, while achieving project objectives looks at whether major objectives of projects are being achieved.

Managerial competence

The capacity to carry out tasks with the appropriate abilities and mindset required for the position is known as managerial competence (Salman *et al.*, 2020). The productivity of a workplace is influenced by managerial abilities and competences since they are essential for leading staff members toward predetermined organizational objectives. With the use of these skills, managers may collaborate with team members to finish projects on schedule and within budget. Armstrong (2006) defines managerial competences as the abilities, traits, and expertise that set managers and leaders apart and help them accomplish their jobs well in an organization. It is the intellectual capital that integrates the two basic human resources knowledge and strength. Managerial competencies, according to Kayes et al. (2005), include managing the organization's other expatriates as well as the host population both internally and internationally. According to

Hellriegel et al. (2005), a competency is essentially a set of knowledge, skills, behaviors, and attitudes that support personal effectiveness and are necessary for an individual to be successful in a variety of roles and organizational settings.

Innovation capabilities

Innovation capabilities refers to an organization's capacity to generate, adopt, and effectively implement innovative ideas, processes, technologies, and practices to enhance its performance, competitiveness, and sustainability (Somwethee *et al.*, 2023). Innovation capabilities depend on various factors such as, organizational capability and process capability. "The ability to continuously transform knowledge and ideas into new products, processes, and systems for the benefit of the firm and its stakeholders" is another way to define innovation capability. In a similar vein, Keskin (2006) believes that having originality in one's methods of operation, being open to trying out new concepts, and being willing to explore unconventional approaches are all components of innovation potential. Furthermore, Zhang and Hartley (2018) assert that the application of knowledge and concepts from many sources is the core of innovation capabilities.

2.3 Empirical literature

2.3.1 Relationship between managerial competence and project performance

Moradi et al. (2020) proposed 10 core competencies for project managers in collaborative construction projects and found that the relationship between managerial competence and project performance is crucial in determining the success of collaborative construction projects. Similarly, Hassan (2023) finds that, there is a strong relationship between managerial competence and project performance, especially in the context of sustainable development projects (SD). Effective project managers with the necessary competencies are better equipped to handle the challenges and complexities of SD projects, leading to improved project performance. Khattak and Mustafa

(2019) show that Effective management competencies of project managers are essential for overcoming complexities and ensuring successful completion of projects. Specifically, the identification of relevant management competencies is imperative to address issues such as cost, time, and scope in engineering infrastructure projects.

Sang et al. (2018) established that managerial competence in form of management ability and knowledge reserve of the project manager have a significant effect on project efficiency. The study highlights that project manager is responsible for communication and coordination with stakeholders, such as the owner and supervisory agencies, and needs to lead the project team and promote sincere cooperation among members. In another study, Irfan et al. (2021) examined project performance among public sector projects. Their study established that Managerial competence has a significant impact on project performance in the public sector projects. The study findings explain that success of public sector projects is influenced by the planning and competency of the project manager.

Similarly, Maqbool et al. (2017) examined the impact of Emotional Intelligence, Project Managers' Competencies, and Transformational Leadership on Project Success among Pakistani construction firms and established that, managerial competence has a significant impact on project performance. The study highlights that Project managers with desired competencies are effective leaders and ensure higher success in projects. Specifically, project managers with high emotional intelligence, managerial competencies, and transformational leadership behavior contribute to project success. Ahmed and Anantatmula (2017) observe that the leadership competence of a project manager plays a critical role in improving project performance. Their study was conducted

on project managers working on public sector projects in Pakistan and it highlights that the specific competencies of a project manager, such as communication, decision-making, and team management, contribute to project success. Similarly, effective leadership competence enhances coordination, motivation, and collaboration among team members, leading to improved project performance.

2.3.2 Relationship between innovation capabilities and project performance

In a study that examines the relationship between innovation capabilities, innovation type, and firm performance, Rajapathirana and Hui (2018) explain that Innovation capability has a positive impact on project performance, as it enables firms to develop and implement new ideas and technologies that can lead to improved outcomes. Innovation capability allows firms to identify and exploit new opportunities, which can result in increased project success and overall firm performance. In another study, Hoang and NGOC (2019) note that Innovation capability has a positive impact on the financial performance of electronic firms in China. In another study, Li et al. (2016) found that Internal innovation capability and absorption capability have a significant impact on operating performance.

Additionally, Somwethee et al. (2023) investigated the influence of entrepreneurial capability and innovation capability on sustainable organization performance among community enterprises in Thailand and established that Innovation capability has a positive influence on sustainable organization performance. By fostering a culture of innovation and encouraging the development and implementation of new ideas, organizations can enhance their ability to adapt to changing market conditions and customer needs, leading to improved performance in the long run. Fu et al. (2021) examine the relationship between innovation and the performance of Small and Medium-

Sized Enterprises (SMEs) in Pakistan. The findings of the study suggest that there is a positive relationship between innovation capability and SME performance. SMEs that have a higher level of innovation capability are likely to achieve better performance outcomes.

2.3.3 Managerial competence and innovation capabilities on project performance

The predictive power of managerial competence and innovation capabilities on project performance infers that these two can work together to bring about project performance. Contingency theory highlights that the joint contribution of managerial competence and innovation capabilities on project performance depends on the alignment of these factors with the unique context and demands faced by dairy farms in western Uganda. It emphasizes that there is no universal or one-size-fits-all approach to management and innovation. Instead, effective management competencies in financial management, operational efficiency, and risk assessment, and innovation capabilities, involving the farm's capacity to generate and adopt innovative ideas and technologies, must be tailored to the specific circumstances of the dairy sector in this region. When managerial competence and innovation capability are contextually aligned and adaptable, they can collectively enhance project performance by enabling the farm to navigate the challenges, seize the opportunities, and respond to the contingencies inherent in the dairy farming industry, ultimately leading to improved outcomes in terms of cost-efficiency, timeliness, and product quality.

According to Huda and Maliki (2019), project manager competence encompasses various aspects, including education, experience, expertise, skills, leadership, decision-making, mastery of technology, organization, and behavior. These aspects have a positive and significant impact on improving project performance. Additionally, the project management knowledge area, which

consists of ten project management sciences, also plays a positive and significant role in enhancing project performance. This area encompasses aspects such as cost, time, quality, occupational health and safety, project owner satisfaction, and stakeholder satisfaction. A proficient project manager typically possesses a solid formal education, theoretical expertise in project implementation, and the capacity to apply acquired knowledge in practical settings. This individual has the ability to continuously convert knowledge and ideas into innovative products, ultimately achieving the stated goals and objectives of the project (Prianto, 2012).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This entails research design, the study population, the representative number of participants, how participants were selected, data source, the tool used to collect data and how data was analyzed.

3.1 Research Design

A research design is the overall plan for the research (Sileyew, 2019). This study used a cross-sectional survey research design, which involves analyzing of data collected from a study population at a single moment in time. This research design is used because it allows the study to capture several characteristics about the study population in an economical way and data collected using this design can be analyzed quantitatively (Asenahabi, 2019).

3.2 Study Population

The population for the study consisted 115 commercial dairy farms operating in the districts of Isingiro, Mbarara, Kiruhura, Lyantonde, and Ntungamo (SNV Tide project report, 2022). These districts were considered because they have the largest number of farms in Western Uganda.

3.3 Sample size and sampling procedure

The study considered a sample size of 86 projects determined using the Krejcie and Morgan sample size determination table (Krejcie and Morgan, 1970). The selection of these projects was carried out using the lottery method, in which all dairy farms were assigned a unique number and placed on a piece of paper. These papers were then placed in a box, and one by one, the papers were picked without replacement until a total of 86 selected. The study targeted a project manager/owner from each dairy project to complete a questionnaire tailored to the research objectives. The choice of the respondent was because managers/owners have insights into daily operations and strategic

overview of objectives and goals of the farms. The managers/owners formed the unit of inquiry while the dairy farm projects formed the unit of analysis.

3.4 Data Collection procedure

Building on the selection of managers/ project owners as key respondents, the study collected primary data directly from these individuals solely through a self-administered structured questionnaire. The questionnaire designed with close-ended questions based on a 5-point Likert scale, ensures consistency and relevance by focusing exclusively on the objectives of the study.

3.5 Validity and Reliability of Research Instrument

Validity of the instrument

The validity of the research instrument was guaranteed by using the Content Validity Index. (CVI). Values of the CVI must exceed 0.7 for the questionnaire items to be considered to be valid Saunders et al., (2003) and this was achieved.

$$CVI = \frac{\text{Number of items rated relevant}}{\text{Total number of items}} \times 100\%$$

Reliability of the instrument

This was tested using the Cronbach's alpha coefficient. Each questionnaire item must score a coefficient of 0.7 and above to be considered reliable Saunders et al., (2003) and this was achieved.

Table 3.1: Validity and reliability results

Variables	Cronbach' Alpha Coefficient (α)	Content Validity Index	Number of Items
Managerial Competence	0.884	0.888	17
Innovative Capabilities	0.854	0.844	8
Project performance	0.805	0.867	14

Source: Primary Data, 2024

3.6 Data Processing and Analysis

Statistical treatment of collected primary data involved sorting, editing, coding and accurate entry using Statistical Package for Social Scientist (SPSS) Version 26.0, and then a descriptive and inferential analysis of measurable relationships between study variables.

3.7 Measurement and operationalization of variables

For all variables, a structured and standard questionnaire was used, and all variables measured on interval scales assessing all items on a five-point Likert scale, where 1 represented “strongly Disagree” and 5 represented “strongly Agree”.

Table 3.2: Measurement and operationalization of variables

Global Variable	Dimensions	Sample questionnaire items
Managerial Competence (Kyndt & Baert, 2015)	Abilities	<i>“I control the flow of work; I make timely decisions”</i>
	Knowledge	<i>“I deal with the needs of customers”</i> <i>“I come up with new business ideas/innovations”</i>
	Skills	<i>“I possess good communication skills”</i> <i>“I possess good inter-personal skills to attract and retain customers”</i>
Innovation capability (Calik et al., 2017)	Organizational Innovation Capability	<i>“Our firm adopts innovative work designs”</i> <i>“Our firm has good mechanisms for using technology from research to product development”</i>
	Process innovation Capability	<i>“We reduce the developing time of new products and services”</i> <i>“We actively work to constantly adjust our business processes”</i>
Project Performance (Ahmed, 2023)	Project Cost	<i>“The project's cost goals were achieved.”</i> <i>“The project's total budget was basically the same as anticipated.”</i>
	Project Quality	<i>“The project deliverables were of high quality.”</i> <i>“The quality objectives of projects were achieved”</i>
	Project Schedule	<i>“The project was delivered on schedule.”</i> <i>“The main project tasks were finished on time.”</i>

3.8 Ethical Considerations

The study followed the conventional Ethical Standards which include the anonymity and privacy of the subjects and confidentiality of their information.

To ensure privacy and confidentiality, the respondents were informed upfront that their names are not required, that the respondents should not feel pressurized to answer the questions and that all obtained data was only be used for academic purposes (Mugenda & Mugenda, 2003).

CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

The initial section of this chapter establishes the research participants and delineates their salient characteristics. Subsequently, the analysis shifts towards elucidating the interrelationships between variables, with a particular focus on the manner in which manipulable factors (independent variables) exert influence upon the measured outcome (dependent variable). This methodological approach fosters a comprehensive understanding of the foundational data and facilitates the exploration of potential causal linkages between the aforementioned variables.

4.1 Response rate

The researcher aimed to recruit 86 participants from 86 farms, targeting 1 individual from each farm. However, despite the efforts, only 80 questionnaires were completed and returned. This translates to a 93% response rate, a surprisingly high percentage for surveys which often face lower engagement (Wu et al., 2022).

4.2 Demographic characteristics of respondents

This includes respondents' characteristics as explained in the table below:

Table 4. 2 Respondent Demographics

Variable	Category	Frequency	Percent
Age	Below 18	4	5.0
	18 - 25	5	6.3
	26 - 35	13	16.3
	36 - 45	27	33.8
	Above 45	31	38.8
	Total	80	100.0
Gender	Male	50	62.5
	Female	30	37.5
	Total	80	100.0
Highest Level of Education	Did not attend School	6	7.5

	Primary School	9	11.3
	O-Level	33	41.3
	A-Level	6	7.5
	Vocational Training Only	7	8.8
	Diploma	11	13.8
	Bachelor's Degree	8	10.0
	Total	80	100.0
Marital status	Single	5	6.3
	Cohabiting	18	22.5
	Married	39	48.8
	Separated/Divorced	15	18.8
	Widowed	3	3.8
	Total	80	100.0
Duration at this Farm	Less than 1 Year	7	8.8
	1 - 5 Years	26	32.5
	More than 5 Years	47	58.8
	Total	80	100.0

Source: *Primary Data, 2024*

The results in the table 4.1 above reveals that age distribution with a majority of the respondents aged 45 years and above indicate that these farm managers/owners are likely to be in the prime of their professional lives and mature for decision-making.

The results also reveal that the predominance of males (62.5%) in managerial roles which reflects broader societal norms and possibly points to gender-specific barriers in accessing leadership positions within the agricultural sector in this region. This gender disparity could influence farm management styles and decision-making processes, potentially impacting the diversity of innovative strategies and inclusivity in the workplace.

Notably, the study also reveals that a large fraction of respondents have only attained O-Level education and raises questions about the level of formal business and managerial training among the farm owners and managers. This could impact their ability to adopt new technologies and business practices. However, those with higher educational qualifications (diploma, bachelor's

degrees) might be better positioned to introduce and manage more sophisticated innovations and business models, enhancing overall farm performance.

The high percentage of married couples in the findings could also reflect cultural aspects specific to Western Uganda. Marital status, affecting stability and life priorities, might influence how farm managers engage with their work, particularly in terms of time commitment and risk tolerance, which are critical in managing farms and driving growth.

the results also show that majority of the respondents have had the project for more than 5 years. This suggests strong ties to their land and a deep understanding of the local agricultural context. This long-term commitment is likely beneficial for the stability of the farm and could correlate with consistent farm performance and gradual implementation of innovative practices tailored to the specific challenges and opportunities of the region.

4.2 Correlation Analysis

Pearson's Correlation analysis was conducted to measure the strength of linear associations between the study variables and is denoted by r . The Pearson correlation coefficient, r , can take a range of values from +1 to -1. The study variables were measured on a continuous scale, and thus Pearson correlation was found to be the most appropriate to test the relationships between the variables.

Table 4.2 Pearson Correlation Coefficients

	1	2	3	4	5	6	7	8	9	10	11
Abilities (1)	1										
Knowledge (2)	.260*	1									
Skills (3)	.336**	.421**	1								
MANAGERIAL COMPETENCE (4)	.723**	.705**	.811**	1							
Process Innovation Capability (5)	.505**	.111	.113	.329**	1						
Organizational Innovation Capability (6)	-.115	-.096	-.108	-.142	-.016	1					
INNOVATION CAPABILITIES (7)	.292**	.016	.009	.144**	.725**	.677**	1				
Project Schedule (8)	.528**	.564**	.077	.492**	.493**	-.043	.333**	1			
Project Cost (9)	.285*	.595**	.722**	.714**	.089	-.143	-.033	.034	1		
Project Quality (10)	.111	.061	.403**	.275*	.245*	-.261*	.000	.016	.236*	1	
PROJECT PERFORMANCE (11)	.416**	.504**	.677**	.717**	.333**	-.239*	.080	.348**	.666**	.742**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Source: *Primary Data, 2024*

Relationship between the study variables

Managerial Competence and Project Performance

This positive correlation (0.717) indicates a significant association between managerial competence and project performance. It implies that farms where managers display higher competence are those that also have better project outcomes in terms of schedule, cost, quality, and objectives. This could be due to competent managers being better at planning, resource allocation, and problem-solving, which are crucial for achieving project goals effectively.

Innovation Capabilities (7) and Project Performance (11)

The correlation on this relationship is positive but not significant (0.080), almost negligible. This result suggests that the ability to innovate, as measured in this study is not strongly associated with project performance on the dairy project. It may indicate that while innovation is valuable, its direct association with project outcomes may be limited by other factors, such as the nature of the innovations being implemented, the context in which they are introduced, or the resistance to change within the organization.

The results of the study suggest that while both managerial competence and innovation capabilities are positively related to project performance, the strength and significance of these relationships varies considerably. Managerial competence appears to be a much more critical factor directly associated with project performance.

4.3 Regression analysis

The regression analysis was used to determine the joint contribution of managerial competence and innovation capabilities on project performance. The regression table 4.3 below shows the multiple linear regression results as follows:

Table 4.3 Multiple Linear regression results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.344**	.280		4.791	.000		
Innovation Capabilities	.020	.066	.024	.297	.767	.979	1.021
Managerial Competence	.595**	.066	.721	8.985	.000	.979	1.021
R-square = 0.515							
Adjusted R-squared = 0.502							
F – Statistic = 40.871							
Sig. F = 000							

a. Dependent Variable: PROJECT PERFORMANCE

Source: *Primary Data, 2024*

The results in table 4.3 indicate that innovation capabilities with a standardized beta coefficient of .024. Thus, for a unit change in innovation capabilities, project performance of these projects would improve by 0.024 unit increase in project performance.

The results also indicate that managerial competence with a standardized beta coefficient of .721. Implying that a unit change in managerial competence would result in to 0.721 units increase in project performance of the dairy farm projects.

Lastly the regression table explains a good portion of the variance in project performance, with an R-square of 0.515 and an adjusted R-squared of 0.502. The adjusted R-squared value is important because it provides a more reliable estimate of the model's explanatory power by adjusting for the number of predictors. This means that even after accounting for the inclusion of multiple predictors, the regression model still explains over 50% of the variance in project performance.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter consolidates the primary insights from the study. It explores the results, conclusions, and suggestions derived from the research objectives. Moreover, it recognizes the research's constraints and suggests directions for further exploration.

5.1 Discussion of the research findings.

This study examines the relationship between managerial competence, innovation capabilities, and project performance on dairy farm projects in Western Uganda. The following discussion explains the findings, exploring the individual and combined effects of managerial competence and innovation capability on project performance, drawing on relevant scholarly perspectives and theoretical underpinnings.

5.1.1 Managerial Competence and Project Performance

The regression analysis reveals a strong and positive relationship between managerial competence and project performance on the farms studied. This is evidenced by a high coefficient, indicating that as managers exhibit greater decision-making and strategic planning skills, project outcomes improve significantly. This finding aligns with established management principles. Hassan (2023) and Orobia et al., (2020) emphasizes the importance management competencies for successful project execution across various industries, including agriculture. Similarly, Maqbool *et al.* (2017) argue that competent management is essential for achieving project goals. The statistical significance ($p = 0.000$) further reinforces this notion, highlighting managerial competence as a crucial factor in enhancing project performance. This aligns with contingency theory, which posits that organizational success depends on the alignment between managerial actions and the specific demands of the environment (Helmold & Samara, 2019). The strong link between managerial

competence and project performance suggests that the managers' skills are well-suited to the challenges and demands of agricultural project management in Western Uganda, supporting the theory's emphasis on contextually relevant management practices.

5.1.2 Innovation Capabilities and Project Performance

The relationship between innovation capabilities and project performance presents a contrasting picture. While positive, the beta coefficient is weak, suggesting a minimal impact of innovation on project outcomes. This finding challenges the widely held belief that innovation is a primary driver of project success (Rajapathirana & Hui, 2018). The lack of statistical significance ($p = 0.767$) further weakens the argument for a direct correlation between innovation capabilities and enhanced project performance in this specific agricultural context. This aligns with Somwethee *et al.* (2023) perspective that the effectiveness of innovation can vary significantly across different settings.

Contingency theory offers a possible explanation for this. The weak relationship suggests that the innovations undertaken by the farms might not be well-matched with either the environmental demands or the existing capabilities of the farms. This mismatch can result in innovations that do not contribute effectively to immediate project performance improvements. This aligns with the theory's assertion that the success of organizational strategies, including innovation, is contingent upon their alignment with internal and external conditions.

5.1.3 Managerial Competence and Innovation Capabilities on Project Performance

When both managerial competence and innovation capabilities are considered together, they account for a substantial portion (51.5%) of the variance in project performance. This indicates a significant joint effect, with managerial competence playing a more dominant and statistically stronger role. The combined model suggests that while managerial competence has a direct and

strong impact on project outcomes, the role of innovation, though positive, is more complex. Scholars like Tidd and Bessant (2009) suggest that managerial skills can amplify the benefits of innovation in project settings. Effective management practices enhance the ability to leverage innovations effectively. Contingency theory again provides a valuable lens for interpreting these findings. The results support the notion that organizational effectiveness is maximized when internal resources and capabilities are aligned with the demands and opportunities presented by the external environment. In this case, integrating managerial competence with innovation capabilities tailored to the specific needs and challenges of the farms in Western Uganda is crucial for optimizing project performance. This alignment is key to realizing the potential benefits of both management practices and innovative approaches in achieving project success within the agricultural sector.

5.2 Conclusion

The significant positive relationship between managerial competence and project performance emphasizes the critical role of abilities, knowledge and skills. Investing in training and development programs to enhance these capabilities can significantly improve project outcomes on farms projects.

The study challenges the one-size-fits-all approach to innovation. While innovation has the potential to improve project performance, its effectiveness hinges on being tailored to the specific needs and challenges faced by the farms. Farms should conduct thorough needs assessments and prioritize innovations that directly address their unique circumstances.

The most successful farm project will likely exhibit a strong combination of managerial competence and strategic innovative capability. By developing strong leadership and planning skills, farms can create an environment that fosters innovation and facilitates its effective

implementation. This synergy between managerial competence and innovation capability is crucial for maximizing project performance in the dairy farm project.

5.3 Recommendations of the study

Investment in managers: Strong managerial competence, encompassing abilities, knowledge and skills, is critical for project success. Farms should prioritize training programs to develop these capabilities in their managers.

Innovate Strategically: Innovation can improve projects, but only if it addresses the farm's specific needs. Conduct needs assessments and prioritize innovations that directly tackle your unique challenges.

Management and Innovation Harmony: The most successful farm projects will excel in both areas. Better managerial competence creates an environment that fosters innovation and facilitates its implementation. This synergy is crucial for maximizing project performance.

5.4 Limitations of the study and areas of further research

One of the limitations of the study is its potential lack of generalizability due to the specific demographic and regional focus on commercial dairy farms in Western Uganda. The findings derived from this particular agricultural and geographical context may not accurately represent farms in other regions with different socio-economic conditions, cultural backgrounds, or farming practices. This limitation suggests an area for further research that could involve comparative studies across different regions within Uganda or extending to other East African countries.

Another limitation is the study's reliance on self-reported measures for variables like managerial competence and innovation capability, which may introduce bias or inaccuracies in the data due to subjective interpretations by respondents. Future research could address this limitation by

incorporating more objective measures or third-party assessments of these variables. For instance, using performance data collected from independent audits or adopting a mixed-methods approach that includes qualitative interviews alongside the quantitative surveys.

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Appendix I: Questionnaire

Dear respondent,

I am a post graduate student, pursuing a master's degree in business administration. I am undertaking a study on *“Managerial Competence, Innovation capabilities and Project Performance of Commercial dairy farm projects in Western Uganda”* as a partial fulfilment for the award. You have been identified as a resourceful person to this study. Please take a few minutes of your precious time to answer the following questions. Whatever response you give is purely for academic purposes and will be kept with utmost confidentiality.

SECTION A: Background Information of respondents

Please tick the appropriate box, any response you give will be respected.

A1. Gender:

Male ☐ Female ☐

A2. Age:

(1) 18-20 ☐ (2) 21-30 ☐ (3) 31-40 ☐ (4) 41-50 ☐ (5) above 50 ☐

A3. Highest Level of Education:

College certificate ☐ Diploma ☐ Bachelors ☐ Postgraduate ☐

A4. Marital status:

Married ☐ Single ☐ Divorced ☐ Widow/Widower ☐

A5. Duration at this organization:

(1) Below 1 year ☐ (2) 2-3years ☐ (3) 4-5 years ☐ (4) 6-9 years ☐ (5) above 10 years ☐

SECTION B

Please indicate your opinion as per the level of disagreement or agreement with the outline statement using 1 to 5 scale guidelines. 1=strongly disagree (**SD**), 2=disagree (**D**), 3= not sure (**N**), 4=agree (**A**), 5= strongly agree (**SA**).

MANAGERIAL COMPETENCE (*Kyndt&Baert,2015*)

CODE	Abilities (AB)	SD	D	N	A	SA
Abb1	I control the flow of work	1	2	3	4	5
Abb2	I control employees' work	1	2	3	4	5
Abb3	I determine job priorities	1	2	3	4	5
Abb4	I uphold work procedures and standards	1	2	3	4	5
Abb5	I make timely decisions	1	2	3	4	5
Abb6	I help the employees to come up with new ideas	1	2	3	4	5
	Knowledge (KL)	SD	D	N	A	SA
Knw1	I deal with work related activities	1	2	3	4	5
Knw2	I deal with the needs of customers	1	2	3	4	5
Knw3	I have up to date with information required to perform my duties	1	2	3	4	5
Knw4	I come up with new business ideas/innovations	1	2	3	4	5
Knw5	I have knowledge on basic accounting principles and financial statements	1	2	3	4	5
Knw6	I know how to motivate subordinates	1	2	3	4	5
	Skills (SK)	SD	D	N	A	SA
Sk1	I possess good communication skills	1	2	3	4	5
Sk2	I can identify customers' needs	1	2	3	4	5
Sk3	I possess good inter-personal skills to attract and retain customers	1	2	3	4	5
Sk4	I possess leadership skills like guiding others to achieve set goals	1	2	3	4	5
Sk5	I possess consulting skills like consulting external stakeholders to improve product/service delivery	1	2	3	4	5

INNOVATION CAPABILITIES *(Calik et al., 2017)*

CODE	Process innovation capability (PIC)	SD	D	N	A	SA
Pic1	We reduce the developing time of new products and services	1	2	3	4	5
Pic2	We are flexible to provide products and services according to the demands of the customers	1	2	3	4	5
Pic3	We develop in-house solutions to improve our manufacturing processes	1	2	3	4	5
Pic4	We actively work to constantly adjust our business processes	1	2	3	4	5
	Organizational innovation capability (OIC)	SD	D	N	A	SA
Oic1	Our firm adopts innovative work designs	1	2	3	4	5
Oic2	Our firm has good mechanisms for using technology from research to product development	1	2	3	4	5
Oic3	We are better than our competitors in the manner of developing new managerial work, processes, and systems	1	2	3	4	5
Oic4	We are successful in commercializing and institutionalizing of new products	1	2	3	4	5

PROJECT PERFORMANCE *(Ahmed,2023)*

CODE	Project Schedule (PS)	SD	D	N	A	SA
Ps1	All project assignments are followed as per planned schedule	1	2	3	4	5
Ps2	The schedule for each phase of the project is essentially the same as planned	1	2	3	4	5
Ps3	Major project activities are completed on-schedule	1	2	3	4	5
Ps4	The project is delivered on schedule	1	2	3	4	5
	Project Cost (PC)	SD	D	N	A	SA
Pc1	The cost objectives are met in the project	1	2	3	4	5
Pc2	The budget for each phase of the project is essentially the same as planned	1	2	3	4	5
Pc3	The overall budget for the project is basically the same as planned	1	2	3	4	5
	Project Quality (PQ)	SD	D	N	A	SA
Pq1	The project deliverables are of high quality	1	2	3	4	5

Pq2	The project deliverables are highly reliable and meet user requirements	1	2	3	4	5
Pq3	The quality objectives of projects are achieved	1	2	3	4	5

Thank you for participating.