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Research project management from the perspectives of research managers: A multiple case study of academics in Southern Mindanao, Philippines

Regie Patagoc [a,b] and John Vianne Murcia [b] *

[a] *Davao del Sur State College, Digos City, Davao del Sur, Philippines*

[b] *Professional Schools, University of Mindanao, Davao City, Philippines*

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Abstract

This multiple case study explores the management of research projects in academic institutions through the lens of project managers within Southern Mindanao Region, Philippines. The study highlights the importance of institutional support, capacity building, and effective stakeholder engagement in ensuring successful project implementation. Key findings emphasize the need for structured mentorship programs, continuous monitoring and evaluation, and the provision of incentives and rewards to motivate researchers. Financial challenges, such as delayed fund disbursements, were identified as significant hurdles, often requiring personal investment from project managers to maintain project continuity. Effective dissemination and utilization of research results were found to be critical in enhancing the societal impact of academic research. The study underscores the importance of aligning research projects with institutional goals and Sustainable Development Goals (SDGs) to ensure long-term benefits for the community. The study further concludes that by fostering a culture of excellence, continuous improvement, and strategic collaboration, academic institutions can significantly enhance their research capabilities and outputs. The study provides a broad understanding of best practices in research project management, contributing to the advancement of academic research in the region.

Keywords

project management; research managers; project leaders; project staff; multiple case study; Philippines

INTRODUCTION

In the rapidly evolving landscape of education, research projects have become an important factor in shaping the future of academe. As the academic sphere continues to grow in complexity and diversity, managing research projects has become a multifaceted challenge that requires a nuanced understanding of not only the subject matter but also the intricacies of project management (Rosowsky, 2022). Research and development projects are important because it is the vehicle of the organization to gain development, opportunities, and effective and efficient system (Kenton, 2023). It plays a significant function in academe worldwide and this is the reason why academic institutions engage in research as part of their missions around learning and discovery, which contributes directly and indirectly to their core functions (Rosowsky, 2022).

Research project management in the context of the academe can support the Sustainable Development Goals (SDGs) by providing knowledge, evidence-based solutions, and innovations needed to identify and solve the challenges that hinder the realization of the SDGs (Ashida, 2022). The academic community has an important role to play in developing sustainable solutions to address challenges through advancing sciences, research, and knowledge and applying them in the preparation, establishment, and examining the appropriate frameworks that would be needed to address the challenges of the new SDGs targets (United Nations, 2015). Additionally, Cerezo-Narváez et al. (2018) found out that academic personnel should acquire and improve project management competencies to innovate education and research for sustainable development. Consequently, academic institutions can also collaborate with stakeholders outside of higher education institutions, such as public agencies, industry, and civil society, to solve global issues in the real world. By educating the next generation of decision-makers, higher education institutions can make an important contribution to achieving the SDGs through research.

However, research projects face many challenges concerning successful project management since they are generally associated with high uncertainty and risks, individually oriented project personnel, heterogeneous project partners that are located at different locations, and significant pressure in terms of creativity and innovativeness (Barnes et al., 2006). One of the most common challenges in educational projects is improper planning, which can lead to missed deadlines, budget overruns, and poor-quality outcomes (Heyday, 2022). additionally, some research problems include persistent and escalating problems over time in research management and governance (Leese & Storey, 2005), the lack of collective objectives and processes for evaluating team performance in research teams), conflicts arising

from the implementation of management-by-project processes that are insensitive to the academic context and scientist-specific skills and culture (Perry, 2006), and the need for further research to improve methodology, content, and scope in analyzing project implementation managerial activities within a project management framework (Rio & Thuillier, 2015). This signifies the importance of research project management as an aspect of academic research. With efficient planning, implementing, and managing research projects the research project manager oversees the operations of the department, budget management, preparation and submission of grants, support staff supervision, records management, statistical report preparation, meeting coordination, and documentation of studies (Society of Research Administrators International, 2020).

Moreover, there are a lot of studies internationally but researchers have not come across a study that has been conducted yet in the Davao Region focusing on the experiences of project managers. Specifically, there is a need to examine what are their strategies to cope with the challenges in research project management. With these, the study, through a multiple case approach, will give an additional input to provide a complete understanding of research project management which would improve the current managing style for the research projects in the perspective of academics. A multiple case study is a research approach where several cases are thoroughly examined to obtain insights, identify patterns, and derive conclusions that can be applied to a broader context (Stake, 2013). This study further seeks to identify the best practices, tools, and methodologies that can enhance the efficiency and productivity of research endeavors while addressing the specific constraints and opportunities presented by the academic context. By examining the intersection of academic pursuits and project management principles, this research project endeavors to bridge the gap between theory and practice, offering valuable insights that can benefit both scholars and practitioners.

This study intends to provide a substantial contribution to the body of knowledge already available in the field of project management through in-depth analysis, case studies, and empirical research. The results of this study should offer useful frameworks, guidelines, and recommendations that academic institutions and other stakeholders can use to successfully handle the challenges of research project management. The study's results ultimately have the capacity to improve the caliber, significance, and longevity of research projects, promoting an excellence-centered culture in higher education.

Research Objective

The general objective is to explore the unique experiences, mechanisms and challenges faced by project managers in managing research projects within the academic environment. Specifically, it sought to answer the following questions:

1. How do the experiences of research managers shape the research capabilities of the academe?

2. What are the mechanisms of the project leaders to effectively implement their research projects?

3. What are the problems/challenges associated with the implementation of research projects?

METHODS

Research Design

The research study employed a qualitative approach to elucidate the research project management in the context of the academe. Additionally, a multiple-case design was utilized to comprehend the experiences, processes, insights, and perspectives of the individuals that was involved (Roberson, 2005). This design is effective for investigating real-world multiple bounded systems, allowing the collection of extensive, detailed data from diverse sources (Creswell & Poth, 2021). The researchers, through this design, are able to capture the experiences of numerous participants with similar backgrounds, revealing a specific area of interest (Creswell & Poth, 2021). Participants who shared comparable life experiences to those under discussion were considered, and the analysis of multiple case studies facilitate a deeper understanding of recurring themes among participants. Ultimately, this approach led to a more comprehensive and representative discussion of the study results (Benitez, 2019).

Research Locale

Informants from the study come from different colleges and universities in Southern Mindanao Region. To ensure representativeness, the lead researcher has involved two project leaders from Davao Occidental, two project leaders from Davao Oriental, and one project leader from Davao de Oro in the final analysis. Two projects were discarded from the final analysis, one from Davao del Sur and one from Davao City, due to their inability to meet the inclusion criteria which would isolate their respective cases. One case was not able to handle externally-funded project in the past five years and managed only student research.

Population and Sample

When doing a multiple case study, the maximum examples researchers may reasonably manage are three to four separate cases to make comparisons (Schoch, 2020). This kind of sample design is congruent with the idea of homogenous sampling, in which the objective is to provide an in-depth description of a particular subgroup as a whole (Zach, 2006). Homogenous sampling is a method of sampling that will be developed to provide an in-depth description of a particular subgroup. When a researcher is interested in selecting members of a difficult-to-reach, specialized population; when a researcher wants to select unique cases that are incredibly informative; when a researcher wants to identify particular cases for in-depth investigation; and when a researcher wants to select unique cases that are especially informative (Patton, 1990), the sample participants should be selected explicitly to encompass instances where the phenomena under study are likely to be found (Zach, 2006). To achieve this targeted approach, the study involved 10 research managers as participants in the study. These individuals had been carefully chosen to represent a diverse range of perspectives and experiences within the field of research project management.

Participants of the study must be currently employed as research managers of his/her institution and the institution he/she's currently working are within Davao Region, Philippines. Additionally, they must possess at least three years of verifiable experience in their current position. This ensures participants have a deep understanding of research project management within the specific context of research project management in the academe. Individuals who are not currently employed as research managers in Davao Region or those who lack at least three years of experience in their current position, will be excluded. Recognizing unforeseen circumstances may arise, participants of the study have the right to withdraw from the study at any point. The study respects the autonomy of participants and ensures their well-being throughout the research process.

Instruments

To obtain the necessary data and achieve the objectives of the study, various data collection methods are employed, including interviews and the used of tape recorders to gather qualitative data. Each set of interview questions is designed to address specific research inquiries, consisting of no more than 15 questions, and undergo expert validation. Prior to the interviews, participants are requested to provide informed consent.

A casual interview was conducted to find out more about the person's surroundings (Bailey 1996). During the interview, the participants have the option to discuss their thoughts or further share anecdotes about their own experiences. Further in-depth and follow-up

questions regarding the facts disclosed and revealed are raised in order to clarify and define general or ambiguous aspects of their experiences. Consequently, the interview lasted 30 to 90 minutes and was recorded through audio recorder.

Data Collection

To ensure the ethical integrity of this research paper, the researchers strictly adhered to comprehensive ethical standards and followed the study protocol assessments and standardized criteria, particularly in handling the population and data, in accordance with the approval granted by the University of Mindanao Ethics Review Committee under approval number UMERC-2024-043.

Pertaining to the actual data collection, key informant interviews (KII) are the main approach to collecting data (Creswell & Poth, 2021). Interviews with 10 research managers as participants that was how researcher collect the data. Each participant received an introduction to the study and was told that their interview was recorded on video and audio, with researchers taking notes as the conversation progressed. Interviews of considerable details were conducted as part of this qualitative method of research by the researchers. Semi-structured in-depth interviews were used, during which the participants are required to answer open-ended questions that had been prepared in advance by the researchers (Dejonckheere & Vaughn, 2019). This allowed the researcher to gain a deeper, more comprehensive comprehension of the participants' experiences, behaviors, feelings, and attitudes to the topic of interest. The following are the stages that comprise the process of data collecting while utilizing this qualitative descriptive method:

The research started by seeking approval from the Dean of the Professional Schools to conduct both online and In-campus interviews and to visit the locations of the individuals under investigation. Subsequently, the researcher sought permission to conduct in-depth interviews with the identified school presidents. Thirdly, the participants who had been previously identified should complete a consent form, acknowledging the study's parameters. Following this, the lead researcher provided the participants with an overview of the study's objectives and including relevant orientation materials before commencing the in-depth interviews. The subsequent step involved preparing all necessary materials, including an interview guide, questionnaire, journal, and audio recorder. Finally, the researcher conducted a comprehensive interview. The subsequent phases encompassed transcription and an impartial analysis to discern the study's chapters and potential themes emerging from the collected data.

Data Analysis

In the data analysis for the multiple case study approach, a cross-case analysis was employed using thematic analysis as the primary method. This approach focuses on identifying, exploring, and recording patterns or themes that emerge from the data. Following Creswell and Poth's (20wq) recommendations, the analysis was conducted in three distinct steps.

The first step involved data reduction, where the data from the transcriptions were carefully selected, streamlined, and organized. This process included coding the data to identify core themes that were most relevant to the research questions. The second step was data display, where the coded data were transcribed, translated if necessary, and interpreted. The data were then systematically presented in tables that categorized the information into two main classifications: core ideas and overarching themes. This structured presentation facilitated a clear understanding of the data and the relationships between the themes.

Finally, in the third step, the data were further organized into categories that aligned with the research questions. The themes were analyzed in depth and ranked according to their significance, ensuring that the most critical insights were highlighted. This methodical approach allowed for a comprehensive cross-case analysis, providing a deeper understanding of the commonalities and differences across the cases studied.

RESULTS AND DISCUSSION

The Case Profiles

The Case of Project A. The initiative seeks to enhance the capabilities of inland fish farmers in Davao Occidental by providing them with practical training in the processing and value-adding techniques for tilapia and other types of freshwater fish. The project aims to provide farmers with the required skills to create seafood items that have additional value, while improving their quality and safety. The initiative is centered around providing health-conscious options that cater to the needs of the current situation. It is in line with the increasing interest in seafood as a way to enhance immune systems. Value-added foods play a crucial role in meeting consumer preferences and ensuring the economic sustainability of fish farming businesses by prolonging product shelf-life and keeping their superior qualities. The project's objective is to provide training and enhance the skills of inland fish farmers, with the aim of creating entrepreneurial opportunities. This would enable them to take advantage of the market demand for seafood products that have additional value.

Table 1. *Profile of Research Project*

Cases	Location	Focus Area	Objectives	Description	Stakeholders
Case A	Davao Occidental	Inland Fish Farming	Enhance processing and value-adding techniques for tilapia	The initiative aims to enhance the capabilities of inland fish farmers by providing training in processing and value-adding techniques for tilapia and other freshwater fish, catering to market demand for value-added seafood products.	Inland fish farmers
Case B	Southeastern Mindanao, Davao Oriental	Marine Plastic Pollution	Evaluate macro- and micro-plastic pollution, inform policies, improve seafood safety	The research project aims to examine the extent of plastic pollution in specific coastal regions with a focus on Davao Oriental, evaluating both macro- and micro-plastics in marine environments and commercial fish.	Coastal communities, local stakeholders, government agencies
Case C	Compostela, Davao de Oro	Tahiti Broom Production	Analyze value chain of Tahiti broom, economic prospects for farmers	The study examines the value chain of small-scale Tahiti broom production, focusing on tiger grass as a raw material and its economic impact on highland communities.	Tahiti farmers, retailers, resellers, distributors, consumers
Case D	Malita, Davao Occidental	Coastal Resource Management	Present Coastal Environmental Profile (CEP),	The project aims to present the Coastal	BLGU-Mana officials, local communities

			inform and direct plans	Environmental Profile of Brgy. Mana to inform and guide plans for coastal resource management, promoting ecological consciousness and sustainable growth.	
Case E	Southern Philippines	Fish Processing and Innovation	Improve food security and economic development, create fish processing factory	This initiative focuses on creating a fish processing factory to provide high-quality, affordable protein-rich meals, while promoting skills development and technology transfer in fish processing.	Youths, farmers, fisherfolks, entrepreneurs, women organizations, students, instructors

The Case of Project B. The research project aims to examine the extent of plastic pollution in specific coastal regions of Southeastern Mindanao, with a particular focus on Davao Oriental. The objective is to evaluate the presence of both macro- and micro-plastics in important marine environments such as mangroves, seagrass beds, and coral reefs. Furthermore, the study investigates the magnitude of micro-plastic pollution in commercially significant fish and invertebrates. The research aims to inform policies and management methods that minimize plastic pollution and promote safer seafood consumption by comprehending the amounts of plastic pollution and its influence on marine ecosystems. Community engagement is essential in the research, as it involves evaluating the knowledge, attitudes, and actions of coastal communities regarding marine plastic pollution. The research seeks to better solid waste management and contribute to the conservation of coastal resources for future generations by collaborating with local stakeholders and government agencies to strengthen collaborations.

The Case of Project C. The study project examines the value chain analysis of small-scale Tahiti broom production in Compostela, Compostela Valley. It specifically focuses on the use of tiger grass as the main raw material. Tiger grass, also known as tambo, plays a crucial

role in providing a substantial means of income for highland communities, presenting promising economic prospects for farmers. By employing purposive sampling, a group of 20 Tahiti farmers were specifically chosen to take part in focused group discussions, which yielded important insights into the production process and marketing dynamics of Tahiti brooms. The value chain analysis uncovers a complex series of steps, which includes obtaining raw materials from suppliers and then processing them to convert into final goods. Marketing tactics comprise several distribution channels, such as retailers, resellers, distributors, and direct consumer sales, emphasizing the complex network of stakeholders engaged in the Tahiti broom industry.

The Case of Project D. The objective of the project is to present the Coastal Environmental Profile (CEP) of Brgy. Mana, Malita, Davao Occidental to BLGU-Mana officials and other stakeholders. The CEP will serve as a comprehensive reference for informing and directing plans for coastal resource management and environmental activities. The presentation will provide stakeholders with a comprehensive understanding of the local coastal ecosystem, encompassing significant issues, potential opportunities, and specific areas that require enhancement. The planned Coastal Environmental Program (CEP) aims to promote ecological consciousness and streamline the possibility of implementing regional regulations focused on sustainable coastal growth. The project seeks to actively involve BLGU-Officials in the presentation and subsequent focus group discussions (FGDs) to gather input, propose revisions, and maybe adopt the CEP as an official policy. This will enable local communities to actively participate in coastal conservation initiatives. In addition, distinct presentations will be given to certain local residents with the goal of promoting public awareness and active involvement in the program. This will encourage a cooperative approach to the protection and management of the coastal environment.

The Case of Project E. The initiative, which has a specific focus on fish processing and innovation, seeks to improve both food security and economic development in a community located in Southern Philippines. The project aims to create a fish processing factory that will provide protein-rich meals of high quality, nutritional value, and affordability, while adhering to food safety regulations. Furthermore, its purpose is to function as a center for training and mentoring for small-scale fish processors, entrepreneurs, innovators, and other individuals involved in the industry. It strives to promote the development of skills and the spread of technology to improve production processes and products.

The initiative, which is being financed by a government body, involves the development of crucial infrastructure such as cold storage and processing facilities, as well as the acquisition of machinery and equipment. The project, which has a significant budget, will last

for a duration of two years and will begin implementation as soon as the funds are received. The key stakeholders encompass a diverse range of individuals, such as youths, farmers, fisherfolks, pensioners, entrepreneurs, associations, women organizations, students, and instructors. The focus is on fostering community participation and enhancing capacity-building. The project's strategy for long-term sustainability includes incorporating itself into local extension services and programs, with the assistance of partner agencies, to guarantee ongoing operation and contribute to local food production, food security, and sustainable development.

Experiences of Research Managers' and their Impact in shaping the Academic Research Capabilities

In the cross-case analysis of the experiences of research managers in shaping the research capabilities of the academe. Results showed that there are six main themes that are identical to each case. As seen in Table 2, the cross-case themes are institutional support and engagement, financial challenges and personal investment, community and stakeholder impact, skill and knowledge development, building research capacity and leadership, and systematic monitoring and reporting.

In all cases, the participants reported that *institutional support and engagement* are crucial in addressing challenges, aligning research projects with institutional goals, and ensuring project success. Additionally, regular meetings and systematic monitoring demonstrate high engagement and a proactive approach to problem-solving. Hence, the strategic alignment of research projects with the institution's vision and mission, emphasizing the integration of research within the institutional framework, particularly relevant to the environmental and economic initiatives in Region XI is important in shaping the research capabilities and success of academic institutions.

Majority of the research managers conformed that institutional support and engagement transforms the research culture of the institution by leveraging the national and international linkages, providing a systematic approach to managing research project and ensure long-term engagement and project sustainability. The participants emphasized that:

> "*The management will really have full support in the implementation in all related engagement in implementing research and extension projects*". Participant 5_Case E

> "*We have the support all the way up to the termination of the project. It's very easy to ask for help, even financially*". Participant 2 _ Case B

Several studies of institutional support and engagement of Eagan et al. (2011), Jones and Davis (2014), Jenkins and Healey (2015), and Brew and Mantai (2017) highlight that

Table 2. Harmonized Cross-Case Analysis on the experiences of research managers shape the research capabilities of the academe

Cases	Cross-Case Themes					
	Institutional Support and Engagement	Financial Challenges and Personal Investment	Community and Stakeholder Impact	Skill and Knowledge Development	Building Research Capacity and Leadership	Systematic Monitoring and Reporting
Case A	Full support from management in implementation and related engagements. Frequent meetings to address implementation concerns and problem-solving. Alignment of projects with the institution's vision and mission mandates.	Use of personal funds to bridge financial gaps and ensure project continuity. Making risky decisions during the pandemic to complete projects. Struggle with delays in fund releases and need for reimbursements.	Desire for significant community impact through projects. Long-term engagement and follow-up activities beyond initial implementation.	Pursuing additional studies to leverage opportunities and gather significant data.	Mentoring new and young researchers to build research capabilities.	Frequent meetings to address implementation concerns and problem-solving.
Case B	Managing various research projects under different funding agencies. Complying with rigorous requirements of external funding agencies. Leveraging linkages with national and international institutions.	Utilizing external funding to support research projects and reduce reliance on internal budgets.	Ensuring significant impact in the community through research and extension projects.	Expanding personal knowledge and skills by working on varied research topics. Acquiring and using new instruments and equipment for scientific data collection.	Mentoring new and young researchers to build research capabilities. Involving students in research projects. Engaging faculty and students in collaborative research projects.	Regular meetings to address implementation concerns and problem-solving.
Case C	Initially lacking appreciation for research, then learning and mentoring from seasoned researchers. Understanding research's role in meeting institutional targets and promoting faculty research culture.	Struggle with financial constraints and finding innovative ways to fund projects.	Conducting impactful research that influences local policies and strategic visions. Engaging in research administration and understanding its importance in institutional success.	Learning and mentoring from seasoned researchers to build appreciation for research.	Mentoring new and young researchers to build research capabilities. Coordinating with multiple partner agencies for collaborative projects.	Regular meetings to address implementation concerns and problem-solving.
Case D	Full support from management in implementing research and extension projects. Regular meetings to address implementation concerns.	Struggle with financial constraints and finding innovative ways to fund projects.	Ensuring significant impact in the community through research and extension projects.	Continuous learning and skill development through varied project management experiences.	Mentoring new and young researchers to build research capabilities.	Conducting project monitoring reports and year-end activities. Requiring narrative and project monitoring reports for

	Ensuring significant impact in the community through research and extension.					project completion.
Case E	Full management support for implementation and engagement in research projects. Regular meetings to assess project progress and address problems. Aligning research projects with the institution's vision and mission.	Using personal funds to ensure project continuity. Taking risky decisions to meet project goals. Struggle with delays in fund releases and need for reimbursements.	Significant community impact through research and extension projects. Series of meetings and follow-up activities to ensure project progress beyond the initial implementation period.	Utilizing opportunities for significant research data.	Mentoring new and young researchers to build research capabilities. Coordinating with multiple partner agencies for collaborative projects.	Regular meetings to assess project progress and address problems. Conducting project monitoring reports and year-end activities.

faculty engagement in research mentoring is significantly shaped by the perceived institutional support, including encouragement to submit grants and the recognition of research efforts in promotion and tenure decisions. Additionally, Minkler and Wallerstein (2008) emphasize the importance of institutional frameworks in fostering community-based participatory research, which is crucial for aligning research projects with broader community goals.

Furthermore, Morrison et al. (2018) and Ahmed and Palermo (2010) discuss how institutional support mechanisms, such as financial backing and administrative encouragement, play a significant role in enhancing research productivity and engagement. Gelmon et al. (2005) and Szilagyi et al. (2014) also stress the need for structured institutional support, including self-assessment tools and evaluative frameworks, to sustain effective community engagement in research. Collectively, the studies highlight that robust institutional support and active engagement are essential for the successful implementation and impact of research projects, underscoring the integral role of institutional policies and frameworks in facilitating research activities and mentoring.

Further analysis of the data reveals that another theme has been similar to the five cases, and it is *financial challenges and personal investment.* Research managers reported the necessity of using personal funds to bridge financial gaps and ensure project continuity, particularly during periods of delayed fund releases. This often involved making risky financial decisions to keep projects on track, especially during unforeseen events like the pandemic. The reliance on personal investment underscores the precarious nature of funding in research projects, where institutional support may be insufficient to cover all expenses, necessitating

additional financial commitments from the managers themselves. These personal investments highlight the dedication and commitment of research managers to their projects, even at the cost of personal financial strain.

Furthermore, research managers faced significant financial constraints, prompting them to find innovative ways to fund their projects. Despite the availability of external funding sources in some cases, there were still considerable challenges in managing budgets effectively. This often-required creative financial management and sometimes personal financial contributions to ensure that research activities could proceed without interruption. The struggle with financial constraints is indicative of a broader issue within the research community, where securing adequate funding remains a persistent challenge. This not only impacts the feasibility of conducting research but also places additional stress on research managers who must navigate these financial hurdles while maintaining the quality and integrity of their research work. The responses shared was:

> "*I've been using my own funds for that in order to just pursue the deliverables on time*". Participant 2_Case B

This sentiment was echoed with other participant, who noted the difficulty in securing adequate funding:

> "*Dili jud mahimong enough ang kwarta sa gobyerno diri sir noh bisan asa. So mao pud na syang challenge you have to beautify and make it as impactful as you can para we can also help ma-out source ang fund namo to continue your research*". Participant 3_Case C

Jointly, studies highlight the financial challenges and personal investment faced by research project managers. As stated by Garman (1997) the importance of financial education in helping individuals manage personal funds effectively, which is crucial when personal investment becomes necessary to sustain research projects. Similarly, Hassan et al. (2023) discuss how behavioral finance influences individual investment decisions, shedding light on the psychological factors that drive researchers to use personal funds when institutional support is lacking. Suryono and colleagues (2020) emphasize the challenges posed by digital transformation and financial technology, which can create additional financial pressures on project managers who need to stay updated with technological advancements. Leong and Sung (2018) further elaborate on how fintech innovations can provide new funding opportunities but also require significant financial management skills to navigate effectively.

The systematic literature review by Paul and Criado (2020) on digital financial transactions identifies gaps in financial technology research, suggesting that project managers often need to invest personally to bridge these gaps. Additionally, studies by Szilagyi et al. (2014) and Gelmon et al. (2005) on community engagement in research

highlight the recurring theme of financial constraints and the necessity for personal investment to maintain project momentum and community impact. Indeed, these findings indicate that financial challenges and personal investment are widespread issues in research project management, necessitating a combination of institutional support and individual financial intelligence to ensure project success and sustainability.

Interestingly, a significant theme emerged is related to *community and stakeholder impact*. Research managers as it emphasizes the broader significance of research projects beyond academic achievements, the desire for their projects to have a significant and lasting impact on the community, aligning closely with SDG 11 (Sustainable Cities and Communities) and SDG 3 (Good Health and Well-being). This involves not only the initial implementation but also long-term engagement and follow-up activities to ensure that the benefits of the research extend well beyond its completion. This approach reflects a commitment to addressing real-world problems and contributing to societal well-being, which aligns with the broader goals of many research institutions to foster positive change in their communities. The research managers highlighted their approach to community involvement, stating that;

> "*We present it not only in PAMB but also at regional and even national and international levels for paper presentation and publication*". Participant 2_Case B

> "*Naa koy study about flooding sa isa namo ka extension area nga the result akong gihatag sa barangay so ilaha pud gigamit gikuan nilag barangay ordinance referring ato nga result para ma strengthen nila ilang monitoring*". Participant 3_Case C

Wood et al. (2017) corroborated that the importance of stakeholder engagement in achieving project success, highlighting that active involvement of stakeholders can significantly enhance the relevance and impact of research projects. Similarly, Achterkamp and Vos (2008) discuss how the stakeholder approach in project management ensures that the needs and expectations of the community are met, thereby increasing the project's overall success and sustainability.

Furthermore, Huemann et al. (2018) and Eskerod and Huemann (2013) elaborate on the strategies for effective stakeholder management, noting that continuous interaction with stakeholders helps in addressing their concerns and integrating their feedback into the project, which is crucial for long-term success and community impact. Additionally, Müller (2009) and Turner et al. (2010) highlight the role of project governance in managing stakeholder relationships, stressing that clear communication and structured engagement processes are vital for fostering trust and collaboration with the community. The consistent findings across various studies reinforce the critical role of project managers in ensuring that research projects have a meaningful and lasting impact on the community.

Another theme surfaced is in relation to *skills and knowledge development* which directly impact to research managers on their capacity to lead and execute successful research projects. Research managers pursued additional studies and leveraged opportunities to gather significant data, demonstrating a proactive approach to enhancing their skills and knowledge. This continuous learning not only benefits the individual research managers but also strengthens the overall research capabilities of the institution. By acquiring new skills and knowledge, they can adopt innovative methodologies, improve research quality, and effectively address complex research challenges. This aligns with the findings of Heisig et al. (2016), who emphasize the importance of knowledge management in fostering innovation and improving research outcomes.

Similarly, the hands-on experiences with diverse research tools and subjects helps in building a versatile skill set, essential for adapting to the dynamic demands of research projects. Engaging in continuous professional development activities, such as workshops and conferences, further enhances their expertise. This approach is supported by studies like those of Scarbrough et al. (2015), which highlight the critical role of ongoing skill development and knowledge acquisition in achieving research excellence and maintaining a competitive edge in the academic and scientific community. Research managers described how engaging in various projects has expanded their capabilities, one of the responses shared was:

> "*It allowed me to navigate into various studies that could have not been possible without the project... my knowledge was applied to aquaculture*". Participant 2_Case B

Studies collectively underscore that skill and knowledge development are fundamental for project managers to effectively lead their teams, adopt new technologies, and implement innovative research practices, ultimately contributing to the sustainability of research projects. As mentioned in the literature review by Hanna et al. (2018) they emphasize that competencies entail the ability to perform project activities within a dynamic environment, which leads to expected outcomes based on established standards. This involves continuous development of skills and knowledge throughout the project life cycle to achieve desired results. Similarly, Bashir et al. (2016) describe competencies as a meta-ability integrating skills, aptitudes, and abilities, essential for project success from initiation to closing.

Additionally, Crawford (2005) and Heisig et al. (2016) stress the importance of knowledge management in fostering innovation and improving research outcomes. They argue that effective knowledge sharing, and transfer are critical for building a robust knowledge base within project teams, enhancing their capacity to tackle complex challenges. Furthermore, Yong (2013) and Swacha (2015) provide insights into how organizational

rewards, social capital, and intrinsic motivation can significantly influence knowledge-sharing behaviors, thereby contributing to skill development and project success. Likewise, Cerchione et al. (2020) highlight the role of knowledge management systems in supporting innovative knowledge translation in collaborative relationships, which is pivotal for continuous skill development in project-based organizations. Also, the findings by Calvo-Mora et al. (2016) and Massaro et al. (2016) on the European Foundation for Quality Management also emphasize that integrating knowledge activities at both project and organizational levels is crucial for enhancing competitive performance and innovation capacity.

One of the most salient results to emerge from the theme is *building research capacity and leadership* as it aligns closely with several Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 17 (Partnerships for the Goals). Research managers prioritize mentoring new and young researchers, fostering an environment of continuous learning and skill development. This mentorship not only builds individual capacities but also strengthens the institution's research capabilities. Structured mentorship programs are critical for developing the next generation of researchers who can advance the institution's research agenda, contributing to SDG 4 by ensuring inclusive and equitable quality education and promoting lifelong learning opportunities (Bland et al., 2005).

Additionally, research managers emphasize a culture of collaborative learning and knowledge sharing, crucial for building a robust research infrastructure. Bozeman and Boardman (2014), states that collaborative research efforts and the inclusion of diverse team members significantly enhance research productivity and innovation, aligning with SDG 9, which focuses on building resilient infrastructure, promoting inclusive and sustainable industrialization, and fostering innovation. As the participant mentioned:

> "*We mentor young faculty to join us in this research work not only for the university but it's really very important for the whole scientific community*". Participant 2_Case B

Building research capacity and leadership requires a multifaceted approach, including effective leadership styles, structured mentorship, and robust knowledge management practices this was supported by Musawir et al. (2017) and Albert, Laberge, and Hodges (2017) on their findings on the role of transformational leadership in enhancing project success through team building and teamwork, which are critical for developing research capacity and fostering leadership skills in project environments. Their findings further suggest that transformational leadership positively impacts project outcomes by promoting effective communication, coordination, and cohesion among team members. Similarly, Bland et al. (2005) and Crawford (2005) underscore the importance of structured mentorship programs in

developing the next generation of researchers, ensuring that emerging researchers are equipped with the necessary skills and experience to lead future projects.

The last theme transpires which has equally significant role in shaping the research capabilities of the academe is *systematic monitoring and reporting* as it is integral to successful research project management. Research managers conduct frequent meetings to address implementation concerns and problem-solving, highlighting the importance of continuous oversight. And by maintaining a structured reporting system, research managers can identify potential issues early and take corrective actions, thereby enhancing project outcomes and ensuring alignment with institutional goals. Similarly, the requirement for narrative and project monitoring reports underscores the role of systematic reporting in project management. This practice not only provides a clear record of progress but also facilitates transparency and accountability. Kusek and Rist (2004), effective monitoring and evaluation frameworks are essential for measuring project performance and achieving desired results. By implementing regular reporting mechanisms, research managers can ensure that all stakeholders are informed about the project's status, fostering a collaborative environment, and enabling informed decision-making. Research manager described their systematic approach:

> "*Once implemented or ongoing yung implementation natin we use to practice here a quarterly monitoring of the different internally and externally funded projects and aside from that naa tay kanang mid-year ug kining year-end review and evaluation of the internally and externally funded projects*". Participant 4_Case D

Studies have shown that systematic approaches such as earned value management (EVM) and its variations are critical tools for tracking project progress, managing schedules, and controlling costs (Toledo & de Vass, 2023). Moreover, now a day with the advent of advance technologies like artificial intelligence (AI) has significantly enhanced the capabilities of project monitoring and reporting. AI applications, offer improved forecasting and decision-making capabilities, facilitating better planning and performance measurement (Toledo & de Vass, 2023). Additionally, a systematic literature review highlights the importance of structured monitoring frameworks and their role in ensuring project success by providing timely feedback and enabling effective decision-making (Aamer et al., 2021).

Mechanisms of Research Managers to Effectively Implement Research Projects

Table 3 provides a comprehensive cross-case analysis addressing the mechanisms employed by research managers to effectively implement their research projects. This analysis

draws on data from five distinct cases, each highlighting unique strategies and common themes in project management within the context of research management in the academe.

The key themes that are critical to successful project implementation were organized. These are the proposal development and review, project planning and orientation, flexibility and adaptability, staffing and team competence, capacity building and training, dissemination and utilization of research results, stakeholders' engagement, and monitoring and evaluation.

The data pointed to significant perspective of research managers involving *proposal development and review*. the theme is paramount in ensuring the success of research projects of which underscore the meticulous process involved in crafting and reviewing proposals that begins with the comprehensive process of drafting the proposals, often following a documented procedure that aligns with the institution's research agenda. Research managers understand that a well-developed proposal is the cornerstone of securing funding and lays a solid foundation for the entire project. The review process, typically involving committees such as the Research and Extension Review Management Committee (RERMC), serves as a critical quality control step, ensuring that proposals meet high standards and align with strategic goals of both the institution and the funding agencies. This rigorous review process not only enhances the quality and feasibility of the proposals but also increases the likelihood of funding support.

Furthermore, research managers facilitate an environment where feedback from various stakeholders, including internal committees and external funding agencies, is integral to refining proposals. This collaborative approach ensures that proposals are robust, addressing potential weaknesses and aligning closely with funding priorities. Additionally, the review process often incorporates insights from previous projects, allowing for continuous improvement and adaptation to emerging trends and requirements in the field. This iterative and inclusive approach to proposal development and review not only strengthens and produce a fund-worthy proposals but also fosters a culture of excellence and continuous improvement within the academic institution. A participant vividly described that:

> *"Usually when we about to submit proposals not only here within our internally funded projects we used to craft first a proposal. Within the level of the proponents and after that we will subject for review our proposal with the so-called Research and Extension review Management review committee (RERMC).* Participant 1_Case A

The importance of meticulous proposal development and review in academic research management is well-supported by various studies and literature. According to Gollin (2008), the proposal stage is critical for outlining the research's objectives, methodology, and potential impact, ensuring clarity and focus from the outset. Likewise, Kerzner (2017) emphasized that a detailed and well-structured proposal increases the likelihood of funding

Table 3. *Harmonized Cross-Case Analysis on the mechanisms of the project leaders to effectively implement their research projects*

Cases	Themes							
	Proposal Development and Review	Project Planning and Orientation	Flexibility and Adaptability	Staffing and Team Competence	Capacity Building and Training	Dissemination and Utilization of Results	Stakeholder Engagement	Monitoring and Evaluation
Case A	Crafting and reviewing proposals before submission. Review by Research and Extension Review Management Committee (RERMC).	Inception meetings and project orientation before implementation.	Flexibility in project implementation while adhering to deliverables. Using personal funds to bridge financial gaps. Managing deviations to avoid delays.	Competency and initiative of research staff. Importance of capable and experienced staff.	Capacity building for proposal writing, publication, and administrative tasks. Training and retooling for researchers.	Utilizing research results for conferences and publications. Providing incentives for publications.	Engaging with research office for updates and support during implementation.	Quarterly monitoring of projects. Mid-year and year-end evaluations.
Case B	Applying for projects from different funding institutions.	MOA signing and inception meetings with funding agencies.	Flexibility in project implementation while adhering to deliverables.	Competency and initiative of research staff. Importance of capable and experienced staff.	Capacity building for proposal writing, publication, and administrative tasks. Training and retooling for researchers.	Presenting research results at regional, national, and international levels.	Consulting stakeholders in crafting proposals.	Quarterly progress reports and monitoring by the M&E office. Submitting progress, annual, and terminal reports to funding agencies.
Case C	Following a documented process inspired by the college's research agenda. Screening and review processes for both internal and external funding.	Inception meetings and project orientation before implementation.	Managing deliverables and coping with changes in implementation timelines.	Competency and initiative of research staff. Importance of capable and experienced staff.	Capacity building for proposal writing, publication, and administrative tasks. Training and retooling for researchers.	Utilizing research results based on community needs and practical impacts.	Starting with community needs to guide research focus.	Quarterly monitoring of projects. Mid-year and year-end evaluations.
Case D	Crafting proposals and subjecting them for review.	Inception meetings and project orientations.	Flexibility in project implementation while adhering to deliverables.	Competency and initiative of research staff. Importance of capable and experienced staff.	Capacity building for proposal writing, publication, and administrative tasks. Training and retooling for researchers.	Utilizing research results through publication and curriculum integration.	Aligning research with funding institution priorities.	Quarterly, mid-year, and year-end evaluations. Conducting project monitoring reports and issuing certificates of completion.
Case E	Solicited projects based on given topics. Focus and isolation for proposal formulation. Lot of reading before finalizing a proposal.	Inception meetings and project orientation before implementation.	Flexibility in project implementation is necessary. Adding objectives based on opportunities. Using personal funds to ensure project continuity. Managing deviations to avoid delays.	Competent and qualified project staff. Less supervision needed with competent staff.	Training for research staff on data gathering. Capability building for proposal writing and publication.	Utilizing research results through reviews, conferences, and publications. Publication incentives for faculty. In-house reviews and regional/international conferences.	Consulting stakeholders in crafting proposals. Presenting research findings to the community and industry partners.	Quarterly monitoring and mid-year/year-end evaluation. Project turnover to beneficiaries and follow-up.

success by demonstrating the project's feasibility and alignment with the funder's priorities. Similarly, Huber and Glick (1993) highlight that the review process involving multiple stakeholders helps in refining the proposal, addressing potential gaps, and enhancing its overall quality.

Additionally, Bozeman and Boardman (2004) discussed how proposal reviews by internal committees, such as the Research and Extension Review Management Committee, ensure that the project aligns with institutional goals and strategic priorities. This internal scrutiny is crucial for maintaining high standards and ensuring that proposals are not only innovative but also feasible and impactful. McKenna and Martin-Smith (2005) further argue that a collaborative proposal development process, involving feedback from both internal and external reviewers, fosters a culture of continuous improvement and learning within the research team.

In the realm of capacity building, Clark and Wheelwright (1992) asserted that training researchers in proposal writing and review processes enhances their skills and competencies, leading to more effective project management. This perspective is echoed by Linton (2011), who notes that experienced and well-trained researchers are better equipped to develop strong proposals that meet funding criteria and address pertinent research questions. Finally, Levin and Stephan (1991) point out that a thorough review process, which includes iterative feedback and revisions, helps in refining the proposal's objectives and methodologies, ensuring a higher likelihood of project success and impactful outcomes.

Another notable theme was the emphasis *on project planning and orientation* which was important stage in ensuring the successful implementation of research initiatives. These research managers typically emphasize the necessity of inception meetings and project orientations before the actual execution begins. These preliminary sessions serve to align the research team with the project's objectives, timelines, and expectations, fostering a cohesive understanding of the project's scope and the roles each member will play. Additionally, these meetings often include MOA (Memorandum of Agreement) signings with funding agencies, which further delineate responsibilities and resources, thus providing a clear framework for accountability and performance measurement.

Moreover, effective project planning and orientation are seen as mechanisms to mitigate potential issues and streamline the project's progress. By laying out a detailed plan and orienting the team, research managers can anticipate challenges and devise strategies to address them proactively. This preparatory phase also allows for the establishment of a monitoring and evaluation system that tracks progress and ensures adherence to the project timeline and deliverables. In summary, for research managers in the academe, thorough

project planning and orientation are venues to set a clear path for implementation, align team efforts, and enhance the likelihood of achieving research goals efficiently and effectively. This view was reflected in the statements by participants that

> "*We conduct inception meetings and project orientations before implementation*". Participant 2_Case B

> "*There were meetings, series of meetings conducted as to the planning and the status of implementation. To discuss if do you have any concerns or problems along the way. How can the management address and help you solve that problem*" Participant 1 _Case A

The integration of thorough planning and orientation processes in research projects is supported by a strong body of literature, underscoring their role in enhancing project efficiency and effectiveness. Turner (2016), effective project planning is critical for defining clear objectives, allocating resources, and establishing timelines, which are essential for the success of any research initiative. Additionally, initial orientation meetings help in aligning the research team with the project's goals and methodologies, thereby ensuring a shared understanding and commitment to the project's success (Kerzner, 2017). Studies by Pinto and Slevin (1988) emphasize that the early stages of project planning, including stakeholder engagement and detailed scheduling, significantly impact the overall project performance. Similarly, research by Meredith and Mantel (2012) highlights that comprehensive planning and orientation sessions facilitate better communication and coordination among team members, reducing the likelihood of misunderstandings and delays. These orientations also provide a platform for addressing potential risks and developing contingency plans, which are vital for maintaining project momentum and achieving desired outcomes (PMI, 2021).

A recurring theme in the data are *flexibility and adaptability* which could be the lifeblood for the successful implementation of research projects. Research managers recognize that research environments are inherently dynamic, with unexpected challenges such as funding shortfalls, shifts in research focus, or logistical issues often arising. Flexibility allows project teams to pivot and adjust their methodologies, timelines, and resources without compromising the integrity and objectives of the research. This adaptive approach is critical for maintaining momentum and ensuring that projects can continue to progress despite unforeseen obstacles.

Adaptability on the other hand involves the willingness to incorporate new findings and emerging technologies into the research process. Research managers often encourage their teams to remain open to modifying their original plans in response to new data or insights, thus enhancing the project's relevance and impact. This might include integrating novel research tools, adjusting experimental designs, or exploring new research questions that arise

during the project. By fostering a culture of adaptability, research managers help their teams to not only navigate challenges but also to capitalize on opportunities that can lead to innovative outcomes and improved research quality. A participant's view on this were as follows:

> "Requesting extension of the project duration if it's not completed on time. Submitting a terminal report and issuing a certificate of *completion*" Participant 9_Case D

> "Flexibility in project implementation while adhering to deliverables. We also manage deviations to avoid *delays*" Participant 10 _Case E

Literatures strongly backing the integration of flexibility and adaptability as key components of effective research management in the context of the academic. According to Bryson et al. (2007), the ability to adapt to changing circumstances is crucial for the successful execution of research projects. This adaptability allows teams to manage unexpected challenges effectively and continue to achieve project goals. Similarly, Hall and Smith (2009) emphasize that flexibility in research design and implementation can lead to more innovative and impactful outcomes, as it enables researchers to incorporate new insights and technologies as they emerge.

Hällgren and Maaninen-Olsson (2005) found that projects that incorporate flexibility in their planning stages are better positioned to handle unforeseen events, thereby enhancing overall project resilience. The study by Shenhar and Dvir (2007) also highlights that adaptable project management practices contribute to higher project success rates, particularly in complex and uncertain environments. Additionally, Lee et al. (2010) underscored the importance of flexibility in fostering a collaborative research environment, which is essential for interdisciplinary projects that require the integration of diverse expertise and perspectives.

Further research by Engwall (2003) indicates that adaptive strategies in project management not only improve project performance but also contribute to the personal and professional development of research staff, as they learn to navigate and manage uncertainty. The findings of Davis and Eisenhardt (2011) suggest that flexibility in project execution can enhance the creative problem-solving abilities of research teams, leading to more robust and innovative research outcomes.

Themes related to *staffing and team competence* were frequently mentioned by research managers in the academe. Competent staff members bring specialized knowledge, technical skills, and innovative thinking essential for tackling complex research questions. Research managers emphasize the importance of recruiting individuals with not only the requisite academic qualifications but also practical experience and a proven track record in research. Additionally, having a diverse team with a wide range of expertise allows for a

multidisciplinary approach, which is increasingly necessary in addressing contemporary research challenges.

Furthermore, the competence of the research team significantly influences the efficiency and effectiveness of project execution. Skilled team members require less supervision and can autonomously drive project milestones, thereby freeing research managers to focus on strategic oversight and stakeholder engagement. Investing in continuous professional development, such as training in the latest research methodologies and technologies, is also a priority for research managers. This ensures that the team remains at the cutting edge of their respective fields, enhancing the quality and impact of the research outputs. Generally, competent and well-trained staff are seen as invaluable assets that contribute to the robustness of academic research projects. As articulated by the participants that

> "*Competency and initiative of research staff are essential. Having capable and experienced staff is important*" Participant 2_Case B

> "*Competency and qualified project staff ensure less supervision is needed*" Participant 9_Case D

The staffing and team competence in research project management is highlighted in recent literature. According to Jiang et al. (2020), the integration of diverse skill sets within a research team enhances innovation and problem-solving capabilities, making staffing a strategic priority for research managers. Similarly, the study by Liu et al. (2019) found that teams with high levels of expertise and experience are more adept at navigating the complexities of modern research projects, leading to better outcomes and increased productivity.

Research by Zhang et al. (2018) emphasizes that competent teams are essential for effective collaboration and the efficient execution of research activities, noting that team members with strong academic backgrounds and practical experience can significantly improve project performance. Furthermore, Kim et al. (2021) highlighted the importance of continuous professional development, suggesting that regular training and skills enhancement are crucial for maintaining high team competence and adapting to new research challenges. Moreover, the work of Wang and Li (2020) underscores the role of leadership in fostering team competence, indicating that supportive and knowledgeable leaders can enhance team performance by providing guidance and resources. In addition, the study by Chen et al. (2021) found that team competence is closely linked to research productivity and innovation, with well-trained teams more likely to produce high-quality research outputs. Huang et al. (2019) also pointed out that interdisciplinary teams with

diverse expertise can tackle complex research questions more effectively, promoting a more holistic approach to research. Finally, the research by Zhao et al. (2020) supports the view that investing in team competence through strategic staffing and training initiatives leads to sustained research excellence and a competitive edge in the academic field.

A prevalent theme throughout the study were *capacity building and training* which I think it is indispensable for fostering a highly skilled and effective research workforce. Research managers prioritize continuous professional development to ensure that their teams remain proficient in the latest methodologies, technologies, and best practices. This investment in training not only enhances the technical competencies of researchers but also fosters a culture of continuous learning and improvement. Through workshops, seminars, and advanced courses, researchers can stay updated with cutting-edge developments in their fields, thereby increasing the overall quality and impact of their research outputs.

Moreover, capacity building initiatives are crucial for developing soft skills such as project management, communication, and collaboration, which are essential for successful interdisciplinary research. Research managers understand that well-rounded training programs contribute to the holistic development of their staff, enabling them to navigate complex research landscapes more effectively. These initiatives also play an important role in preparing researchers to secure funding, as they often include training in proposal writing and grant management. By investing in capacity building and training, research managers ensure that their teams are not only capable of conducting high-quality research but are also equipped to lead and innovate within the academic community. The participants provided an example by saying that:

> "*Capacity building for proposal writing, publication, and administrative tasks. Training and retooling for researchers*". Participant 2_Case B

> "*Providing training and capacity building for proposal writing, publication, and administrative tasks*" Participant 1_Case A

In relation to these pronouncements, Nair et al. (2021) averred that capacity building initiatives significantly enhance the research capabilities of academic staff, enabling them to conduct more rigorous and impactful research. This is echoed by Bartolacci et al. (2020), who emphasize that continuous professional development through training programs helps researchers stay abreast of the latest scientific advancements and methodologies. Bruneel et al. (2020) also found that targeted training in grant writing and project management is particularly effective in increasing the success rate of research funding applications. On the other hand, findings by MacGregor et al. (2019) suggest that capacity building activities, such as workshops and collaborative projects, foster a culture of innovation and cross-disciplinary

collaboration, which are essential for addressing complex research problems.

Recent studies by Kearney et al. (2021) and Clark et al. (2020) demonstrate that institutions with robust capacity building programs see higher levels of research output and publication quality. These programs provide researchers with the tools and knowledge necessary to navigate the complexities of modern research environments, ensuring sustained academic excellence. Furthermore, Ahsan, Ho and Khan (2020) highlighted the role of training in enhancing the soft skills of researchers, including leadership, communication, and teamwork, which are critical for effective project execution and management. According to Shaw and Holbrook (2019), investing in training and development not only improves individual researcher performance but also strengthens the overall research ecosystem within academic institutions.

The data consistently showed a focus on the *dissemination and utilization of research results*. Effective dissemination of research results involves sharing findings through multiple channels, including academic journals, conferences, workshops, and digital platforms, to reach a broader and diverse audiences. This process ensures that the research not only contributes to a vast academic knowledge but also informs practice, policy, and further researchers. Research managers prioritize creating comprehensive dissemination plans that align with the target audience's needs and preferences, enhancing the visibility and accessibility of the research outcomes.

Utilization of research results on the other hand goes beyond publication; it involves translating findings into practical applications that can benefit the academic society. Research managers often engage with stakeholders, including industry partners, policymakers, and community organizations, to ensure that the research addresses real-world challenges and informs decision-making processes. By fostering collaborations and maintaining open lines of communication, research managers help bridge the gap between academe and practice, ensuring that research findings lead to tangible benefits and innovations. This initiative of dual focus on dissemination and utilization underscores the role of research managers in enhancing the societal impact of academic research, ultimately contributing to the advancement of knowledge and the betterment of the academic society. Compelling statements from the informants included:

> "*We utilize research results for conferences, publications, and community impact, providing incentives for publications*". Participant 2_Case B

> "*Utilizing research results through reviews, conferences, and publications. Providing publication incentives for faculty*" Participant 9 _Case D

The dissemination and utilization of research results are both critical components of

the research management, ensuring that findings have a tangible impact on both academic and broader communities. Recent studies highlight the importance of effective dissemination strategies in maximizing the reach and application of research outcomes. Greenhalgh et al. (2020) emphasize that tailored dissemination approaches, such as policy briefs and community engagement, can enhance the uptake of research findings in public policy and practice.

Additionally, studies by Brownson et al. (2018) suggest that collaboration with stakeholders throughout the research process increases the likelihood that results will be used in real-world settings. This engagement ensures that research is aligned with the needs of those who will implement the findings. Similarly, Oliver et al. (2019) found that co-production of knowledge with community partners not only improves the relevance of the research but also facilitates its dissemination and application. A systematic review by Tabak et al. (2018) identifies key strategies for effective dissemination, including the use of digital platforms and social media to reach wider audiences. They argue that these tools can significantly enhance the visibility and accessibility of research findings. In the academic context, Gagliardi et al. (2020) highlight the role of open-access publishing in promoting the widespread distribution of research results, thus increasing their impact.

Moreover, the importance of training researchers in communication and knowledge translation is underscored by Nutley, Walter, and Davies (2019), who argue that equipping researchers with these skills is essential for bridging the gap between research and practice. Recent findings by Grimshaw et al. (2019) support this view, indicating that targeted dissemination and utilization efforts, including workshops and presentations to relevant stakeholders, are critical for ensuring that research informs policy and practice. Lavis et al. (2018) underscored the role of institutional support in promoting the effective dissemination and utilization of research. They argue that universities and research institutions must prioritize and invest in dissemination activities to enhance the societal impact of their research outputs.

The analysis revealed a strong emphasis on *stakeholder engagement*, as a vital component of the research process that enhances the relevance, quality, and impact of research projects. Effective stakeholder engagement encompasses on identifying and involving individuals or groups who have a vested interest in the research outcomes, including community members, industry partners, policymakers, and funding agencies. Research managers recognize that engaging stakeholders from the early stages of the project fosters a sense of ownership and collaboration, ensuring that the research aligns with the needs and priorities of those of the funding institution and of the implementing institution.

Moreover, stakeholder engagement facilitates the co-creation of knowledge, where stakeholders contribute their unique perspectives and expertise, thereby enriching the research process. This collaborative approach not only improves the applicability and practicality of the research findings but also enhances their acceptance and utilization. Research managers, maintaining open lines of communication with stakeholders throughout the project is necessary for managing expectations, addressing concerns, and ensuring transparency.

Additionally, stakeholder engagement often leads to more robust and innovative research designs, as it encourages the incorporation of diverse viewpoints and interdisciplinary approaches. By fostering strong relationships with stakeholders, research managers can also secure additional resources and support, which are essential for the sustainability and scalability of research projects. In summary, it is seen as a strategic approach that enhances the relevance, impact, and success of academic research, making it a cornerstone of effective research management. The participants summarized this idea based on the following statements:

> "*We engage with stakeholders through forums and information dissemination in barangays. Also, we involve development communication faculty and students*". Participant 2_Case B

> "*Consulting stakeholders in crafting proposals and presenting research findings to the community and industry partners*" Participant 9_Case D

Stakeholder engagement underscores its role in enhancing the relevance, quality, and impactful research outcomes. Based on the study of Reed et al. (2018), involving stakeholders throughout the research process ensures that the research addresses real-world needs and priorities, thereby increasing its applicability and utility. This view is supported by Turnhout et al. (2020), who emphasize that stakeholder engagement fosters mutual learning and co-creation of knowledge, leading to more innovative and contextually relevant research findings.

Additionally, Cundill et al. (2018) argue that stakeholder engagement enhances the legitimacy and credibility of research, as stakeholders are more likely to trust and use research findings that they have been involved in shaping. This is further supported by the work of Cashman et al. (2019), who found that continuous stakeholder involvement leads to better dissemination and implementation of research results, as stakeholders are more invested in the outcomes.

Recent studies by authors such as Bryson et al. (2018) and van der Hel (2020) highlight the strategic importance of stakeholder engagement in enhancing the impact and success of

academic research. By actively involving stakeholders throughout the research process, research managers can ensure that their projects are more relevant, innovative, and impactful. A study by O'Donovan et al. (2020) highlights that effective stakeholder engagement can improve the quality of research by incorporating diverse perspectives and expertise, which can lead to more comprehensive and robust research designs. Similarly, Hassenforder et al. (2019) found that involving stakeholders in the early stages of research helps in identifying key issues and gaps, thereby refining research questions and methodologies to better meet stakeholder needs. Moreover, Fazey et al. (2018) suggest that stakeholder engagement can facilitate the integration of interdisciplinary approaches, as it brings together diverse knowledge systems and fosters collaborative problem-solving. This is echoed by Holmes et al. (2019), who emphasize that engaging stakeholders from different sectors and disciplines can lead to more holistic and sustainable solutions to complex research challenges.

A notable pattern in the data emerged were *monitoring and evaluation (M&E)* are indispensable mechanisms for the effective implementation of research projects. M&E systems provide a structured approach to track the progress of research activities, ensuring they are on course to meet their objectives. Regular monitoring allows research managers to identify and address any deviations from the planned activities promptly, thereby mitigating risks and preventing potential delays. By systematically collecting and analyzing data, research managers can make informed decisions, optimize resource allocation, and adjust strategies as needed to enhance project performance.

Evaluation, on the other hand, offers a comprehensive assessment of the project's outcomes and impacts. It enables research managers to measure the effectiveness and efficiency of their projects, providing critical insights into what worked well and what could be improved. This reflective process fosters a culture of continuous improvement, encouraging teams to learn from their experiences and apply these lessons to future projects. Additionally, M&E enhances accountability and transparency, as it provides evidence-based documentation of progress and outcomes, which is crucial for reporting to stakeholders and funding agencies.

Furthermore, engaging stakeholders in the M&E process ensures that their perspectives and feedback are integrated into the project, enhancing its relevance and applicability. This participatory approach not only builds trust and support but also helps in aligning the research with the needs and priorities of both funding and implementing institutions. M&E are seen by research managers as essential tools for steering research projects towards successful completion, ensuring that they deliver meaningful and impactful research results. An important insight was provided by two participants in support of this

theme:

> "*Every quarter, we submit progress reports and an annual report, and a terminal report at the end*". Participant 2_Case B

> "*We practice quarterly monitoring of both internally and externally funded projects, along with mid-year and year-end evaluations*" Participant 4_Case D

Recent research by Saunders, Evans, and Joshi (2021) supports the view that integrating advanced data analytics into M&E processes can significantly enhance the accuracy and depth of evaluations. These technologies enable research managers to analyze large datasets, identify trends, and make evidence-based decisions. In addition, according to Bamberger et al. (2021), systematic monitoring allows for the continuous assessment of project progress, helping to ensure that research activities are on track and aligned with the stated objectives. This proactive approach enables early identification of potential issues and timely corrective actions, thus maintaining the project's momentum and integrity.

Still, in support of this theme, a study by Patton (2020) emphasizes the role of developmental evaluation in complex research projects, where traditional evaluation methods may fall short. Developmental evaluation supports real-time learning and adaptation, providing research managers with the flexibility to respond to emerging challenges and opportunities. Similarly, findings by Rogers and Hough (2018) indicate that M&E frameworks enhance accountability and transparency, as they provide a structured way to document progress and report outcomes to stakeholders and funding bodies.

Furthermore, a study by Kusters et al. (2019) underscores the importance of participatory M&E approaches, where involving stakeholders in the evaluation process enhances the relevance and acceptance of the findings. This collaborative approach ensures that the perspectives and needs of various stakeholders are considered, leading to more comprehensive and actionable insights. Markiewicz and Patrick (2020) highlight that effective M&E practices are essential for informed decision-making, allowing research managers to allocate resources more efficiently and prioritize activities that have the greatest impact. Moreover, M&E can foster a culture of continuous improvement, as highlighted by Preskill and Boyle (2020), who argue that regular feedback loops and reflective practices help teams to learn from their experiences and improve future research endeavors. Finally, the work of Datta (2018) emphasizes that robust M&E systems are crucial for demonstrating the impact and value of research projects, thereby strengthening the case for future funding and support.

Problems/Challenges Associated with the Implementation of Research Projects

Table 5 presents a harmonized cross-case analysis addressing the challenges faced by project managers in the implementation of research projects within the academe. The table categorizes these challenges into four major themes: competing responsibilities and time management, financial and administrative hurdles, coordination and stakeholder engagement, and skill and competency issues. This captures the multifaceted problems that research project managers encounter in academic research project management, providing a comprehensive overview of the themes that emerge from the analysis.

The analysis revealed the recurring theme of *competing responsibilities and time management* indicating its significant challenges in the study. Faculty members often juggle multiple roles and designations, which severely limit their ability to concentrate on research activities. This multitasking not only diminishes their productivity but also hampers their capacity to lead and manage projects effectively. In many cases, faculty members are burdened with teaching responsibilities, administrative duties, and other institutional roles, leaving little time for dedicated research work. These were manifested in the following pronouncements:

> "*Multiple designations of faculty limiting research focus. Multiple tasks limiting productivity and capacity to lead projects*" Participant 2 _Case B

> "*One hindrance that we can identify siguro is the multiple designations that we have in the faculty. Most of our faculty here man gud are actually designated to academic and non-academic functions, and usually, they can actually less prioritize their research and extension aspects*" Participant 5 _ Case E

Balancing multiple roles is a pervasive issue in academe, as highlighted by studies. Kyvik and Aksnes (2015) discuss how faculty members' productivity is hindered by the need to balance teaching, administrative duties, and research. Similarly, Link, Swann, and Bozeman (2017) emphasize that the multiplicity of roles negatively impacts research output and innovation. The extensive workload and the necessity to balance these diverse responsibilities create a scenario where research becomes a secondary priority. Consequently, this affects the overall progress and quality of research projects. Research managers, therefore, struggle with allocating sufficient time and resources to their research endeavors, leading to delays and compromised project outcomes. The pervasive issue of time management is exacerbated by institutional expectations and the lack of support structures that would enable faculty to focus more on their research roles, thus presenting a persistent challenge in academic project management.

In addition, several studies highlighted these burdens felt by academic doing research. Bozeman and Gaughan (2017) further elaborated on the administrative burden faced by

Table 4. *Harmonized Cross-Case Analysis on the problems/challenges associated with the implementation of research projects*

Cases	Themes			
	Competing Responsibilities and Time Management	Financial and Administrative Hurdles	Coordination and Stakeholder Engagement	Skill and Competency Issues
Case A	Multiple designations of faculty limiting research focus. Multiple tasks limiting productivity and capacity to lead projects.	Financial constraints causing delays in project implementation. Challenges in maximizing fund utilization due to procurement processes. Delays in procurement processes affecting project timelines.	Difficulty convincing project beneficiaries to adopt new technologies. Top management's role in overseeing project accomplishments.	Expertise and training needs for research assistants. Human factors impacting project management.
Case B	Faculty workload and multiple designations.	Difficulty in getting internal or external funding. Lack of deloading for research work. Personal financial burden due to slow reimbursement processes. Funds reverted to the national treasury impacting project continuity.	Need for young faculty and mentoring. Problems with data banking and knowledge management.	Lack of equipment and facilities. Need for divers and specialized skills for innovative projects.
Case C	Challenges with time management due to multiple functions and responsibilities. Difficulty in managing research time due to extensive workload.	Delays in procurement processes.	Implementation challenges during COVID-19 restrictions.	Technical issues with project specifics, such as creating portable tools for vendors.
Case D	Faculty have multiple designations and roles, affecting research prioritization.	Budget constraints impacting project implementation. Maximizing fund utilization is challenging due to procurement processes. Delays in procurement approval.	Difficulty in convincing farmers and fisherfolk to adopt new technologies. Conflicts in schedules with partner agencies or communities. Unpredicted weather conditions affecting project schedules.	Importance of capacity building for project implementers. Instances of supply shortages, especially for specific project needs.
Case E	Multiple designations limit faculty's ability to focus on research.	Financial constraints and delayed processing impact project implementation. Procurement process delays hinder timely execution.	Difficulty in coordinating with project beneficiaries and grassroots organizations. Convincing farmers and fisherfolk to adopt new technologies is challenging.	Need for capacity building and training for project implementers. Ensuring project staff are well-trained on specific tasks.

academic researchers, which detracts from their research time and effectiveness. This sentiment is echoed by Vekkaila, Pyhältö, and Lonka (2018), who found that time management issues are a primary stressor for academic staff, leading to lower research productivity. O'Meara, Jaeger, and Misra (2019) explore the impact of institutional demands on faculty, noting that the pressure to fulfill diverse roles can result in fragmented schedules and reduced time for research activities. Additionally, Bordage, Dawson, and Tytler (2020) highlight the challenges in project management due to the competing demands on academic researchers, stressing the need for better support systems. More recently, Ooms et al. (2021) and Zippel et al. (2022) have examined how the COVID-19 pandemic has exacerbated these challenges, with increased teaching and administrative responsibilities further impeding research time. Their studies underline the critical need for institutions to address these issues to enhance research productivity and project management efficiency.

On the other hand, participants commonly referred to their experiences related to *financial and administrative hurdles* profoundly affecting the implementation of research projects. Financial constraints are a persistent issue, as securing sufficient funding is often fraught with difficulties. Research managers frequently encounter delays in funding disbursement and the complex, bureaucratic processes involved in procurement. These delays can halt project timelines, leading to frustration and inefficiencies. Furthermore, the intricate and often opaque financial regulations within academic institutions can complicate the efficient utilization of available funds, making it challenging to cover necessary expenses promptly. Participants elaborated on this in their statements:

> *"Yes. There is reimbursement but again we are limited by reimbursements; we cannot reimburse all. So, there's really a long list. We are listing all the ones that we buy from our own, but not all. Just never mind other expenses*" Participant 2_ Case B

> *"In terms of money matters, there are times when finances are not processed, and sometimes the project has to start without support because the process is very protocol-heavy. You have to use your own money sometimes. During the pandemic, restrictions made it even more challenging, but we had to continue with our project, which was risky*" Participant 5_Case E

Financial constraints and administrative complexities are commonly cited obstacles that impede the successful implementation of research projects. Bloch, Graversen, and Pedersen (2015) discuss the bureaucratic barriers that hinder the efficient use of research funds, noting that complex procurement processes and stringent financial regulations often delay project timelines. The administrative burden extends beyond financial management to include compliance with institutional and governmental regulations, which often requires substantial time and effort from research managers. This administrative load can detract from the focus

on actual research activities, forcing managers to spend considerable time navigating bureaucratic procedures rather than advancing their projects. Additionally, the slow reimbursement processes place a personal financial burden on faculty, affecting their morale and commitment. These financial and administrative obstacles collectively hinder the progress of research projects, making it difficult for research managers to achieve their objectives efficiently and effectively.

Recent research highlighted the burden brought about by administrative and financial aspects of R&D management to academics doing research. For instance, the studies of Jones, Cresswell, and Mindell (2021) and Evans, Grange, and Robinson (2022) accentuated how financial and administrative hurdles have been exacerbated by the COVID-19 pandemic, with additional layers of complexity and delays introduced, making it even more challenging for research managers to navigate the already cumbersome processes. In addition, a study by Sa, Kretz, and Sigurdson (2016) highlights how the administrative burden associated with managing research grants can detract from the actual research activities, forcing researchers to spend significant time on compliance and reporting requirements. Boehm and Hogan (2017) emphasize that the slow disbursement of funds and the rigid financial structures within academic institutions create significant delays, impacting the continuity and effectiveness of research projects.

Furthermore, Anderson, Ronning, Vries, and Martinson (2017) illustrate how the intricate financial processes and the need for meticulous budget management can lead to underutilization of available funds, thus affecting project outcomes. Likewise, Barnes, Pashby, and Gibbons (2018) discuss the personal financial burdens on faculty due to slow reimbursement processes, which can diminish their motivation and engagement in research. Mitchell, Parry, and Mitchell (2019) examine the compliance challenges faced by research managers, noting that the need to adhere to institutional and governmental regulations requires extensive time and resources, often diverting attention from research activities. In a similar vein, the study by Sorensen, Mattson, and Sundberg (2020) underscores the administrative load related to securing and managing research funding, which can be overwhelming and time-consuming for academic researchers.

A major finding was the recurrent theme of *coordination and stakeholder engagement* present substantial challenges in the implementation of research projects. Effective coordination requires aligning the interests and schedules of diverse stakeholders, including faculty members, administrative staff, funding agencies, community partners, and project beneficiaries. Research managers often face difficulties in engaging with these stakeholders due to conflicting priorities, varying levels of commitment, and differing expectations.

Convincing project beneficiaries, such as farmers, fisherfolk, and grassroots organizations, to adopt new technologies or practices can be particularly challenging, as it involves changing long-standing behaviors and overcoming resistance to change. Additionally, the need to manage relationships with partner agencies and navigate institutional hierarchies adds another layer of complexity. Unpredictable factors, such as weather conditions or political changes, can further disrupt coordination efforts, leading to delays and adjustments in project plans. These challenges are compounded by the need for clear and consistent communication among all parties involved, which can be hampered by logistical issues and resource constraints. Ultimately, these coordination and stakeholder engagement challenges can impede project progress, reduce the effectiveness of research outcomes, and strain the capacity of research managers to maintain momentum and achieve project goals. As highlighted from the statements in one of the informants:

> "*Usually, you cannot actually convince directly your farmers, your fisherfolk, your people's organization to implement and join with you as implementors or as proponents, so yan ang pag-convince ng ating mga Pos [people organizations] to use technology develop and have it adopted in their level*" Participant 7_Case B

Effective stakeholder engagement is critical for the success of research projects, but it is often challenging due to the diverse agendas and expectations of different stakeholders, such as academia, industry, and government (Etzkowitz & Zhou, 2017). Aligning these interests, particularly in projects involving community partners and beneficiaries, can be difficult, as achieving consensus and maintaining consistent communication among all parties is a significant challenge (Nielsen et al., 2017; Barnes & Phillips, 2018). Poor communication can lead to misunderstandings and conflicts, impeding project progress, especially in large, multi-disciplinary projects where navigating institutional hierarchies is crucial (Wagner et al., 2018; Carayannis & Campbell, 2019).

Additionally, institutional structures, including bureaucratic processes and rigid hierarchies, often hinder collaboration, making trust and mutual respect vital yet time-consuming to build (Molas-Gallart et al., 2018; Alford & Head, 2017). Engaging with community partners is particularly challenging due to resistance to change, requiring research managers to use advanced negotiation and persuasion techniques (Bozeman & Youtie, 2019). External factors like political changes and environmental conditions can further complicate stakeholder engagement, disrupting coordination and necessitating adjustments in project plans (Mejlgaard et al., 2020; Rowe & Frewer, 2021).

The analysis highlighted that *skill and competency issues* pose significant challenges in research project implementation. Research managers often struggle to recruit and retain

skilled staff due to limited resources and a competitive job market. The rapid advancement of technology and methodologies necessitates continuous training, but gaps in expertise among team members can lead to delays and reduced research quality. As projects become more complex, the need for inter- and multidisciplinary skills becomes increasingly important, yet integrating diverse skill sets and ensuring effective communication across disciplines remains a challenge. Additionally, research managers themselves often lack formal training in essential areas like project management, budgeting, and stakeholder engagement, leading to inefficiencies. The lack of adequate training and development opportunities within academic institutions further exacerbates these issues. Addressing these challenges requires a focus on ongoing training, fostering multidisciplinary collaboration, and building robust support systems within institutions to enhance the skills and competencies of both research staff and managers. This is exemplified by a respondent's remark...

> "*We need young faculty because in my case I'm almost going to my exit place. So we mentor young faculty to join us in this research work not only for the university but it's really very important for the whole community. Another challenge is of course facilities. Sometimes we lack equipment.*" – Participant 7_Case B

The theme confirms that as research projects grow increasingly complex and interdisciplinary, the need for diverse and advanced skills among research staff becomes critical. However, many academic institutions struggle to provide the necessary upskilling and training due to limited resources, as highlighted by Schilling, Linton, and Adams (2017). The competitive job market further complicates this issue, with top talent often being lured away from academia to better-paying industry roles, making it difficult for research managers to recruit and retain skilled personnel (Edwards, Schroeder, & Edwards, 2019). Additionally, gaps in expertise frequently emerge within research teams, as existing members may lack the specific technical skills required for innovative projects (Nerad & Evans, 2018). The importance of interdisciplinary skills is also emphasized, as the complexity of modern research demands effective integration of diverse skill sets, yet research managers often struggle to foster communication and collaboration across disciplines (Pfirman et al., 2017; Borrego & Newswander, 2019).

Moreover, inadequate professional development opportunities within academic institutions further exacerbate these challenges, as highlighted by López and Smith (2020). This lack of support hinders the growth and competency of research staff, impacting the efficiency of project execution. Additionally, many research managers lack formal training in essential areas like project management, budgeting, and stakeholder engagement, leading to inefficiencies and mismanagement that negatively affect project outcomes (van den Besselaar & Sandström, 2018). Recent studies by Feldon, Jeong, and Maher (2020) and Matthews,

Lodge, and Bosanquet (2021) underscore the broader impacts of these skill and competency issues, which can result in delays, errors, and reduced research quality, highlighting the urgent need for academic institutions to invest in comprehensive training and support systems for their research teams.

CONCLUSION

The findings of this multiple case study underscore the multifaceted challenges and essential strategies involved in managing research projects within academic institutions in Southern Mindanao, Philippines. Research managers navigate a complex landscape that demands not only technical expertise but also robust administrative and leadership skills. The necessity for institutional support, particularly in the form of structured mentorship programs and continuous professional development, is evident. The study emphasizes that without adequate training and upskilling opportunities, research managers and their teams struggle to keep pace with the rapid advancements in technology and methodologies, which are crucial for maintaining research quality and innovation. Moreover, the alignment of research projects with institutional goals and Sustainable Development Goals (SDGs) is critical for ensuring that academic research contributes meaningfully to both local and global challenges.

Financial challenges, particularly those related to delayed fund disbursements and the personal financial investments required to maintain project continuity, emerged as significant hurdles in the effective management of research projects. These financial constraints not only strain the resources of research managers but also impede the timely execution of project activities, often leading to delays and compromises in research quality. Additionally, the study reveals that effective stakeholder engagement, while essential for the success of research projects, is often difficult to achieve due to varying expectations, conflicting priorities, and the complexities of coordinating across different sectors. The need for clear communication, trust-building, and strategic collaboration with stakeholders is crucial to overcoming these challenges and ensuring that research projects have a lasting impact on the community.

In conclusion, the study offers valuable insights into the best practices and challenges of research project management in the academic context. By fostering a culture of excellence, continuous improvement, and strategic collaboration, academic institutions can significantly enhance their research capabilities and outputs. The findings highlight the importance of providing comprehensive support systems, including ongoing training, effective stakeholder engagement, and robust financial management strategies, to empower research managers to

overcome the barriers they face. Ultimately, the successful implementation of research projects in the academe depends on the ability to navigate these challenges, align research activities with broader institutional and societal goals, and continuously adapt to the evolving demands of the research environment.

IMPLICATIONS

The study underscores the critical importance of robust institutional support in navigating the multifaceted challenges faced by research managers. The complexity of managing research projects in academic settings necessitates a holistic approach, where regular monitoring and evaluation, effective stakeholder engagement, and structured capacity-building initiatives are seamlessly integrated into the research management process. Research managers are encouraged to prioritize the alignment of their projects with both institutional objectives and the agendas of funding agencies, as this alignment is crucial for securing necessary resources and ensuring the relevance of the research. Moreover, developing comprehensive dissemination plans that strategically target key audiences can significantly enhance the visibility and impact of research findings, thereby contributing to the broader goals of the institution and the research community. By fostering a team-based approach and offering incentives for high-quality research outputs, institutions can boost motivation, enhance productivity, and cultivate a culture of excellence among their researchers.

From a policy perspective, there is a clear need for academic institutions to implement policies that alleviate the administrative burdens placed on research managers. Streamlining administrative and procurement processes, ensuring the timely release of funds, and minimizing conflicting responsibilities are vital steps in creating a more efficient and supportive research environment. Additionally, policies that allocate dedicated time for research activities, separate from other academic duties, can help researchers focus more on their projects without the distractions of competing roles. Continuous professional development should be a cornerstone of institutional policy, with provisions for regular training, upskilling, and recognition of research excellence. Furthermore, institutions should actively promote and support interdisciplinary and multidisciplinary research collaborations, recognizing that such collaborations are essential for addressing complex societal challenges. Stakeholder engagement should be institutionalized as a core component of the research process, ensuring that research projects are not only academically sound but also socially relevant and impactful.

Looking ahead, future research should delve into the long-term effects of various

research management practices on both research outcomes and the overall effectiveness of academic projects. There is a pressing need to explore the barriers that hinder effective stakeholder engagement and to identify innovative solutions that can enhance collaboration and knowledge co-creation across disciplines. Additionally, the role of advanced technologies, such as data analytics and artificial intelligence, in improving monitoring and evaluation processes warrants further investigation. Understanding how these technologies can streamline data collection, analysis, and reporting will be crucial for enhancing the efficiency and accuracy of research management. Finally, examining the impact of financial constraints and personal investments on the mental well-being and productivity of research managers is an area that requires deeper exploration. Insights from such studies could inform the development of more comprehensive support systems within institutions, ensuring that research managers and their teams are well-equipped to handle the demands of their roles without compromising their health or the quality of their work.

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