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**TREND ANALYSIS AND MARKETING STRATEGIES TO INCREASE ENROLLMENT IN BUSINESS
ADMINISTRATION PROGRAMS: A MULTI METHOD STUDY**

KAYE H. ABIAN

Saint Joseph Institute of Technology / Saint Michael College of Caraga

kaye.labian05@gmail.com

<https://orcid.org/0009-0007-0731-2700>

ABSTRACT

This research analyzes the trends and marketing strategies used to enhance enrollment in the Business Administration program at Saint Michael College of Caraga (SMCC). Utilizing the Theory of Planned Behavior, the Self-Regulated Learning model, and ideas from Customer Relationship Management, the research used multiple approaches. Quantitative data were obtained via surveys distributed to existing and prospective BSBA students, with a five-year analysis of institutional and regional enrollment trends from SMCC and the Commission on Higher Education (CHED). Five marketing techniques were tested for success using descriptive and inferential statistics. These strategies were social media, print media, radio promotion, face-to-face engagement, and referral/scholarship programs. Focus group discussions and interviews provided qualitative insights into students' perspectives of SMCC's promotional initiatives. The findings show that targeted digital ads, referral incentives, and direct contact are all important factors in students' decisions about whether or not to enroll. It suggests that to keep and boost enrollment, schools should strengthen their online presence, build stronger ties with the community, and use focused marketing strategies.

KEYWORDS

Trend Analysis, Marketing Strategies, Enrollment, Business Administration Program, Theory of Planned Behavior, Self-Regulated Learning, Customer Relationship Management, Multi-Method Approach

INTRODUCTION

Background

Marketing strategy is crucial in improving enrollment in academic institutions, just as it is in the corporate world. An effective strategy helps schools and universities attract prospective students by highlighting their programs' unique strengths and benefits. By utilizing market data and understanding the needs and preferences of potential students, institutions can identify specific target segments and tailor their marketing efforts accordingly (Furrer, 2020).

Institutions increase visibility and competitiveness by segmenting markets, positioning their unique strengths, and integrating consistent messaging across platforms. Tailored communication and coordinated resource allocation ensure a unified approach, enhance enrollment, and foster long-term stakeholder relationships in a globalized educational environment (Pasa & Shugan, 2022).

Education policy frameworks emphasize equitable access and quality education. The Philippine Constitution (Article XIV) mandates the State to protect and promote the right of all citizens to quality education and requires institutions to maintain systems responsive to societal needs. In higher education, quality assurance mechanisms such as voluntary accreditation systems and CHED policies support institutional accountability and competitiveness (Arcelo, 2023). Accreditation processes—including self-study and external evaluation—reinforce program credibility and institutional reputation, which are critical components of effective educational marketing.

Data-driven marketing strategies are increasingly necessary to respond to changing student expectations and intensified competition (Kotler & Keller, 2020). Institutions that fail to align marketing approaches with market demands experience declining recruitment and underperformance (Prianugraha, 2024). This challenge is more pronounced in competitive programs such as business administration, where alternative learning platforms, rising costs, and shifting preferences affect enrollment decisions. Low-income and marginalized groups are particularly vulnerable, often facing academic and financial barriers that increase dropout risks (Gomez, 2020).

As a faculty member of the College of Business Management Education, the researcher seeks to optimize marketing strategies to improve enrollment for the next academic year. Although existing literature discusses higher education marketing broadly, fewer studies address institution-specific strategies responsive to local contexts. Thus, this study evaluates the most effective marketing strategies to increase enrollment across Saint Michael College of Caraga (SMCC) programs. Using quantitative analysis, it examines how targeted strategies, digital tools, and emerging technologies can support sustainable enrollment growth.

General Objective

The study aims to assess trend analysis and marketing strategies used to increase enrollment in Business Management programs at Saint Michael College of Caraga.

Specifically it answered the following questions:

1. What is the regional enrollment trend of BSBA programs from 2019-2024 along the 3 majors?
2. What is the enrollment trend in the Business Administration program at Saint Michael College of Caraga for the past 5 years?
3. To what extent is the marketing campaign noticeable, allowing social media, print media, radio marketing, face-to-face marketing & referral and scholarship?
4. What marketing efforts from Saint Michael College of Caraga made them seriously consider enrolling in the Business Administration program?
5. What recommendations or interventions can be proposed for Saint Michael College of Caraga to improve the number of students enrolled in the Business Administration program?

THEORETICAL FRAMEWORK

This study draws on the Self-Regulated Learning (SRL) model (Bruso & Stefaniak, 2016), the Theory of Planned Behavior (TPB) (Ajzen, 1991), and Customer Relationship Management (CRM).

The TPB explains behavioral intention as a predictor of action, shaped by attitudes, subjective norms, and perceived behavioral control (Chung et al., 2018; Rijati, 2020). In the enrollment context, students' intentions to enroll are influenced by perceptions of institutional value, social influences, and perceived accessibility.

CRM emphasizes building long-term, profitable relationships with stakeholders through personalized engagement and systematic management of customer interactions. Rather than focusing solely on products, CRM prioritizes sustained relationships and service quality, enabling institutions to enhance student satisfaction, loyalty, and retention (Chen & Popovich, 2022; Rai, 2012; Debnath, 2023). Together, these frameworks guide how marketing strategies influence prospective students' decision-making and long-term institutional relationships.

Related Literature

Effective marketing has long been recognized as a critical determinant of institutional competitiveness and sustainability in higher education. Foundational work by Kotler and Goldgehn introduced an eight-step process for educational administrators to follow before committing resources to a marketing strategy. The steps include defining the institution's

mission, identifying key audiences and markets, conducting market research, segmenting the market, selecting target markets, establishing market position, developing the marketing mix (product, price, place, and promotion), and implementing and managing the marketing plan. Community colleges that attempt to cater to everyone often experience confusion about their goals; thus, focused positioning and interaction with various community groups improve institutional effectiveness and return on investment (Willey, 2023).

In this context, marketing is not only a business function but also an essential institutional activity that helps schools attract more students and promote their academic units. Effective marketing supports brand visibility and program awareness, particularly in specialized settings where the target audience differs from traditional markets. The integration of digital tools has become a key factor in how institutions build brand presence and communicate value (Melovic et al., 2020).

The increasing competition among public and private higher education institutions, combined with rising tuition costs and reduced government funding, has compelled universities to adopt market-oriented relationship management strategies. Institutions recognize that building strong relationships with stakeholders—especially students—enables them to navigate changing environments and sustain enrollment. Consequently, universities rely heavily on online communication platforms such as websites, email, and social media to maintain engagement with prospective students.

Central to these strategies is the marketing mix. The marketing mix is widely recognized as consisting of four elements: product, price, place (distribution), and promotion (Vasiljev, 2025). Often referred to as the “4P” framework, these components guide strategic planning and allow institutions to modify offerings to meet marketing goals. For services such as higher education, however, the traditional 4P framework requires expansion to address the experiential and relational nature of educational services. Studies emphasize that revisiting and improving the marketing mix ensures that strategies are tailored to program characteristics and the needs of target students, particularly in business management programs (Lukic et al., 2020). Simulation-based research further demonstrates that systematic and dynamic applications of the marketing mix influence enrollment outcomes and provide a foundation for more complex strategic modeling (Trinh et al., 2020).

Beyond structural strategy, service quality and institutional value significantly affect enrollment decisions. Research indicates that universities investing in infrastructural improvements, customer service excellence, and faculty qualifications create more appealing educational experiences. Market-driven programs, enhanced facilities, and consistent branding improve visibility and engagement with prospective students, resulting in increased enrollment (Brown, 2020). Similarly, institutions that align specialized programs with employment opportunities and deliver high-quality services observe stronger enrollment growth and institutional reputation (Sikalumbi et al., 2023).

Retention is also integral to sustainable enrollment. Marketing strategies must emphasize not only recruitment but also student support systems such as academic advising, mentorship, career services, and engagement initiatives. Highlighting these services reassures families and fosters a sense of belonging among students, thereby strengthening persistence and long-term success (Talbert et al., 2020).

Among the elements of the marketing mix, pricing remains a decisive factor in students' decision-making processes. Flexible tuition structures, scholarships, installment plans, and transparent communication of financial support reduce perceived financial barriers. Positioning tuition as an investment supported by quality education, career outcomes, and return on investment builds trust and encourages enrollment. Marketing campaigns that demonstrate affordability and value are particularly effective for diverse socioeconomic groups (Pohkrel et al., 2020; Claveria et al., 2021; Fredricks et al., 2022; Joshi et al., 2024).

Place or location likewise shapes institutional attractiveness. The accessibility, safety, and surrounding environment of a campus influence perceptions of convenience and support for learning. Marketing efforts that highlight modern facilities, green spaces, specialized laboratories, and community connections enhance institutional appeal. For online programs, flexibility and remote accessibility broaden reach. Moreover, place image—including institutional identity, reputation, and brand culture—functions as a differentiating factor that fosters a sense of belonging among prospective students (Dixit et al., 2020; Joshi, 2024).

Promotion has increasingly shifted toward digital platforms. Since the beginning of the 21st century, social media platforms such as Facebook and Instagram have transformed into multipurpose communication tools with extensive global reach (Agustini, 2021; Juhaidi, 2024). Educational institutions utilize these platforms to promote programs, increase interaction with prospective students and parents, and facilitate collaboration among stakeholders (Siminto et al., 2024). Social media also supports critical thinking, knowledge sharing, and academic engagement within higher education communities (Boateng & Amankwa, 2020; Gutiérrez, 2021).

Complementary digital promotional strategies—including targeted social media campaigns, search engine optimization, email marketing, and virtual events—enhance visibility and foster trust. The use of student ambassadors, alumni testimonials, and success stories strengthens credibility and demonstrates real-life outcomes. Institutions that effectively integrate information and communication technologies maintain continuous communication with prospective students and adapt more successfully to disruptions such as the COVID-19 pandemic (Joshi, 2024; Claveria et al., 2021; Lazanas et al., 2023).

Digital marketing tools further provide real-time engagement, measurable results, and personalized communication, enabling schools to run targeted campaigns and optimize interactions with families. These tools surpass traditional marketing approaches by offering data-driven decision-making capabilities and sustained stakeholder relationships (Maayah, 2024; Gordan et al., 2020).

Despite the prominence of digital strategies, traditional and experiential approaches remain valuable. Campus tours, open houses, and direct interactions allow families to

experience the institutional environment firsthand and build emotional connections with faculty and staff. Personalized tours and stakeholder engagement create positive impressions that significantly influence enrollment decisions (Newberry, 2011; SSATB, 2014; Claveria, 2021). Furthermore, word-of-mouth referrals from satisfied students, parents, and alumni serve as influential marketing channels, often outweighing formal promotional efforts (Neiberger, 2020; Newberry, 2021; Jessen & DiMartino, 2020).

Offline strategies such as brochures, banners, signage, and community engagement activities continue to enhance local visibility. Integrating experiential learning with promotional efforts provides practical exposure for students while simultaneously supporting institutional marketing objectives (Manajemen et al., 2024).

Overall, the literature consistently demonstrates that integrated, data-driven, and relationship-focused marketing strategies—encompassing the marketing mix, digital promotion, pricing transparency, institutional branding, stakeholder engagement, and service quality—are essential for attracting and retaining students. These approaches collectively support sustainable enrollment growth and provide a strategic foundation for institutions seeking competitiveness in contemporary higher education environments.

RESEARCH METHODS

Research Design

This study used a multi-method design integrating both quantitative and qualitative research methods to comprehensively analyze the effectiveness of marketing strategies in increasing enrollment for the Business Administration program at Saint Michael College of Caraga. Multi-method research uses multiple forms of qualitative or quantitative data (Mik-Meyer, 2020).

In the quantitative phase, a structured survey was distributed to prospective and current students, particularly first-year students, to gather data on their awareness and perceptions of the marketing campaigns. The survey assessed the extent to which the campaigns were noticeable across social media marketing, print media marketing, radio marketing, face-to-face marketing, referrals, and scholarships. Historical enrollment data for the past five years were obtained from the Registrar's Office to analyze trends in the number of enrollees. The Commission on Higher Education (CHED) also provided regional enrollment data to enable comparison between local trends at SMCC and broader regional patterns.

Descriptive and inferential statistical methods were used to analyze the survey responses and enrollment data, providing a clear picture of the impact of the current marketing strategies on student enrollment (Henk, 2020).

The qualitative phase involved focus group discussions (FGDs) and in-depth interviews exclusively with BSBA students of SMCC. These discussions adopted a phenomenological approach, focusing on students' lived experiences and perceptions regarding the school's marketing efforts. Thematic analysis was applied to identify recurring patterns and contextualize the quantitative findings (Dawadi, 2020). Integrating both methods provided a well-rounded understanding of the issue and allowed validation of results (Vivek et al., 2021).

Context and Participants

The study was conducted from December 2024 to January 2025 at Saint Michael College of Caraga, specifically within the College of Business and Management, and focused only on BSBA students. Saint Michael College of Caraga (SMCC) is a private Roman Catholic educational institution in Nasipit, Agusan del Norte, Philippines, established in 1948 by the Missionaries of the Sacred Heart. The institution provides quality education rooted in Catholic values and holistic student development.

A proportionate sampling strategy was used to ensure that the sample accurately represented the different student subgroups. Proportionate sampling selects participants based on subgroup size to ensure fair representation and improve reliability. From a total population of 356 students, 107 respondents were selected: 64 from BSBA-FM, 28 from BSBA-MM, and 15 from BSBA-HRM. Additionally, 12 participants were included in interviews and FGDs to provide deeper qualitative insights. Combining proportionate sampling for surveys with qualitative discussions enhanced the comprehensiveness of the study.

Ethical Standards

Specific ethical considerations were addressed due to the study's use of human participation. Permission, confidentiality, and data protection were ensured to preserve participants' privacy. Participants were provided with an informed consent form explaining the study's title, purpose, procedures, risks, and benefits, and were allowed to decide voluntarily whether to participate.

All participant information and collected data were kept strictly confidential. Data were secured in lockable file cabinets and on encrypted, password-protected computers. All acquired data were disposed of two years after the research period. Printed copies were shredded, and digital files were destroyed. Participation proceeded only after signing the certificate of consent.

Data Collection and Tools

The study employed both primary and secondary data collection methods. Two validated researcher-made instruments were utilized: a survey questionnaire and an interview guide. The survey gathered information about experiences with SMCC marketing

strategies, while the interview guide identified barriers to enrollment and informed the proposed intervention program.

The instruments were validated by five experts and pilot-tested among 15 students not included in the main sample. Reliability testing yielded a coefficient of 0.91, indicating high reliability. Descriptive statistics and mean scores were used to analyze the data, interpreted through a 4-point Likert scale ranging from strongly disagree to strongly agree.

The data-gathering procedure included preparation, survey distribution, documentary analysis, and data integration. Enrollment records were obtained from the Registrar's Office, and CHED regional data were collected for comparison. FGDs provided in-depth insights into perceptions and enrollment decisions. Documentary analysis identified patterns related to marketing campaigns. Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data underwent thematic analysis. Findings from both methods were integrated to provide a comprehensive understanding of the overall impact of marketing strategies on enrollment.

RESULTS AND DISCUSSION

Problem 1. What is the regional enrollment trend of BSBA programs from 2019-2024 along the 3 majors?



Figure 1. Regional Enrollment Trends for Five Consecutive Years

The data provided by the CHED CARAGA regional office offers valuable insights into the regional trends of enrollment across three key programs: Financial Management (FM), Marketing Management (MM), and Human Resource Management (HRM). The regional enrollment trends of BSBA programs in Caraga from AY 2019–2024 reveal a steady increase in student interest across the three majors, indicating that business education remains a consistently attractive field within the region.

Among these programs, Financial Management consistently recorded the highest number of enrollees. Beginning with 5,246 in AY 2019–2020, enrollment steadily increased to 6,862 in AY 2021–2022 and peaked at 7,444 in AY 2022–2023 before slightly declining to 7,212 in AY 2023–2024. Despite this minor decline, FM maintained an average annual growth rate of 8.64%, reinforcing its position as the most preferred specialization. This sustained dominance suggests that finance-related careers continue to be perceived as stable, profitable, and professionally rewarding. Students often associate the field with clearer employment pathways, stronger compensation prospects, and long-term security, which traditionally drive enrollment decisions in business programs.

However, the slight decrease in the most recent academic year signals that program popularity is not immune to external pressures. Market saturation, changing economic conditions, and evolving technological demands such as fintech integration may be influencing student perceptions. The decline suggests that even established programs require continuous innovation and curricular relevance to sustain growth.

Marketing Management exhibited a positive yet fluctuating pattern. Enrollment rose from 2,786 to 4,039 before declining to 3,635. This trajectory reflects both growth and volatility, consistent with the rapid transformation occurring within the marketing profession. As digital marketing, e-commerce, and analytics reshape the discipline (Kong et al., 2020), students increasingly evaluate whether academic programs align with these emerging competencies. The fluctuation therefore may not indicate waning interest but rather sensitivity to perceived curricular responsiveness to industry demands.

In contrast, HRM demonstrated the strongest relative growth. Although it had the lowest absolute numbers, it recorded the highest average annual growth rate at 17.24%, increasing steadily from 939 to 1,764 without any observed decline. This uninterrupted upward trajectory reflects growing recognition of the strategic importance of human capital management. Modern organizations increasingly prioritize talent development, organizational behavior, and workforce sustainability, thereby elevating HRM as a viable and expanding career pathway.

Taken together, the regional data reflect differentiated specialization trajectories: FM as dominant but stabilizing, MM as responsive to industry shifts, and HRM as rapidly emerging. These findings underscore that enrollment behavior mirrors broader labor market signals and that institutions must continually adapt academic offerings to maintain competitiveness.

Problem 2. What is the enrollment trend in the Business Administration program at Saint Michael College of Caraga for the past 5 years?

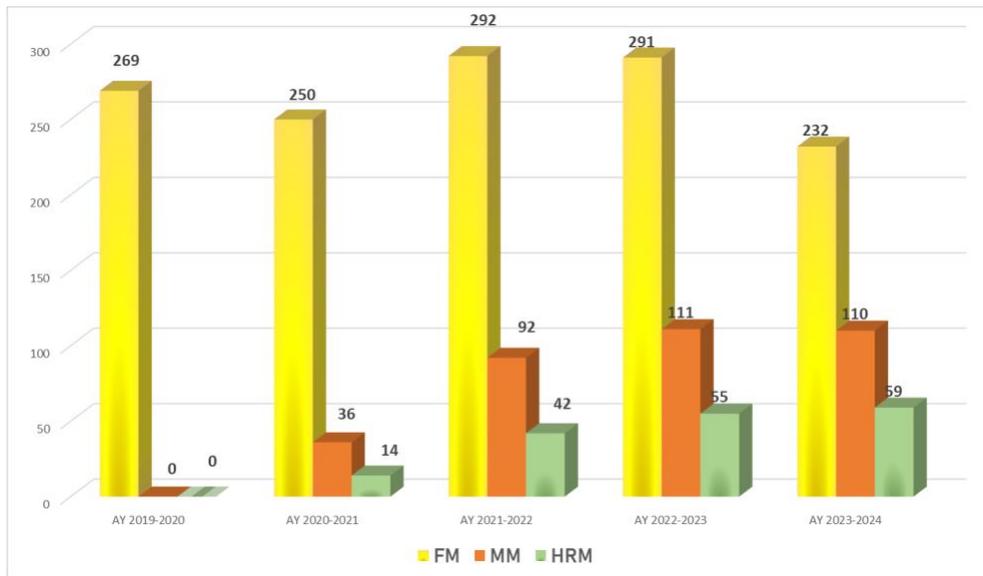


Figure 2. SMCC- BSBA Enrollment Trends for 5 years

Institutional data from SMCC reveal enrollment patterns that closely parallel the regional trends. Financial Management initially dominated enrollment, particularly in AY 2019–2020 when it was the only available specialization. However, following the introduction of MM and HRM, student distribution diversified across the three majors.

FM enrollment, while historically highest, exhibited gradual decline in recent years, decreasing from its peak of 292 to 232. This mirrors the regional softening trend and suggests that students are diversifying their academic interests. Meanwhile, MM and HRM demonstrated consistent growth following their establishment. MM rapidly increased from 36 to 110 students, while HRM grew from 14 to 59.

The alignment between institutional and regional trends indicates that SMCC’s enrollment behavior is influenced more by macroeconomic and professional demand factors than by purely local institutional variables. This congruence suggests that students respond to perceived career viability rather than marketing exposure alone. Consequently, enrollment outcomes cannot be explained solely by promotional strategies but must be interpreted within the broader context of industry alignment.

Thus, SMCC’s program diversification appears strategically appropriate. The steady growth of MM and HRM confirms that expanding specialization options aligns with evolving student preferences and workforce realities. Programs that demonstrate clear career pathways and contemporary relevance are more likely to attract sustained interest.

Problem 3. To what extent is the marketing campaign noticeable across social media, print media, radio marketing, face-to-face marketing, and referral and scholarship strategies?

Table 1. Level of Noticeable Marketing Campaign in terms of Social Media

	As student of Saint Michael College of Caraga (SMCC);	Mean	Verbal Description	Verbal Interpretation
1	I noticed the advertisements about the institution on social media platforms such as Facebook, Instagram, Youtube or SMCC pages.	3.43	Strongly Agree	High
2	I recall sponsored ads or promotions from the institution on social media.	2.80	Agree	Moderate
3	I perceive the influence of social media campaigns on the institution.	3.22	Agree	Moderate
4	My perception of the institution based on social media content shared by alumni, students, or staff.	3.11	Agree	Moderate
5	Influence of social media interactions (likes, comments, shares) on my decision to consider or recommend the institution.	3.11	Agree	Moderate
	Mean	3.13	Agree	Moderate

Social media marketing yielded a moderate overall visibility ($M = 3.13$), indicating that while students recognize SMCC's online presence, its influence is not yet optimal. Organic exposure appears effective, as evidenced by the highest score for general advertisement visibility (3.43). However, recall of sponsored promotions registered the lowest rating (2.80), suggesting limited memorability of paid digital campaigns.

These findings imply that reach exists but conversion strength remains moderate. Students engage with institutional posts but may not perceive sufficient persuasive or differentiating value to strongly influence decision-making. The pattern is consistent with higher education marketing literature showing that peer-driven content, alumni narratives, and interactive engagement tend to outperform passive advertising (Cai et al., 2020). Thus, strengthening storytelling, video-based content, and authentic student testimonials may improve both recall and behavioral impact.

Overall, social media functions as an awareness tool rather than a decisive enrollment driver.

Table 2. Level of Noticeable Marketing Campaign in terms of Print Media

	As student of Saint Michael College of Caraga (SMCC);	Mean	Verbal Description	Verbal Interpretation
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1	I noticed flyers, brochures, or posters distributed by the institution.	2.93	Agree	Moderate
2	I noticed posters or banners about the institution are in public places.	3.37	Strongly Agree	High
3	I notice magazine or newspaper advertisements about the institution.	2.91	Agree	Moderate
4	The design and content of the institution's printed materials are appealing.	3.09	Agree	Moderate
5	I recall specific print materials from the institution.	3.02	Agree	Moderate
	Mean	3.10	Agree	Moderate

Print media demonstrated moderate effectiveness ($M = 3.10$). High visibility of posters and banners in public spaces (3.37) indicates that location-based exposure remains functional, particularly in high-traffic areas. However, traditional formats such as newspapers and magazines showed weaker impact (2.91), reflecting declining readership and reduced relevance among digitally oriented students.

While students notice printed materials, recall and persuasion are limited. This suggests that print serves primarily as supplementary reinforcement rather than a primary recruitment mechanism. Literature supports this trend, emphasizing that contemporary student populations prioritize digital channels while print performs best when integrated into multi-channel strategies (McCune & Denny, 2021; Hernandez & Jones, 2020).

Accordingly, print marketing remains useful for visibility but insufficient as a standalone driver of enrollment decisions.

Table 3. Level of Noticeable Marketing Campaign in terms of Radio Marketing

	As student of Saint Michael College of Caraga (SMCC);	Mean	Verbal Description	Verbal Interpretation
1	I notice advertisements for the institution on local radio stations.	3.50	Strongly Agree	High
2	The frequency of radio ads makes the institution's campaigns noticeable to me.	3.43	Strongly Agree	High
3	I recall specific messages or slogans from the institution's radio campaigns.	3.15	Agree	Moderate
4	The radio ads influence my awareness of the institution's events or programs.	3.54	Strongly Agree	High

5	The radio endorsements or mentions make the institution noticeable to me.	3.50	Strongly Agree	High
Mean		3.42	Strongly Agree	High

Radio marketing recorded high noticeability ($M = 3.42$), positioning it among the most effective channels. Students strongly agreed that radio increases awareness of institutional activities, particularly events and programs (3.54). Frequent exposure through the institution's own station appears to sustain consistent recall and visibility.

The only moderate score concerned message retention (3.15), suggesting that while radio captures attention, slogans or detailed content may not be sufficiently memorable. Nonetheless, the medium effectively fulfills its core purpose—awareness generation.

These findings align with studies showing that radio remains influential in local communities, especially in regional settings where broadcast reach is extensive (Karakaya & Aydın, 2021; Sharma & Singh, 2020). For SMCC, radio functions as a reliable mass-communication channel that reinforces institutional presence beyond campus.

Thus, radio serves as a strong awareness amplifier but may benefit from more distinctive messaging.

Table 4. Level of Noticeable Marketing Campaign in terms of Face-to-Face Marketing

	As student of Saint Michael College of Caraga (SMCC);	Mean	Verbal Description	Verbal Interpretation
1	I notice representatives of the institution during school visits or events.	3.30	Strongly Agree	High
2	The institution's face-to-face campaigns at fairs, exhibits, or seminars stand out.	3.33	Strongly Agree	High
3	The personal interactions with the institution's staff or students raise awareness of its offerings.	3.26	Strongly Agree	High
4	Face-to-face promotions make the institution more noticeable than other methods.	3.20	Agree	Moderate
5	Direct communication during face-to-face campaigns leaves a lasting impression.	3.22	Agree	Moderate
Mean		3.30	Strongly Agree	High

Face-to-face strategies showed high effectiveness ($M = 3.30$), reflecting the strong persuasive value of personal interaction. School visits, fairs, and advocacy campaigns

generated high visibility and immediate engagement. Students particularly recognized event-based promotions as distinctive and attention-grabbing.

Although students did not always perceive these methods as superior to all others (3.20), interpersonal contact clearly enhances trust, credibility, and information clarity. Direct communication allows questions to be addressed immediately, reducing uncertainty in enrollment decisions.

These outcomes corroborate research emphasizing that relational marketing strengthens institutional attachment and decision confidence (Gifford & Groening, 2021; Bennett & Darcy, 2020). In higher education contexts, personal interaction often exerts stronger influence than passive media.

Therefore, face-to-face marketing remains a critical conversion-oriented strategy.

Table 5. Level of Noticeable Marketing Campaign in terms of Referral and Scholarship

	As student of Saint Michael College of Caraga (SMCC);	Mean	Verbal Description	Verbal Interpretation
1	I notice scholarship offers through referrals from friends, family, or alumni.	3.59	Strongly Agree	High
2	Promoting scholarship opportunities is noticeable to me.	3.43	Strongly Agree	High
3	The institution's referral program creates awareness about its programs.	3.37	Strongly Agree	High
4	The referrals from trusted individuals make me aware of the institution.	3.37	Strongly Agree	High
5	The scholarship advertisements make the institution stand out in my consideration.	3.46	Strongly Agree	High
	Mean	3.44	Strongly Agree	High

Referral and scholarship marketing emerged as the most influential strategy (M = 3.44). Word-of-mouth from trusted individuals and visible financial support strongly affected awareness and consideration. Scholarship offers through personal networks achieved the highest rating (3.59), indicating that credibility and affordability are decisive enrollment factors.

Unlike other channels that primarily generate exposure, referral-based approaches directly affect choice behavior. Students tend to trust peers, alumni, and family members more than institutional advertising. Likewise, financial incentives reduce perceived barriers, increasing the likelihood of commitment.

This aligns with evidence that word-of-mouth and scholarship accessibility are among the strongest predictors of higher education enrollment (Perkins & MacDonald, 2021; Grove & Pomerantz, 2020). Hence, referral and scholarship programs function as both awareness and conversion mechanisms.

Table 6. Summary for the Level of Noticeable Marketing Campaign

Indicators	Mean	Verbal Description	Verbal Interpretation
Social Media	3.13	Agree	Moderate
Print Media	3.10	Agree	Moderate
Radio Marketing	3.42	Strongly Agree	High
Face-to-face Marketing	3.30	Strongly Agree	High
Referral and Scholarship	3.44	Strongly Agree	High
Mean	3.27	Strongly Agree	High

Overall marketing visibility is high ($M = 3.27$), but effectiveness varies by channel. Referral and scholarship strategies exert the strongest influence, followed by radio and face-to-face efforts. Social media and print contribute moderate support but are less persuasive.

The pattern indicates that trust-based and interpersonal mechanisms outperform passive or broadcast media. Students respond more strongly to personal endorsements, financial incentives, and direct interaction than to traditional or purely digital advertisements. Contemporary marketing research similarly notes the rising dominance of experiential, relational, and video-driven approaches over static print formats (Education Dynamics, 2025).

Consequently, SMCC's most impactful strategies are those that combine credibility, accessibility, and personal engagement rather than mere exposure. Strengthening these high-performing channels while refining digital and print tactics would likely optimize recruitment outcomes.

Problem 4. What marketing efforts from Saint Michael College of Caraga made them seriously consider enrolling in the Business Administration program?

Table 7. Marketing Efforts Made

Theme	Sub-theme	Verbatim Responses
Print Media facilities and resources	on-campus Visibility of Programs	R2. "You can also see that there are tarpaulins and posters, it's obvious at Buenascar. They ensure that the message reaches a broader audience, including students and parents."

	Increased Outreach	<i>R5. "The signages that can be seen on the roads attracted me, such as major roads and public transport hubs, which increase awareness of SMCC's Programs."</i>
	Engagement via Printed Materials	<i>R8. "During the advocacy given by SMCC in our school, I received flyers and brochures with effective quotes like "Visit Our Campus". It encouraged me to visit and gave me a good experience, which made me realize that I am fit here."</i>
Social Media and Online Presence	Social Media Engagement	<i>R1. "They are very active on their Facebook page, since I'm not from Nasipit, but it reached my wall, and they are always in trend."</i>
	Reach Beyond Campus	<i>R3. "Very active in seminars/webinars, not just lectures in the classroom."</i>
	Trending Content	<i>R4. "They have outside school activities like educational tours."</i>
Referrals Testimonials and Success Stories	Alumni Success ;	<i>R7. "Featuring the alumni who have succeeded in the business field caught my attention since I knew that these programs are very flexible in terms of career opportunity."</i>
	Current Students' Testimonials	<i>R9. "During the advocacy made by SMCC, quotes from current students sharing their knowledge and experiences inspire me."</i>
Program Highlights and Offers	Practical Considerations	<i>R6. "SMCC is a school where many scholarships are available, and my desired course is also offered."</i>
	Diversity of Programs	<i>R11. "During the advocacy of SMCC, I realized that SMCC is very welcoming. They told us that "no one is left behind" because there are lots of opportunities, not just government scholarships but also for Student Scholar with zero school fees."</i>
	Unique Opportunities	<i>R12. "I have a friend who is an alumna of SMCC who told me that they are committed to holistic education and professional development such as OJT opportunities."</i>

Student responses demonstrate that enrollment decisions are shaped by a combination of physical visibility, digital engagement, peer validation, and program value propositions. Print materials—tarpaulins, signages, brochures, and advocacy flyers—serve as initial awareness mechanisms by positioning SMCC prominently in public spaces and schools. Strategic placement along transport hubs and community locations increases exposure and ensures repeated recall, reinforcing institutional presence among both students and parents. Such high-visibility tactics align with findings that traditional promotional materials remain effective for institutional recognition when distributed in high-traffic areas (Kasimbara et al., 2024).

Digital channels further extend this reach. Active social media engagement, particularly on Facebook, enables SMCC to connect with students beyond Nasipit, reducing geographical constraints and enhancing accessibility. Students report that online posts, seminars, webinars, and educational tours project dynamism and institutional relevance. These practices reflect contemporary recruitment patterns in which online storytelling and interactive content cultivate relatability and emotional connection (Puja, 2024; Martinez, 2021). Experiential elements—seminars and tours—also position the institution as practice-oriented rather than purely theoretical, supporting evidence that experiential engagement strengthens institutional appeal (Yaodum et al., 2024; Taylor, 2020).

Equally influential are referrals and testimonials. Alumni achievements and current student narratives function as social proof, validating program credibility and employability outcomes. This peer-driven messaging increases trust and reduces perceived enrollment risk, consistent with research indicating that testimonials are among the most persuasive higher education marketing tools (Six Degrees Digital Media, 2023; Education Dynamics, 2022).

Financial accessibility emerges as another decisive factor. Scholarship visibility reassures students that economic constraints will not hinder participation. Programs such as government subsidies and zero-fee options enhance perceived equity and inclusivity, reinforcing the institution's commitment to access. The strong salience of financial aid corresponds with evidence that cost mitigation strategies significantly influence college choice (Education Dynamics, 2022).

Collectively, the findings indicate that SMCC's effectiveness stems not from a single medium but from an integrated approach combining print, digital, testimonial, and financial messaging. This multi-channel alignment positions the institution as visible, credible, supportive, and career-oriented, consistent with current best practices in higher education marketing (Andersen, 2024).

Table 8. Marketing Strategies That Affect Decision The Most

Theme	Sub-theme	Verbatim Responses
Social Media Marketing: Engagement and Online Presence	Social Media Impact	R5. "I saw the SMCC Facebook page and was impressed by the student success stories and campus life. It made me feel like I'd belong there."
	Campus Life Shared Online	R8. "The institution's Facebook videos showcasing campus life, student activities, and academic programs made me excited to be part of the community. It felt welcoming and dynamic."
	Student Engagement	R10. "Seeing real students share their experiences on Instagram stories and YouTube vlogs made the school feel more relatable. It was inspiring to see how engaged and happy the students were."
Print Marketing: Brochures and Informational Materials	Informative Brochures	R3. "The brochure/ flyers I received during the advocacy gave me all the details I needed about the program. It helped me compare options and make a confident choice."
	Clear and Organized Materials	R5. "I liked how the printed materials were well-organized, with clear information about tuition, scholarships, and student services. It made everything easy to understand."
Referrals: Word-of-Mouth Recommendations	Alumni and Peer Influence	R1. "A friend who graduated from SMCC highly recommended it. Hearing about their positive experience convinced me to apply."
	Word-of-Mouth Encouragement	R2. "A friend who is currently enrolled kept talking about the hands-on projects and internship opportunities. Their excitement made me want to be part of this program too."
Scholarships: Financial Incentives and Opportunities	Scholarship Influence	R7. "The scholarship opportunity allowed me to pursue my degree here. Without it, I wouldn't have considered this institution."
	Financial Support Awareness	R9. "Seeing the actively promoted scholarships on their social media and even during the advocacy made me realize that financial support was available, which helped me decide to apply."

Students identify four primary decision drivers: digital engagement, informative print materials, peer referrals, and financial support. Social media fosters belongingness through authentic depictions of campus life and student experiences, strengthening emotional connection. Print materials complement this by delivering structured, decision-critical information such as tuition and scholarships. Referrals enhance credibility through trusted interpersonal sources, while scholarships directly reduce financial barriers.

These findings reinforce Newman's (2022) assertion that blended marketing strategies outperform single-channel approaches. Emotional appeal (social media), informational clarity (print), trust (referrals), and affordability (scholarships) collectively create a comprehensive decision framework that guides enrollment behavior.

Table 9. The Institution's Marketing Efforts That Addresses Concerns Or Questions About Enrolling In The Business Administration Program

Theme	Sub-theme	Verbatim Responses
Clarity on Career Opportunities and Program Outcomes	Career Path Clarity	R2. <i>"The university's website and brochures highlighted graduates who landed jobs at top companies. Seeing real success stories convinced me this program could open doors for me."</i> R4. <i>"The school provided clear information on career paths I could take after graduation, including marketing, finance, and human resource management roles. This made it easier to align my studies with my goals."</i>
	Leadership Preparation	R8. <i>"I appreciated that the marketing materials didn't just focus on academics but also highlighted how the program prepares students for leadership roles in business, giving me a clear vision of where this degree could take me."</i>
Financial Aid and Scholarship Support	Tuition Support	R7. <i>"I was hesitant about tuition costs, but the school's scholarship opportunities, which were well advertised on their website and flyers, made it possible for me to enroll."</i>
	Accessible Scholarships	R10. <i>"I was worried about tuition costs, but the institution's need-based scholarship made it affordable for me to pursue my Business Administration degree."</i>
Accessibility of Admissions and Enrollment Support	Clear Application Process	R6. <i>"I had a lot of questions about the application process, but during the advocacy, a detailed admission guide answered everything I needed to know."</i>
	Enrollment Guidance	R11. <i>"The step-by-step enrollment guide on the website was clear and easy to follow, so I didn't feel lost during the application process."</i>

Marketing efforts addressed three core concerns: employability, affordability, and procedural clarity. Career-focused messaging enhanced outcome expectations by presenting graduate success and defined pathways. Scholarship promotions mitigated financial anxiety. Structured admission guides simplified processes, reducing uncertainty. These functions collectively decrease perceived enrollment risk, consistent with findings that transparent career outcomes and financial support increase commitment to enrollment (Education Marketing Strategies, 2024).

Table 10. Improvements Suggested To The Current Marketing Strategies To Attract Prospective Students To The Business Administration Program?

Theme	Sub-theme	Verbatim Responses
Targeted Recruitment for Student-Athletes: Business and Sports Synergy	Sports Business Opportunities	R5. "As an athlete, I wanted to study business but wasn't sure if I could balance both. If they had implemented sports business opportunities and flexible class schedules would have helped me decide sooner."
Business-Sponsored Scholars: Corporate Partnerships for Student Sponsorships	Sponsored Studies and Job Opportunities	R3. "Knowing that a company would sponsor my studies and provide a guaranteed job after graduation would have made my choice much easier."
	Informational Outreach on Scholarships and Job Placements	R6. "Regularly post about internships, scholarships, job placements, and networking events to keep students informed."
Expanding Alumni and Corporate Mentorship Programs	Alumni and Corporate Involvement	R7. "Hearing from successful alumni who got scholarships or were recruited through incentive programs would have helped me see the long-term value of the business degree."
	Career Advice and Panel Discussions	R9. "Collaborate with business professionals and alumni for career advice videos or panel discussions."
Strengthening Networking Opportunities Through Sponsored Outside School Events	External Event Outreach	R2. "Highlight student experiences, internship journeys, and industry connections to give an authentic perspective."
	Event Sponsorship and Networking	R10. "During external events, SMCC must sponsor; they can showcase their programs to a broad audience, including prospective students and their parents."

Students recommend enhancements centered on specialization, employability, mentorship, and experiential visibility. Leveraging athletic success to attract student-athletes, expanding corporate sponsorships, and strengthening alumni mentorship can differentiate SMCC competitively. Research indicates that sports achievements,

mentorship networks, and interactive digital storytelling significantly increase applications and engagement (Pope, 2021; Education Marketing Solutions, 2022; Further Team, 2023).

Overall, SMCC's marketing effectiveness derives from an integrated, multi-channel strategy combining visibility, authenticity, trust, financial accessibility, and career relevance. Maintaining and refining this ecosystem—rather than prioritizing a single channel—will likely sustain and enhance Business Administration enrollment (Unibuddy, 2025).

RECOMMENDATION

Based on the findings of the study, the researcher recommends the following:

1. SMCC Administration can utilize these recommendations to refine enrollment strategies, improve student recruitment, and allocate resources efficiently to maximize results.
2. Marketing and Admissions Team will benefit from a well-structured marketing plan that combines digital, traditional, and in-person engagement to attract and retain students effectively.
3. Prospective Students and Parents will have better access to information about programs, financial aid, and career opportunities, allowing them to make informed decisions about their education.
4. Faculty and Program Developers can align curricula with industry demands by introducing relevant specializations and enhancing internship opportunities to improve student employability.
5. Alumni Network can actively participate in student recruitment through mentorship and referral programs, strengthening their connection with SMCC while boosting its credibility.
6. Local Businesses and Industry Partners will benefit from stronger collaboration with SMCC, gaining access to well-trained students and future employees through internships and mentorship programs.
7. Other Developing Schools can use these insights as a model for improving their own enrollment strategies. Other institutions working on growth can adopt similar marketing approaches, industry partnerships, and student engagement strategies to enhance their competitiveness and student recruitment.
8. Future Researchers are encouraged to explore similar studies in a broader scope, possibly involving a larger population or multiple institutions to enhance the generalizability of the findings. Furthermore, replicating the study in different contexts or regions may provide comparative data that can enrich the field of inquiry. It is also recommended that future researchers utilize advanced data analysis tools to ensure more accurate interpretation of results.

CONCLUSION

The findings of the study indicate that both regional and institutional enrollment trends in Bachelor of Science in Business Administration (BSBA) programs from 2019 to 2024 demonstrate an overall positive trajectory, reflecting sustained student interest in business education, particularly in Financial Management due to its broad and diverse career opportunities. Although the COVID-19 pandemic caused a temporary decline in enrollments during the 2020–2021 academic year at both the regional and institutional levels, the subsequent recovery beginning in 2022 highlights the resilience of the sector and the effectiveness of strategic institutional responses. This rebound was supported by targeted interventions, including scholarship provisions and expanded digital marketing initiatives, which helped restore student confidence and accessibility to higher education.

The study further establishes that marketing channels vary in their relative influence on student decision-making. Digital marketing, especially through Facebook and related platforms, serves as a moderately effective medium for information dissemination and engagement; however, traditional and interpersonal approaches—including radio promotions, face-to-face interactions, referrals, and scholarship awareness—exert stronger influence on enrollment decisions. These findings underscore the continued importance of personalized and community-based communication strategies alongside digital outreach. Among the various efforts, consistent social media campaigns, positive alumni and student testimonials, and visible scholarship opportunities emerged as the most effective drivers of institutional appeal. SMCC’s established reputation and active community presence further strengthened these efforts, demonstrating that a multi-channel strategy integrating digital, personal, and referral-based marketing is most effective for attracting prospective students.

In light of these results, enhancing social media engagement, broadening scholarship programs, strengthening partnerships with senior high schools, improving radio outreach, and implementing student ambassador initiatives are recommended to expand recruitment reach. Moreover, the adoption of data-driven mechanisms such as enrollment dashboards may support continuous monitoring and evidence-based refinement of marketing strategies. Collectively, these measures position SMCC to sustain enrollment growth and remain responsive to evolving student preferences and market demands.

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THE RISING TIDE OF FINANCIAL CRIME- PONZI SCHEME: A PROFILE ANALYSIS OF VICTIMS

PIXY CAMILLE B. SOTES

Saint Michael College Of Caraga

pexydust@gmail.com

<https://orcid.org/0009-0006-4930-1893>

JAYMARK JANIA

Saint Michael College Of Caraga

jaymarkjania5@gmail.com

<https://orcid.org/0009-0000-1946-9720>

ERICA MARIE B. POLO

Saint Michael College Of Caraga

e1705468@gmail.com

<https://orcid.org/0009-0009-0612-9730>

JILL M. MESA

Saint Michael College Of Caraga

jillmesa@smccnasipit.edu.ph

<https://orcid.org/0000-0003-3819-8334>

ABSTRACT

Financial crime in the form of Ponzi schemes continues to pose significant socioeconomic and psychological consequences, particularly in developing communities where trust-based networks strongly influence investment decisions. This study examined the demographic profiles, contributory factors, and lived experiences of Ponzi scheme victims in Barangay Santa Ana, Nasipit, Agusan del Norte, Philippines. Anchored on Greenspan's Theory of Gullibility, the research employed a qualitative descriptive design. Fifteen victims were selected through purposive sampling and participated in semi-structured face-to-face interviews. Data were transcribed, translated, and analyzed using

thematic analysis supported by NVivo 14. Findings revealed that victimization transcended age, gender, educational attainment, and income levels, indicating that demographic variables alone do not sufficiently explain fraud susceptibility. Three primary factors influenced participation: testimonial persuasion within kinship and community networks, enticement of unusually high financial returns, and limited financial literacy. The consequences of victimization were categorized into three overarching themes: incapacitated financial situation, emotional and mental disturbance, and positive reframing. Participants experienced prolonged indebtedness, insomnia, guilt, and loss of institutional trust; however, many demonstrated resilience through cognitive reframing and work-centered coping strategies. The study contributes to the limited Philippine-based literature on Ponzi scheme victimization by foregrounding victims' perspectives and emphasizing the interaction between relational trust and psychological vulnerability. The findings underscore the necessity of community-level financial literacy programs, strengthened regulatory enforcement, and psychosocial support mechanisms to mitigate recurring fraud victimization.

KEYWORDS

Ponzi Scheme, Investment Fraud, Fraud Awareness, Scam Prevention, Investor Behavior
And Victim Vulnerability

INTRODUCTION

Background

Ponzi schemes are deceptive investment schemes in which the investments made by subsequent investors fund profits for earlier investors. Individuals can become involved in Ponzi schemes without the need for aggressive persuasion, provided that the instigator can establish an appearance of trustworthiness, often relying on their personality and charm.

Financial crime, particularly in the form of Ponzi schemes, has emerged as a global concern with severe consequences for individuals and economies alike. The challenges in accurately gauging the scope of such criminal activities complicate the task of addressing them effectively. These schemes are not restricted by geography, affecting nations of all sizes and industries, from small local businesses to multinational corporations. The repercussions of Ponzi schemes extend beyond the immediate victims, often leading to financial ruin for a broader array of stakeholders, including investors, creditors, employees, and even customers (Nanda et al., 2019).

This research study aims to explore Ponzi schemes through the lens of victims, assessing their demographic profile, contributing factors, and their effects. Currently, limited research in the Philippines delves into Ponzi schemes from the victims' viewpoint. Consequently, this study will make a valuable contribution to the existing body of knowledge by bridging this research gap, marking a pioneering effort of its kind.

The future findings of this research could benefit a range of stakeholders, including investors, investing companies, law enforcement agencies, the general public, students, and future researchers. The study's outcomes could be valuable for investors, helping them recognize and avoid the growing threat of investment scams. Investing companies stand to gain insights into the nature of investment scams, their potential impact on their operations, eroding investor trust, and strategies to mitigate such risks. This research sheds light on susceptibility to scams, providing awareness to the public aligned to the victim's perspective encountering a fraudulent investment offer and to any law enforcement agencies in formulating more laws and policies regarding this fraud. Students, mainly those studying criminology, can play a pivotal role in disseminating knowledge and the research's findings to contribute to the gradual reduction of scam victimization in the future. Additionally, the research findings can serve as a valuable resource for future researchers, offering essential insights for identifying related issues and conducting their studies.

Objectives of the Study/Statement of the problem

This study aimed to discover diverse life experiences and identify recurring patterns and aspects within the profiles of victims of financial crimes, particularly those involving Ponzi Schemes. It was conducted in Sta. Ana, Nasipit, and Agusan del Norte from October 2023 to May 2024.

Specific Objectives

More specifically, this study has the following objectives:

- To determine the demographic profiles of victims of the Ponzi scheme;
 - a. age;
 - b. gender; and
 - c. educational attainment
- To comprehensively discover the factors that contribute to the experiences of individuals impacted by a Ponzi scheme; and
- To determine the effects on the lives of the individuals being victimized by a Ponzi scheme.

THEORETICAL FRAMEWORK

The Theory of Gullibility (Greenspan, 2009) is central to understanding why individuals fall victim to Ponzi schemes. Gullibility, characterized by a lack of skepticism and discernment, involves trusting others despite indications that they may not have the best intentions. Fraudulent schemes aim to deceive individuals until they suffer losses. The concept of gullibility to elucidate the effectiveness of Ponzi schemes, suggesting that four key factors played a role in their success. As Greenspan (2009) stated, four factors

contribute to victims' involvement in the Ponzi schemes: Gullibility Theory. These factors are situation, cognition, personality, and state of emotion. As per this theory, individuals who become victims often find themselves compelled to participate in the schemes when they observe others around them doing the same. It appears to signal to the victims that since others are already involved, it must be the correct thing to do.

The Theory of Gullibility provides a valuable framework for understanding how victims of Ponzi schemes become involved in these fraudulent activities. In the context of this study, the theory is applied to explore the factors that make individuals vulnerable to Ponzi schemes in the Philippines. Individuals who are socially isolated or under financial stress may be more likely to fall for Ponzi schemes due to emotional desperation or a need for quick financial relief. Additionally, the study will examine how cognitive factors, such as limited financial literacy or a lack of education, contribute to individuals' inability to recognize fraudulent schemes. Personality traits like optimism or impulsiveness may also play a role in individuals' decision-making processes, making them more likely to trust fraudulent investment opportunities without conducting proper research. Thus, it provides a comprehensive framework to understand the psychological and situational mechanisms that influence individuals' decisions to participate in Ponzi schemes. This theoretical approach will guide the study's investigation into the demographic profiles, contributing factors, and emotional responses of victims, offering insights into how these elements collectively lead to vulnerability to financial fraud.

Literature Review

A Ponzi scheme is a fraudulent investment tactic that attracts investors by promising unusually high returns while downplaying the associated risks (Wells, 2021). Initial investors receive payments from the funds invested by later participants, which is why individuals who join the scheme later often lose their entire investment when the system collapses. Moreover, Ponzi schemes typically aim first for well-regarded or influential community members. They will obtain substantial returns on their investment to endorse the project and motivate others to participate. All Ponzi schemes, however, tend to collapse. It occurs when recruiting new investors becomes challenging or when many request to withdraw their funds. This scheme requires a consistent flow of money from new investors and has little or no legitimate earnings. In terms of investor recovery, there are almost no cases in which all investors involved recovered 100 % of their investment. The average recovery rate is less than 40%.

Demographic Profile of Victims

The socio-demographic characteristics of victims of financial fraud encompass vital aspects such as age, gender, education, professional standing and financial literacy. In Age, Zunzunegui et al. (2017) indicated that individuals of various age groups, both young and old, could fall victim to fraud. However, recent studies conducted since 2013 have highlighted a prevalence of older individuals as victims. Meanwhile, in Gender, perpetrators typically do not target a specific gender; everyone is susceptible, yet Cheng (2016) discovered that females were predominant among victims of financial schemes, likely because women

often handle their family's financial matters. Lastly, in Educational Background, Education is perceived as a determinant influencing vulnerability and the ability to become a victim. People often utilize the skills acquired through formal education in decision-making, even in areas lacking expertise. Likewise, studies have shown vulnerability decreases as education and income levels rise (Lee & Soberon-Ferrer, 2017).

Factors of Falling into the Ponzi Scheme

The primary psychological factors contributing to the susceptibility to fraud involve gullibility, risk tolerance, self-control levels, prior knowledge of financial matters, personality traits, and the ability to differentiate between true and false information (Frankel, 2015). In the gullibility theory, the first factor is the situation, representing external influences that drive victims to engage in Ponzi schemes. This circumstance is characterized by excessive trust in response to social and situational pressures on individuals (Button et al., 2019). People are often easily swayed by those around them, particularly family and friends, and breaking off relationships becomes challenging once a personal connection is established. On the other hand, according to (Jacobs and Schain, 2016), Cognition refers to individuals with lower intelligence or education levels who fail to apply their intellect when making decisions. As a result, individuals with limited investment knowledge, influenced by various factors, may decide to participate in investments without a thorough understanding.

Moreover, Personality as to where placing excessive trust in others can be viewed as interpersonal behaviour involving a reliance on trust. Similarly, a risky and impulsive personality can lead to gullible actions, particularly when investors become overly confident in their interactions (Greenspan & Woods, 2016). As stated by Yamagishi & Kikuchi (2016) stated that risk-takers may inadvertently become potential victims, challenging themselves within the belief of "high risk, high return". It reveals that investors exhibit prudence and are less prone to gullibility when they place significant trust. Furthermore, State of Emotion denotes the final component of the gullibility theory. It serves as the driving force for individuals seeking financial gain through participation in schemes like Ponzi schemes (Amoah, 2018). Such individuals often display greed and an urgent desire to accumulate wealth rapidly (Tennant, 2018). American studies reveal that those driven by eagerness and greed believe certain investments will yield substantial profits. Characteristics associated with individuals motivated by greed and susceptible to gullibility include carelessness, lack of interest in current scam news, and a tendency to take risks. Scammers exploit this inclination by enticing future profit prospects, triggering investors' greed (Button et al., 2019).

Effects of Ponzi Scheme Victimization

The impact of Ponzi schemes on the individuals deceived is severe, with certain victims expressing a sense of violation comparable to experiencing sexual assault. The primary ramifications encompass financial, emotional, behavioural, and health dimensions, with additional repercussions observed in employment, family cohesion, and the business community (Espinosa, 2020). In Financial Impact, financial loss signifies that

victims were affected by financial losses to a greater extent because they have worked hard for their investments, which is not easy to recover. In addition, the Emotional Impact, according to (Yang et al., 2022) victimization has a devastating emotional effect on the victims. They experienced anger, sadness, distress, and embarrassment. Ponzi schemes have also been found to cause physical and mental health problems for their victims. Moreover, in Mental Health Impact, it is found out that victims suffered from major depressive disorder and generalized anxiety disorder. Also, the risk of suicidality and major depressive disorder increased when - the financial loss was significant, there was a decrease in the standard of living due to the fraud, and if the victim had a previous history of depression. Further, depression could be more severe and lengthier as compared to most reactive depressions (Kasim et al., 2020). Furthermore, in Social Impact, many Ponzi scheme victims, possibly driven by the fear of societal disapproval, tend to accept the blame assigned to them. The emotional aftermath for these victims involves feelings of self-blame, shame, and guilt. They worry about facing social condemnation, believing they are perceived as deserving of their misfortune due to their greed and lack of judgment.

RESEARCH METHODS

Research Design

This study employed a qualitative descriptive design to examine the lived experiences of Ponzi scheme victims in Barangay Santa Ana, Nasipit, Agusan del Norte. A qualitative approach was appropriate due to the exploratory nature of the inquiry and the sensitivity of financial fraud victimization (Clark & Braun, 2020).

Semi-structured face-to-face interviews served as the primary data collection method, allowing participants to narrate their experiences while enabling focused probing. Thematic analysis was used to systematically identify patterns across narratives (Flick, 2018). Interviews were audio-recorded, transcribed verbatim, translated into English where necessary, and analyzed using NVivo 14 to generate codes, subthemes, and overarching themes.

Purposive sampling was employed to select participants who had direct experience with Ponzi scheme victimization (Krathwohl, 1998). This ensured the inclusion of individuals capable of providing rich, experience-based insights relevant to the research objectives.

Context and Participants

The study was conducted in Barangay Santa Ana, Nasipit, Agusan del Norte, Philippines. Based on the 2020 Census, the barangay has a population of 2,810 residents, representing 6.27% of Nasipit's total population. The community primarily depends on fisheries and marine-based livelihoods due to its coastal location.

Fifteen participants who had experienced Ponzi scheme victimization were selected through purposive sampling. Eligibility required prior involvement in a Ponzi investment scheme and willingness to participate in an interview. The participants reported varying degrees of financial loss, including complete capital depletion, partial recovery, and loan-related indebtedness, providing diverse perspectives on the consequences of fraud.

Ethical Standards

Ethical compliance was strictly observed. Permission to conduct the study was obtained from the Barangay Captain of Santa Ana prior to data collection. Participation was voluntary, and informed consent was secured before interviews commenced. Participants were informed of their right to withdraw at any time.

The study adhered to Republic Act 10173 (Data Privacy Act of 2012) to ensure confidentiality and protection of personal information. Audio files and transcripts were securely stored and used solely for research purposes. Participants were assigned codes (e.g., Participant 1) to maintain anonymity. Academic integrity standards were also upheld throughout the research process.

Data Collection and Tools

Data were gathered using a semi-structured interview guide adapted from Amoah's (2018) framework on Ponzi scheme victimization. The instrument included two components: (1) demographic information and (2) experiential factors related to motivations and consequences of investment involvement, incorporating elements of the Theory of Gullibility (situational, cognitive, personality, and emotional state factors).

The data collection process involved securing permission, recruiting eligible participants, conducting interviews, and recording responses. Transcribed data were coded and analyzed through thematic analysis using NVivo 14, resulting in the identification of three major themes: (1) Incapacitated Financial Situation, (2) Emotional and Mentally Disturbed, and (3) Positive Reframing.

RESULTS AND DISCUSSION

1. The demographic profiles of victims of the Ponzi scheme in terms of age, gender; educational attainment, monthly income and amount invested.

Table 1. Demographic Profile of the Victims

Participant	Age	Gender	Educational Attainment	Monthly Income (PHP)	Total Amount Invested (PHP)
1	46	Female	College Graduate	27,000	140,000 (KAPA, FOREX, REGIME)
2	63	Female	High School Graduate	14,000	55,000 (FOREX, SERPAN)

Participant	Age	Gender	Educational Attainment	Monthly Income (PHP)	Total Amount Invested (PHP)
3	57	Female	Elementary Graduate	15,000	35,000 (KAPA)
4	53	Female	College Level	14,000	410,000 (KAPA)
5	36	Female	High School Level	3,000	1,000 (FOREX)
6	25	Male	College Graduate	Unemployed	10,000 (KAPA)
7	47	Male	College Graduate	7,800	70,000 (KAPA)
8	55	Male	College Graduate	84,000	5,000 (FOREX)
9	54	Female	High School Graduate	15,000	35,000 (KAPA, FOREX, EVER ARM)
10	37	Female	College Graduate	60,000	120,000 (KAPA, REGIME)
11	59	Female	High School Level	6,000	5,000 (FOREX)
12	66	Male	High School Graduate	20,000	200,000 (KAPA)
13	55	Male	High School Graduate	12,000	30,000 (FOREX)
14	55	Female	High School Level	16,000	5,000 (FOREX)
15	36	Female	Vocational Graduate	10,000	5,000 (FOREX)

Table 1 presents the age, gender, educational attainment, and monthly income of the 15 Ponzi scheme victims from Barangay Sta. Ana, Nasipit, Agusan del Norte. The demographic composition reveals heterogeneity across all variables, indicating that victimization was not restricted to a singular demographic group. Instead, the profile reflects a cross-section of community members, reinforcing the multidimensional nature of fraud vulnerability.

Age Distribution

The participants ranged from 25 to 66 years old, with the majority clustered in midlife and older adulthood (46 years and above). This age distribution is consistent with international research identifying older adults as disproportionately represented among fraud victims (Zunzunegui et al., 2017). Rosse et al. (2018) further argue that older individuals may be perceived as attractive targets due to accumulated assets and financial stability, factors that increase potential yield for perpetrators.

However, the presence of a 25-year-old victim indicates that susceptibility transcends age categories. Rather than chronological age alone, vulnerability may be influenced by situational exposure, financial aspirations, and social persuasion. In line with

the Theory of Gullibility (Greenspan, 2009), age may interact with emotional states and social contexts, particularly when individuals observe peers participating in investment schemes. Thus, while older adults appear prominently in Table 1, the data support a non-deterministic interpretation of age-related risk.

Gender Composition

Of the 15 participants, 10 were female and five were male. The predominance of female participants aligns with Cheng's (2016) findings that women frequently appear among financial fraud victims, potentially due to their active role in household financial decision-making.

Nevertheless, literature presents mixed conclusions regarding gender susceptibility. Bolimos and Choo (2017) suggest that men may be more vulnerable to certain forms of financial fraud due to higher risk-taking tendencies, while Benson and Simpson (2015) emphasize that financial fraud is largely opportunistic and does not systematically target one gender over another. The gender distribution in Table 1 should therefore be interpreted cautiously. While women constituted the majority in this sample, the data do not substantiate a gender-exclusive vulnerability pattern. Instead, they reflect localized social dynamics in which trust-based recruitment may operate within family and community networks.

Educational Attainment

Educational attainment among participants varied considerably: five college graduates, one college-level, one vocational graduate, four high school graduates, three high school-level individuals, and one elementary graduate. Notably, individuals with tertiary education represented a substantial proportion of victims.

This finding challenges conventional assumptions that lower education levels directly predict fraud susceptibility. Kerley and Copes (2022) suggest that individuals with limited education may be at higher risk due to reduced capacity to critically evaluate financial information. Similarly, Lee and Soberon-Ferrer (2017) argue that vulnerability decreases as education and income levels increase. However, Table 1 demonstrates that higher educational attainment did not function as a protective barrier in this context.

The findings align more closely with Greenspan's (2009) conceptualization of gullibility, which emphasizes situational and emotional influences over purely cognitive determinants. Individuals with formal education may still be influenced by persuasive testimonials, social proof, and trust in community members. As Button et al. (2019) note, fraud victimization often involves misplaced trust rather than intellectual deficiency. Thus, educational attainment should not be treated as a sufficient safeguard against financial deception.

Monthly Income

Monthly income among participants ranged from unemployment and ₱3,000 to ₱84,000, indicating representation across low-, middle-, and relatively higher-income brackets. This variability supports Tennant's (2018) observation that Ponzi schemes attract participants across socioeconomic strata, particularly when framed as opportunities for rapid wealth accumulation.

The diversity in income levels suggests that participation was not confined to economically marginalized individuals. Rather, the scheme appears to have appealed broadly, likely due to promises of high returns and minimal risk—characteristics identified as common red flags in fraudulent investments (Baker & Puttonen, 2017). The willingness of individuals from varying income groups to participate underscores the influence of emotional drivers and perceived opportunity, elements central to the Gullibility Theory framework (Greenspan, 2009).

Integrated Interpretation

Collectively, Table 1 reveals that Ponzi scheme victimization in Sta. Ana cannot be reduced to a single demographic determinant. Age, gender, education, and income display significant variability, reinforcing the view that financial fraud operates through relational trust networks and persuasive mechanisms rather than strict demographic targeting.

The demographic diversity observed aligns with Button et al.'s (2019) assertion that fraud is not a victimless crime and that its impact cuts across social categories. Furthermore, the data support the theoretical anchoring of this study in the Theory of Gullibility, as situational pressures, emotional motivations, and trust dynamics appear to override traditional protective factors such as education and socioeconomic status.

In sum, Table 1 evidences that Ponzi scheme victimization in this locality reflects a convergence of demographic diversity and psychosocial vulnerability. These findings contribute to the limited Philippine-based literature on victim profiles and underscore the need for community-level financial literacy interventions that move beyond demographic stereotyping toward addressing relational and cognitive risk mechanisms

2. Factors of Falling into the Ponzi Scheme

The findings reveal that participants' involvement in the Ponzi scheme was shaped by relational trust, financial aspiration, and limited financial literacy. These dimensions did not operate independently; rather, they interacted dynamically in influencing decision-making. The table below shows the major factors that led to this schemes.

Table 2. *Summary of Themes and Subthemes on the Factors of Falling into the Ponzi Scheme*

Major Theme	Subthemes	Description
Persuaded Through Testimonials	Influence of family and relatives	Investment decisions were influenced by encouragement from trusted family members and close relatives who had already participated in the scheme.
	Community endorsement	Participation was reinforced by respected community members such as local officials, police officers, teachers, and other influential individuals who appeared to legitimize the investment.
	Trust-based recruitment	Decisions were grounded on interpersonal trust and familiarity rather than formal documentation or legal verification of the investment.
Enticement of Promising Gains	Promise of high returns	Participants were attracted by offers of unusually high interest rates and rapid financial growth within short periods.
	Risk-taking behavior	Individuals demonstrated willingness to engage in uncertain financial opportunities despite doubts or prior experiences of scams.
	Borrowing to invest	Some participants secured loans or used borrowed funds to increase their investment in anticipation of higher returns.
Limited Financial Knowledge	First-time investors	Participants lacked prior investment experience and demonstrated limited financial literacy regarding investment mechanisms.
	Overconfidence due to social proof	Confidence in the scheme increased after observing widespread community participation and initial payouts.
	Failure to verify legitimacy	Participants did not critically assess documentation, regulatory registration, or legal standing before investing.

The findings reveal that participants' involvement in the Ponzi scheme was shaped by relational trust, financial aspiration, and limited financial knowledge. These factors operated interactively rather than independently. Participants did not simply make impulsive financial decisions; instead, they moved through a process where skepticism was gradually weakened by testimonial persuasion, reinforced by early financial gains, and sustained by cognitive limitations in evaluating risk.

2.1 Persuaded Through Testimonials

The first theme underscores the centrality of interpersonal trust in shaping investment behavior. Decisions were embedded in kinship networks and social relationships where familiarity substituted for institutional verification.

Participant 8 shared:

(My wife's cousin got us involved, and I trusted him because we had a personal connection.)

Participant 1 similarly explained:

“My cousin, who is also a teacher, urged me to join because she had already tried it and received her payout. She wanted me to experience the same.”

These narratives illustrate how relational proximity functioned as a legitimacy mechanism. Rather than verifying documentation or regulatory registration, participants relied on emotional trust and shared identity. Lewis (2021) explains that social and situational pressures heighten trust when participation is normalized by familiar individuals. Trust, therefore, became a heuristic substitute for formal validation. Even when doubts were present, social conformity influenced participation.

Participant 7 admitted:

“I had doubts at first, but since many had already received payouts, I just went along because my cousins and neighbors were involved.”

The movement from hesitation to compliance demonstrates how testimonial reinforcement gradually neutralized skepticism. Community endorsement further amplified perceived credibility. The participation of authority figures created a socially constructed sense of legitimacy.

Participant 10 described:

“It was my husband’s coworker, a police officer. We trusted them because many police officers were investing. They assured us the money would return.”

Participant 4 reflected:

“Gi convince mi, wala pod mi ge pugos gi ganahan man pod mi sa storya... tanan barangay officials kami kuyoga...”
(We were convinced; no one forced us. All of us in the office joined together.)

The involvement of respected professionals reinforced perceived safety. Cross (2015) argues that fraud susceptibility is not prevented by professional status; instead, authority participation may strengthen collective confidence in illegitimate ventures. Notably, procedural irregularities were recognized but minimized.

Participant 7 observed:

“...mo butang lang kag kwarta, walay saktong documento. Niya tagaan rakag isa ka papel... Maong naka ingun gyud ko na wala gyud ni. Mi suway-suway nalang jod ko...”

(You just give money; there was no proper documentation. They just gave a piece of paper. I even thought something was wrong, but I still tried.)

Despite visible warning signs, interpersonal trust prevailed. Wilkins et al. (2018) emphasize that Ponzi schemes rely heavily on persuasion rooted in familiarity rather than aggressive coercion. Selective presentation of early payouts further reinforced credibility (Badua, 2020).

2.2 Enticement of Promising Gains

While trust initiated participation, financial aspiration sustained it. Participants consistently cited the attractiveness of a 30% return. Participant 3 explained:

“Ni ingon man gyud sila nga ‘ang imohang 20,000, 30% ang interest niya binuwan ang pay-out’.”

(They said ₱20,000 would earn 30% monthly interest.)

Participant 1 added:

“30% kuno ang makuha kada week... mas maayo lagi daw kay dali ra siya mo tubo...”

(They said we could get 30% weekly interest, much higher than usual returns.)

The promise of unusually high returns overshadowed conventional financial reasoning. Obayumi et al. (2018) identify unrealistic returns as a core motivational driver in Ponzi participation. Participants interpreted high yields as opportunity rather than anomaly. Early payouts intensified commitment. Participant 4 detailed:

“Kay tungod naka dawat na... mao to tung gi pangloan... Basta all in all 410,000 tanan...”

(After receiving payouts, I took loans. In total, I invested ₱410,000.)

This progression illustrates a reinforcement cycle in which initial success reduces perceived risk and encourages escalation (Button et al., 2019). Risk-taking tendencies also surfaced. Participant 2 and participant 14 admitted:

“...risk taker kay nidugang paman gani ko... Nagtapal na nuon kog 10,000.”
(*I’m a risk-taker; I even added more and ended up covering losses.*)

“...Maayo mo dalag storya maong baluk balik pod tag ka scam.”
(*They were persuasive, which is why we kept falling for scams.*)

Yamagishi et al. (2016) note that individuals with higher tolerance for uncertainty are more vulnerable to high-risk, high-return propositions. Here, aspirational financial thinking outweighed caution. Borrowing to invest marked the peak of financial exposure. As Participant 4 narrated:

“Ato ni loan ko ug first bali 80,000 unya ni loan na pod ko ug ANTCO 140,000... Ni loan pa jod ko ug CFI...”
(*I took a loan of ₱80,000, then ₱140,000, and another loan.*)

Escalation reflects how reinforcement and optimism reduced sensitivity to accumulating risk.

2.3 Limited Financial Knowledge

Underlying testimonial persuasion and financial enticement was limited financial literacy. Several participants openly described themselves as first-time investors. Participant 3 and Participant 8 added:

“Wala kog alamag sapag invest, mao pa toy pinaka una nako.”
(*I had no knowledge about investing; it was my first time.*)

“First time pa to nako... Mao bitaw tung ni invest ra kog 5000 ra...”
(*It was my first time; that’s why I only invested ₱5,000.*)

Limited understanding of investment mechanisms constrained participants’ ability to critically evaluate risk. Kadoya et al. (2021) found that lower financial literacy significantly increases vulnerability to fraud. Overconfidence was amplified by widespread participation. Participant 9 remarked:

“Pero wa gyud ko nagdahom nga scam jod to siya. Daghay nang-apil.”
(*I never anticipated it was a scam because many joined.*)

Participant 4 similarly believed the scheme was legitimate because payouts were consistent. Kircanski et al. (2016) suggest that confidence inflation in unfamiliar contexts signals cognitive vulnerability, especially when social proof replaces analytical scrutiny.

The verbatim narratives demonstrate a patterned trajectory. Participants began with mild skepticism, which was gradually neutralized by trusted testimonials. High promised returns intensified financial motivation. Early payouts reinforced belief in legitimacy. Limited financial knowledge restricted critical assessment. Escalation through additional investments or borrowing followed. Only after collapse did participants fully recognize the fraudulent nature of the scheme.

Importantly, vulnerability transcended educational and professional boundaries. Teachers, police officers, and other respected professionals were affected, reinforcing Cross's (2015) assertion that fraud susceptibility is socially mediated rather than strictly educationally determined.

The convergence of testimonial persuasion, financial enticement, and cognitive limitation explains how individuals transitioned from doubt to commitment. Preventive interventions must therefore address not only financial literacy but also trust-based recruitment structures embedded within community networks.

3. Effects of Ponzi Scheme Victimization

Table 3. *Summary of Themes and Subthemes on Effects of Ponzi Scheme Victimization*

Theme	Description
Incapacitated Financial Situation	Due to the scheme, it led to financial loss; with assets & funds and even has prolonged effect on their status
Emotional and Mentally Disturbed	Experience emotional & mental stress as they hold themselves responsible for what occurred.
Positive Reframing	Coping strategies that shifting away the negative situation in a more positive light

3.1 Incapacitated Financial Situation

By its very nature, investing typically involves taking on some risk, ranging from the risk of returns failing to keep pace with inflation to incurring losses on investment and even the entire investment (Kircanski et al., 2016). However, Ponzi scheme victimization extends beyond ordinary investment risk and produces catastrophic financial consequences. Victims suffered from financial losses and loss of employment, and their personal financial circumstances changed dramatically following contact with the fraudster. For several

participants, economic suffering escalated into prolonged indebtedness and near bankruptcy. The severity of financial incapacitation is evident in Participant 4's narrative:

"No, I was not able to recover anything. The ₱410,000 was the total amount I invested—it was everything. Yes, there was a time when I really struggled because I had taken out a CFI loan and invested it. It was only last year that I was able to fully pay off the loan. It was really difficult."

This statement illustrates complete capital loss (₱410,000), compounded by loan obligations. The financial burden was not temporary but extended over multiple years, demonstrating how Ponzi victimization restructures household economic stability. The inability to recover principal investment further intensified hardship. Similarly, Participant 1 stated:

"I only recovered a small amount. I invested ₱120,000, but I only received ₱30,000... I was able to cash out just once."

The minimal recovery (25% of capital) highlights asymmetric loss typical in Ponzi operations. Participant 6 reinforced this pattern:

"That was my hard-earned money... I invested ₱10,000, and it was lost. I was never able to recover anything."

The phrase *hinagoan* (hard-earned money) signifies emotional attachment to earned capital, which deepens the perceived magnitude of loss. Financial loss in fraud contexts is not merely numerical—it represents accumulated labor and sacrifice. This aligns with Button et al. (2019), who argue that investment fraud produces long-term indebtedness and economic destabilization. For some participants, the loss involved borrowed capital, thereby multiplying the financial consequences. Participant 2 explained:

"I haven't recovered anything, even up to now. I still have an existing loan. It was a three-year loan... I will never forget it."

The persistence of repayment three years after the collapse indicates prolonged economic incapacitation. The memory of the event remains tied to ongoing financial strain. Participant 9 further expressed:

"I was not able to recover even a single peso; instead, I ended up deeply in debt... I even had to borrow money up to now."

Here, the scheme not only erased savings but generated new debt cycles. This supports Albrecht et al. (2017), who found that fraud victims experience difficulty obtaining credit and face extended financial instability. Thus, Ponzi schemes, often labelled pseudo-investments, generate structural financial disruption rather than short-term monetary

setbacks. Consistent with Brenner et al. (2020), victimization significantly alters perceptions of financial security and household welfare. Participants invested not only money but time and emotional labor in managing the economic aftermath (Ghazali et al., 2018), further reinforcing the incapacitating nature of financial victimization.

3.2 Emotional and Mentally Disturbed

While financial loss was severe, emotional consequences were equally profound. Crime, even when non-violent, is a traumatic event with lasting psychological effects (Green et al., 2019). For several participants, being scammed marked the beginning of sustained emotional distress. Participant 4 described acute anxiety and insomnia:

“I really felt it deeply—I could not sleep for almost a week... I kept thinking about how I would pay the loan... I had to pay two banks.”

The inability to sleep and obsessive rumination reflect acute stress responses consistent with trauma literature (Langton & Truman, 2015). The cognitive fixation on loan repayment demonstrates how financial stress translates into psychological disturbance. Participant 12 articulated self-directed blame:

“There is no one else to blame because it was my own decision... I can only blame myself.”

This internalization of responsibility aligns with Harvey (2017), who notes that guilt and shame intensify emotional isolation among Ponzi victims. Similarly, Participant 13 stated:

“It was my own choice, so there is no one to blame... I just think of it as if I lost in gambling.”

The comparison of investment loss to gambling reflects cognitive reframing but also self-attribution of fault. This self-blame discourages formal reporting and reduces help-seeking behavior. Participant 5 demonstrated emotional coping through belief in karmic justice:

“There will come a time in their lives when what they did will come back to them.”

While appearing hopeful, this statement also signals resignation and perceived powerlessness. Rather than seeking legal recourse, participants expressed faith in eventual moral retribution. This supports findings that fraud victims frequently avoid reporting due to embarrassment, shame, and perceived futility (Frankel, 2015).

Thus, emotional disturbance manifested through insomnia, regret, guilt, distrust toward financial institutions, and withdrawal from formal systems. These findings align with

literature showing heightened risks of anxiety and depressive symptoms following significant financial fraud (Freshman, 2018; Kasim et al., 2020).

3.3 Positive Reframing

Despite severe financial and psychological distress, participants demonstrated adaptive coping strategies characterized by resilience and cognitive reframing. Participant 7 expressed:

“Laugh at your problems... After all, there is nothing we can do about it.”

Laughter and humor functioned as emotional regulation mechanisms. Participant 3 adopted behavioral coping:

“I just kept myself busy at my store... I just have to work harder so I can recover the money that was lost.”

Active engagement in work reflects problem-focused coping. Rather than succumbing to depressive ideation, participants redirected energy toward income recovery. Participant 1 stated:

“Charge it to experience... don’t dwell too much on the problem because money can still be earned.”

This reflects meaning-making and experiential learning, transforming victimization into perceived life lesson. Cognitive reframing reduces long-term psychological damage by assigning constructive interpretation to loss. Family support further moderated distress. Participant 6 shared:

“I somehow felt lighter because I was not the only one who was deceived.”

Collective victimization reduced personal shame. Participant 2 emphasized shared experience within the household, preventing blame attribution. Social support is strongly associated with trauma recovery (White House Office & FTC, 2020).

Consistent with Tan (2016), Filipino resilience emerges as culturally embedded adaptive strength. However, resilience did not negate the seriousness of harm; rather, it functioned as a survival mechanism enabling forward movement. As Bloch (2018) notes, post-adversity growth often arises when individuals reinterpret setbacks as developmental turning points.

RECOMMENDATIONS

Primary Recommendations

The researchers recommend implementing indicated prevention measures, especially for the investors. Galasintu et al. (2018) suggested that investors must be self-regulated by becoming more aware of investment fraud and learning to be more protective by recognizing that victims' characteristics like lack of financial knowledge and gullibility significantly aid the success of Ponzi schemes. Proper education strategies for investors have been identified as the most effective approach to preventing Ponzi schemes (Kasim et al., 2020). By prioritizing educational awareness, the researchers believe there is a strong likelihood of disrupting the cycle of Ponzi fraud. Also, before investing, potential investors should conduct comprehensive due diligence on the investment opportunities, researching aspects such as the company's background, track record, financial stability and legitimacy; it must be registered to financial authorities like The Securities and Exchange Commission (SEC). It is crucial to remain vigilant and well-informed, capable of identifying indicators or 'red flags' of investment deception, such as promises of high returns with minimal risk, offers touted as once-in-a-lifetime opportunities, pressure to make swift investments, and unusually consistent returns (Baker & Puttonen, 2017).

Secondary Recommendation

- **To the Investing Companies.** Investment companies are advised to establish a more comprehensive network of organizations to support fraud victims, partly due to the high rate of revictimization (Hume & Canan, 2016). For instance, organizations like the National Center for Victims of Crime are starting to provide training to staff at adult protective services agencies and other community-based consumer protection organizations. This training aims to enhance their ability to assist potential investors and fraud victims. Since understanding the causes and consequences of fraud is still in its early stages, there are gaps in knowledge.
- **To the Law Enforcement Agencies.** The researchers suggest further research to explore the need for distinct legislation specifically targeting Ponzi schemes, aiming for detailed and explicit control. Additionally, it is necessary to educate the public, especially law enforcement personnel, about how Ponzi schemes differ from other financial frauds. Initially, this education could involve examining legal actions taken against cases involving suspected Ponzi schemes, as discussed in this study, to provide guidance. Investment groups frequently exploit the absence of clear legal regulations as a loophole to perpetuate Ponzi schemes. All relevant authorities must stay updated on the latest technologies employed by fraudsters, as their methods are subject to evolution at any time (Reddy, 2020).

- **To the Future Researchers.** Future researchers are encouraged to expand their studies to larger populations, as the sample of 15 investors interviewed may not accurately represent the demographic of more minor Ponzi scheme victims. Despite the limited number of participants, their shared experiences and perceptions suggest a level of consistency that could apply to larger populations. Also, it is recommended that research be conducted from the perspective and profile of Ponzi fraudsters to understand their characteristics and how they influence investors' decision-making, especially in fraudulent investments. This is essential to uncover the modus operandi used by promoting schemers, which could help raise awareness of warning signs, particularly for potential investors (Kasim et al., 2020).

CONCLUSION

This study aimed to explore the factors contributing to victimization in Ponzi schemes, focusing on the experiences of individuals in Barangay Santa Ana, Nasipit, Agusan del Norte. The findings reveal that a combination of factors, including social influence, the promise of high returns, and limited financial knowledge, played significant roles in the participants' involvement in Ponzi schemes. Victims were often persuaded by family and friends, felt enticed by the potential for quick financial gains, and lacked the financial literacy to critically assess the legitimacy of the investment. Interestingly, even participants with higher educational backgrounds were not immune to falling victim to these schemes, suggesting that gullibility and misplaced trust, rather than educational attainment alone, contributed to their vulnerability.

The financial and emotional consequences of Ponzi scheme victimization were severe. Victims reported significant financial losses, some resulting in bankruptcy in the worst scenario, and experienced long-term emotional distress, including trauma and a loss of trust in financial institutions. However, despite the hardships, many participants exhibited resilience, focusing on recovery and maintaining hope for a better future.

In light of these findings, the study recommends that investors become more educated on the risks of Ponzi schemes, emphasizing the importance of conducting thorough research and recognizing warning signs of fraud. It is also suggested that investment companies and law enforcement agencies play a more active role in supporting fraud victims and ensuring clear legal frameworks are in place to address Ponzi schemes. Future research should explore the perspectives of fraudsters to gain a deeper understanding of their tactics and expand the study to a larger population to better represent the broader demographic of Ponzi scheme victims.

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IMPLEMENTATION OF THE FOURFOLD FUNCTION: A STUDY OF HIGHER EDUCATION INSTITUTIONS IN CARAGA REGION

PRINCESS L. VARONA

Saint Joseph Institute of Technology/Saint Michael College of Caraga, Inc.

cessvarona@gmail.com

<https://orcid.org/0000-0002-2953-2524>

ABSTRACT

This study examined the extent to which accredited higher education institutions in the Caraga Region fulfill the fourfold functions of higher education institutions —instruction, research, Extension, and Production—within the Arts and Sciences programs. Using a descriptive-quantitative approach, data were collected from 72 respondents, including administrators, faculty, and students across six higher education institutions. The results revealed that the instruction function was fulfilled very well, while research, extension, and production were rated good but still needed improvement. Production revealed the least fulfilled function. These results underscore both strengths and gaps in the functional delivery. The study concludes that while Caraga higher education institutions show an overwhelming dedication to the fourfold functions, a more level approach would enhance institutional impact.

KEYWORDS

Fourfold function, Instruction, Research, Extension, Production

INTRODUCTION

Background

Higher education plays a pivotal role in the development of societies. The development of a society can be achieved through instruction, research, extension, and innovation (Berchin et al., 2021; Rodriguez-Castro & Aparicio, 2021). These are the fourfold functions that underpin the mission of higher education institutions, as mandated by

UNESCO. Striving to achieve all four functions of an HEI is essential, not only for student outcomes but also for social and economic advancement (UNESCO, 2022).

In Arts and Sciences programs, the fourfold functions are more than just academic expectations. These programs serve as the foundation of liberal education, fostering creativity, critical thinking, and civic awareness among students (Dekker, 2020). However, higher education institutions (HEIs) are often constrained by insufficient infrastructure, funding, collaboration, and innovation gaps, which make it difficult for them to fulfill all four functions (Altbach & de Wit, 2020).

As confirmed by earlier studies, the institution's primary focus is instruction; however, there is an increasing disparity in the implementation of other institutional functions, including research, extension, and production, especially in regions such as the Caraga Region.

This study is relevant as it focuses on understanding how these functions play out in the real-world setting of the Caraga Region. Instead of focusing on each function separately, the study aimed to evaluate how instruction, research, extension, and production functions of the Arts and Sciences are fulfilled by various constituents. The study contributes to achieving educational and functional equilibrium in regional higher education institutions (HEIs) by documenting perceptions on the absence of work-life balance among faculty, particularly in the equitable distribution of teaching, research, administration, and extension duties.

THEORETICAL FRAMEWORK

This research drew upon two complementary perspectives: Functionalism, as outlined by Émile Durkheim, and Systems Theory, as developed by Ludwig von Bertalanffy. Functionalism focuses on the effectiveness of each subsystem within a system; all parts of a functional system work together to achieve harmony, balance, and equilibrium. In higher education, this means that instruction, research, extension, and production activities must be coordinated to work in sync for an institution to fulfill its purpose in society. Each function serves as a cornerstone in preserving institutional equilibrium, benefiting the students and the community at large to the greatest extent possible.

On the contrary, Systems Theory views an institution of higher learning as a holistic system within an organization, where all parts, such as departments, programs, or even individual functions, are interrelated and collectively influence the organization's overall performance. There are specific weaknesses in one area, such as a lack of output in extension activities and research, or even poorly developed extension programs. Effectiveness is reduced in virtually every other aspect as well because all areas are so closely interlinked. This perspective fosters an inclusive view of these institutions and an acceptance that effective program planning and implementation rely on the interdependence and integration of all other functions. In combination, these two theories were used to analyze the data and interpret the responsiveness of Caraga Higher Education Institutions (HEIs) to their mandates.

Literature Review

The role of higher education institutions (HEIs) has evolved over the years from mere instruction centers to fully integrated, multifunctional organizations that encompass instruction, research, extension, and production. Recent literature highlights that regions with limited funding and numerous challenges have very few resources, which imbalances the deployment of the Fourfold Function.

Higher Education Institutions (HEIs) in the Philippines continue to strive to meet the Outcomes-Based Education Framework set by the Commission on Higher Education, applying an updated curriculum, well-qualified faculty, and proper institutional alignment. However, perceived challenges by Molenda and Subramony (2020) and Hufana (2019) regarding learning environments, such as outdated resources and limited access to technology, significantly hinder the instructional delivery of higher education institutions (HEIs) and the learning outcomes of students.

Externally available funding and publication expectations appear to be slowly increasing scholarly output, resulting in additional institutional investment in academic and scientific research. As also underscored by Rodríguez-Castro and Aparicio (2021) and Phan et al. (2022), other engagements in scholarship within regional higher education institutions include excessive teaching responsibilities, a non-existent scholarly environment, and the absence of internal grants. Wieman (2019) emphasized the importance of ample mentorship and collaboration in maximizing institutional output, a challenge that remains particularly significant for under-resourced institutions.

On the other hand, extension programs have become a dominant focus of Higher Education Institutions (HEIs) in an attempt to demonstrate social concern. However, Saldaza (2020) and Trinh (2023) argue that partnerships with communities should be more enduring, as they are currently underserved, and structured frameworks are needed to advance past superficial community engagements. Fuentes Diaz et al. (2020) also categorically state that relevant work requires strong stakeholder engagement together with defined monitoring mechanisms, which are seldom present at the regional level.

Meanwhile, production, often the least developed function, is still limited in scope across many institutions. Abuso and Quitora's (2021) and Goulart et al.'s (2021) studies indicate that most higher education institutions (HEIs) lack defined policies for innovation, product development, and income-generating activities. Hassinger and Carvalho (2021) report that most higher education institutions (HEIs) have the least defined linkages with industry, and their intellectual property resources are underutilized, adding other barriers to the growth of this function.

As Findler et al. (2019) and Makoe and Olcott (2021) suggest, the imbalance in these functions can be primarily attributed to governance issues, a lack of funds, and prevailing policies, which are also intertwined with the need for rapid service delivery. These challenges significantly impact the underfunded tiered Higher Education Institutions (HEIs), which systemically focus on the outdated Fourfold Functions Framework.

In light of this, there is a growing demand for context-specific evaluations that take into account the actual processes occurring within the context of higher education institutions. This study addresses this gap by examining the Arts and Sciences programs of

accredited higher educational institutions (HEIs) in the Caraga Region, which represents the struggles and aspirations of regional higher education in the Philippines.

Objectives of the Study/Statement of the Problem

This study aimed to evaluate the level of fulfillment of the Fourfold Functions—Instruction, Research, Extension, and Production—in the management of Arts and Sciences programs within accredited higher education institutions (HEIs) in the Caraga Region. Specifically, it sought to answer the following research question:

1. To what extent are the Fourfold Functions of Higher Education being effectively fulfilled, particularly in the management of arts and sciences programs in the selected accredited tertiary education institutions in the Caraga region, in terms of:

- 1.1. Instruction;
 - 1.1.1. Curriculum Quality;
 - 1.1.2. Teaching Methods;
 - 1.1.3. Learning Resources and Facilities;
 - 1.1.4. Faculty Qualifications?
- 1.2 Research;
 - 1.2.1. Research Output;
 - 1.2.2. Funding and Grants;
 - 1.2.3. Collaboration and Partnerships;
 - 1.2.4. Faculty and Student Involvement?
- 1.3 Extension;
 - 1.3.1. Community Outreach Programs;
 - 1.3.2. Stakeholder Collaboration;
 - 1.3.3. Student and Faculty Participation?
- 1.4 Production:
 - 1.4.1. Innovation and Product Development?

RESEARCH METHODS

This study used a descriptive quantitative research design to assess the degree to which the Arts and Sciences programs offered by higher educational institutions in the Caraga region implemented the Fourfold Functions. Descriptive approaches help capture existing conditions and identify trends without variable manipulation, making them ideal for performance evaluations.

The research took place in six accredited higher educational institutions located in the Caraga region. The total number of participants for these institutes was 72 individuals. To achieve adequate representation from all institutions, quota sampling was employed, resulting in two administrators, five faculty members, and five students per Higher Education Institution (HEI). This method ensured diverse stakeholder insights that were necessary to capture the implementation of the programs.

Also, a structured, researcher-designed questionnaire, which aligned with CHED policies and PACUCOA accreditation indicators, served as the data collection tool. The instrument underwent content validation through expert consultation and was pilot-tested for reliability. The data were collected over one month using both hard copy and Google Forms to ensure comprehensive coverage. Responses were encoded and analyzed using Microsoft Excel and SPSS. Descriptive statistics were calculated with a focus on the mean for each function. With this approach, regional higher educational institutions can be evaluated systematically and uniformly against the core functions outlined in national standards for higher education.

RESULTS AND DISCUSSION

This section presents the results of a study conducted in six accredited higher education institutions (HEIs) in the Caraga Region based on responses from 72 participants. The results are framed within the Fourfold Functions—Instruction, Research, Extension, and Production—and are examined in relation to the relevant indicators.

Table 1. *Extent of Fulfilling the Fourfold Functions of Higher Education in Terms of Instruction*

Indicators	Mean	Verbal Interpretation
1. Curriculum Quality	4.34	Very High
2. Teaching Methods	4.20	High
3. Learning Resources and Facilities	3.67	High
4. Faculty Qualifications	4.13	High
Mean	4.09	High

Legend: 4.21 - 5.00 (Very High); 3.41 - 4.20 (High); 2.61 - 3.40 (Moderate); 1.81 - 2.60 (Low); 1.00 - 1.80 (Very Low)

The Function Instruction received the highest rating, "very high," with a grand mean of 4.23 among the Fourfold Functions. The results suggest that teaching in the Arts and Sciences schools of the selected higher education institutions (HEIs) in the Caraga Region is conducted with a high level of appreciation from the respondents. Several instructional pillars underpin this strong performance.

Among the indicators, Curriculum Quality was rated the highest, with a mean of 4.34, suggesting that respondents believed institutions successfully integrated their curricula with institutional and societal goals. The result corroborates the perspectives of Darling-Hammond et al. (2020) and Zhou et al. (2022), who emphasize that an effective curriculum should not only foster students' intellectual skills but also their ability to engage socially, equipping them to address real-life challenges. In the same manner, CHED CMO No. 46, s. 2012 enjoins outcome-based education to ensure that curriculum content is relevant and aligned to responsive national development priorities.

The average score of 4.20 for Teaching Methods is still classified within the 'High' range. Reported faculty teaching members were noted to use a variety of appropriate digital and active teaching methods. Freeman et al. (2020) and Bezanilla et al. (2021) emphasized that varied and student-centered techniques like "Inquiry-based or collaborative teaching approaches" foster more critical thinking skills and better academic performance. Equally, Purwanti and Vania (2021) argue that teaching intentionally has been linked not only to academic achievement but also to the learner's socio-emotional development and well-being.

Despite the excellence noted for the faculty members, Learning Resources and Instructional Facilities received a slightly lower mean of 3.67, which still falls within the "High" category. This indicates a disparity in the adequacy and level of instructional support infrastructure, which may be a potential barrier to achieving optimal instructional effectiveness. Schleicher (2019) and Yunita et al. (2024) pointed out that access to current technology-enhanced facilities and well-maintained classrooms significantly contributes to students' engagement and learning outcomes. The score may reflect a lack of digital or physical infrastructure, which is frequently encountered in developing regions.

The average score of 4.13 received in Faculty Qualifications indicates that the respondents have faculty members at their institutions who are qualified both in their disciplines and professionally. This is supported by faculty and professional development literature, as in Hanushek (2020) and Nilsen & Gustafsson (2019), which assert that faculty professional preparation has a considerable influence on student performance and the quality of instruction. Nonetheless, it is important to mention other studies, for example, Hufana (2019), where it was noted that although faculty members demonstrate a high level of professionalism, there is a lack of organizational commitment in terms of providing adequate support for postgraduate training and research which may undermine long term improvement in instruction.

In summary, the Arts and Sciences Programs are characterized by effective and responsive teaching, which justifies the "Very High" rating given. At the same time, the rating signals an urgent need to improve and make strategic investments in infrastructure, technology adoption, and faculty training and scholarship to enhance teaching performance and maintain high standards. Education extends far beyond content, as UNESCO (2022) notes, encompassing not only deliverables but also providing adaptive, learner-friendly systems that evolve alongside learners.

Table 2. *Extent of Fulfilling the Fourfold Functions of Higher Education in Terms of Research*

Indicators	Mean	Verbal Interpretation
1. Research Output	4.01	High
2. Funding and Grants	3.89	High
3. Collaboration and Partnerships	4.15	High
4. Faculty and Student Involvement	3.98	High
Mean	4.01	High

Legend: 4.21 - 5.00 (Very High); 3.41 - 4.20 (High); 2.61 - 3.40 (Moderate); 1.81 - 2.60 (Low); 1.00 - 1.80 (Very Low)

The Research function received an overall mean score of 4.01, placing it in the "High" category. This figure supports that research is practiced and valued within the Arts and Sciences programs of accredited higher education institutions in the Caraga Region. Notably, Collaboration and Partnership achieved the highest indicator mean of 4.15. It is also noteworthy that Research Output was rated at 4.01, reflecting a rising appreciation for inter-institutional collaboration and scholarly output. On the contrary, Faculty and Student Involvement, as well as Funding and Grants, received relatively lower scores of 3.89, which show essential deficits in active participation as well as in available resources and support.

These results reflect the institutions' initiatives to establish research networks and involve outside stakeholders (Singh & Kaundal, 2022; Graham et al., 2019). These authors point out that "productive" research environments tend to have robust industry-academe linkages and cross-sectoral collaboration. It is essential to note that, although this rating is favorable, the slightly lower rating than "Very High" suggests that numerous partnerships may be shallow and structurally constrained in terms of tangible outcomes.

The Research Output indicator noted as "High" alongside other outputs, confirms that relevant scholarly work is being produced. This aligns with Rodriguez-Castro and Aparicio (2021), who pointed out that research productivity is a direct indicator of institutional capabilities, mentorship frameworks, and incentive structures. Nonetheless, the sustained impact of these publications overwhelmingly hinges on whether sustained access to ideal platforms is available and whether the institution cultivates a robust research culture, as Wieman (2019) has highlighted.

In contrast, Faculty and Student Involvement in Research received a rating of 3.89, highlighting a positive gap in engagement at the operational level. This corroborates the more general findings from Bercasio (2021), who noted that although there is an expectation for faculty to perform research, many are severely constrained by time, training, and motivation. Moreover, students may lack the institutional scaffolding to engage in meaningful research activities. As noted by Griffin et al. (2024), purposeful engagement is more than incentivized—shifting the paradigm requires systems that blend teaching, mentoring, and consulting, where research is embedded into the curriculum.

Similarly, Funding and Grants, which also holds a rating of 3.89, remains a perennial challenge. As noted by Phan et al. (2022), chronically underfunded research contexts in developing areas hinder inquiry in terms of scope, continuity, and impact. Although attempts to alleviate this through programs like CHED's Grants-in-Aid exist, inequities in access and the bureaucratic structure of fund distribution often impede their optimal appropriation. Ambong et al. (2020) underscore the importance of strategic planning and internal funding structures in sustaining research activity beyond the capture of competitive external grants.

In conclusion, it can be observed that while the institutions demonstrate commendable existing engagement with research, there are institutional limitations that hinder more holistic, inclusive, and sustained engagement with research practices.

Improving internal research support systems, increasing access to funding, and embedding research within faculty and student developmental frameworks are foundational primary steps to strengthening the Research function. As emphasized by CHED and UNESCO, the transformative potential of research within higher education is accessed when it is sufficiently funded, participatory, and integrated into the institutional framework.

Table 3. *Extent of Fulfilling the Fourfold Functions of Higher Education in terms of extension*

Indicators	Mean	Verbal Interpretation
1. Community Outreach Programs	4.16	High
2. Stakeholder Collaboration	4.13	High
3. Student and Faculty Participation	3.88	High
Mean	4.06	High

Legend: 4.21 - 5.00 (Very High); 3.41 - 4.20 (High); 2.61 - 3.40 (Moderate); 1.81 - 2.60 (Low); 1.00 - 1.80 (Very Low)

The Extension function garnered an average score of 4.06, which suggests a “High” degree of compliance by accredited higher education institutions (HEIs) in the Caraga Region. This demonstrates the full commitment of the institutions to community engagement, which is one of the core essentials of the Fourfold Functions. The respondents appreciated the outreach and developmental work of the HEIs, which goes beyond the classrooms.

Among the indicators, Stakeholder Collaboration had the highest score at 4.13, while Community Outreach Programs scored a mean of 4.05. These scores indicate that institutions are establishing active, meaningful connections with external community partners and addressing localized community needs. These results corroborate those of Holmes et al. (2022), which emphasize the need for all-inclusive, multi-stakeholder partnerships for the effective design and implementation of extension programs. Comprehensive collaboration with local government units (LGUs), civil society, and industry strengthens the relevance and sustainability of outreach activities.

The noteworthy score earned for Community Outreach Programs demonstrates that activities are being undertaken in the areas of health, livelihood, environment, and education, aligning with the CHED guidelines on extension programs serving the public good. These activities align with UNESCO's assertion regarding the contribution of higher education to achieving the Sustainable Development Goals (SDGs) through social responsibility and civic engagement.

The lower score, albeit still in the “High” range, for Student and Faculty Participation at 3.88, indicates an absence of active involvement in grassroots-level work, which may result from organizational and practical factors such as time, workload, and inadequate support frameworks. Adams & Blair (2019) and Sawant (2023) have noted that, despite strong motivation and awareness, participation is often low due to a lack of facilitating structures, such as orientation, training, or academic incentives.

The conclusion drawn from the findings reinforces the assertions made by Trinh (2023) and Salazar (2020) regarding the need for feedback mechanisms that are balanced with experiential curriculum design to maximize the utility of extension programs. They suggest that instructional design frameworks that emphasize reflection and incorporate participants—students and faculty—into the design and evaluative phases produce better results for learning the material and subsequently, its impact on society.

In summary, the Extension function’s rating suggests that higher education institutions within the Caraga Region are responsive to their civic engagement mandate. Moving from compliance to transformative engagement, however, requires deeper institutional support for faculty and student participation. This includes provision of training with reward systems, appraisal feedback, academic credit for engagement service, outreach integration with course design, and robust evaluation frameworks. Such institutional frameworks are critical, as emphasized by CHED (2016) and Farnell (2020), in fostering a culture of strategic and sustainable engagement.

Table 4. *Extent of Fulfilling the Fourfold Functions of Higher Education in terms of Production as to Innovation and Product Development*

Indicators	Mean	Verbal Interpretation
1. The Institution promotes innovation-driven research among faculty and students, leading to new technologies, methodologies, and solutions.	3.97	High
2. Research findings and creative outputs are transformed into practical applications, performances, or exhibits.	3.85	High
3. Product development initiatives are supported through funding, incubation, and mentorship programs.	3.78	High
4. The institution has established policies for patenting, intellectual property rights, and technology transfer.	4.05	High
5. Faculty and students collaborate with industry and government agencies for innovation projects.	3.77	High
6. Innovations developed by the institution contribute to societal needs and sustainable development.	3.83	High
Mean	3.88	High

Legend: 4.21 - 5.00 (Very High); 3.41 - 4.20 (High); 2.61 - 3.40 (Moderate); 1.81 - 2.60 (Low); 1.00 - 1.80 (Very Low)

The lowest mean score among the four functions was production, which received a score of 3.88, still in the “High” category. This score indicates that, although higher education institutions (HEIs) in the Caraga Region value and understand the need for

innovation, entrepreneurial activities, and productivity, these efforts are still in the early stages of practical implementation.

The indicator, “The institution has established policies for patenting, intellectual property rights, and technology transfer,” received a score of 4.05, suggesting that HEIs have taken the initial steps by formulating policies to foster innovations. This supports the assertions made by Hussinger and Carvalho (2021) and CHED’s Innovation Agenda (CMO No. 52, s. 2016), which underline the need for institutional policies designed to protect and commercialize intellectual property. Such policies are vital for motivating research translation, so that knowledge generated in HEIs can be applied to socio-economic and technological development.

The indicator “Faculty and students collaborate with industry and government agencies for innovation projects” receives the lowest mean of 3.77, suggesting an enduring gap between practice and policy. This relates to an issue described by Quitoras & Abuso (2021) and Corsino & Torrisi (2023)—that internal policies on innovations exist, but the capability to mobilize meaningful, active, and continuous collaborations with external institutions is severely constrained. Many of these gaps are due to a lack of operational frameworks, such as innovation hubs, incubators, or even functional offices for industry-academic partnerships.

In this regard, the center of the problem lies not in the lack of policies but rather in their inability to convert them into an effective impact strategy for robust innovation ecosystems. Paris Baltov (2024) suggests that, according to the quadruple helix model, innovation is most fruitful when there is close collaboration among academia, industry, government, and civil society. In the absence of formal structures, such as mentoring schemes, seed funding, or tech incubation facilities, the participation of faculty and students in innovative activities may tend toward ad-hoc, project-centered approaches rather than becoming systematic.

Furthermore, Ramamonjisoa (2024) emphasizes the importance of integrating innovation within the curriculum development framework, utilizing project-based learning and entrepreneurship courses to enable students to address real-world challenges. The relatively low collaboration score may be due to these efforts being limited, especially within non-STEM disciplines, which are often neglected by innovation agendas.

To this end, although the existence of IP and technology transfer policies is a positive development, higher education institutions (HEIs) need to strengthen their institutional capabilities to sustain innovation activities. This involves setting up innovation hubs, improving industry-academe relations, and providing systematic subsidization for faculty and students on entrepreneurial projects. As noted by Goulart et al. (2021) and Szilágyi and Dudok (2023), innovation, in the absence of operational infrastructure and stakeholder collaboration, will persist more as a vision than a reality.

Table 5. *Overall Summary on the Extent of Fulfilling the Fourfold Functions of Higher Education*

Indicators	Mean	Verbal Interpretation
1. Instruction	4.09	High
2. Research	4.01	High
3. Extension	4.06	High
4. Production	3.88	High
Mean	4.01	High

Legend: 4.21 - 5.00 (Very High); 3.41 - 4.20 (High); 2.61 - 3.40 (Moderate); 1.81 - 2.60 (Low); 1.00 - 1.80 (Very Low)

The integrated analysis regarding the fulfillment of the Fourfold Functions within the Arts and Sciences programs of accredited higher educational institutions (HEIs) in the Caraga Region showed consistent “High” ratings across all four domains. The Instructional domain received the highest mean score of 4.09, indicating strong adherence to curriculum development, faculty selection, and the teaching methods employed. This suggests that instructional delivery is a well-defined, mature, and prioritized component across the institutions studied.

The extension followed, with a mean score of 4.06, indicating solid achievement in community engagement and collaboration with stakeholders. Research received a mean of 4.01, which was also interpreted as “High.” While this denotes a commendable culture of research among faculty and students, it may also suggest that there is a need for more collaborative funding, mentorship, and institutional support structures to enhance research activity.

Production emerged as the least fulfilled function, with a score still in the “High” category. The mean score of 3.88 indicates an insufficient focus on fostering innovation, utilizing intellectual property, and generating revenue. These lower scores are consistent with challenges known in the institution-based consolidated functions of production, especially in regionally limited contexts where industrial connections and technological infrastructure tend to be sparse.

The overall mean of the four functions was 4.01, indicating that Higher Education Institutions (HEIs) in Caraga are generally performing well in fulfilling their designated roles. However, there is still room for improvement in developing integrated frameworks that systematize support for research and production on a large scale. This aligns with existing literature, which indicates that instruction tends to be the best-developed function in most higher education institutions (HEIs) in the Philippines. At the same time, production remains the most underserved and challenging function.

Consolidated data serves as a reliable benchmark for institutional planning and strategy development, clearly illustrating areas of effectiveness alongside those needing targeted interventions. These results support previous literature stating that Instruction tends to be the most sophisticated function developed within higher education institutions (HEIs), due to robust planning and faculty participation. Nevertheless, the relatively lower

scores in Production corroborate the findings of Quitaras and Abuso (2021) and Hussinger and Carvalho (2021), who studied regional institutions and highlighted the absence of activation frameworks for innovation and commercialization. The gaps in funding and collaboration, however, Phan et al. (2022) and Wieman (2019) conclusively stated that there is a need for stronger institutional reforms to enhance the research functions of the institutions.

RECOMMENDATION

Drawing from the conclusions of this study, it is suggested that the following measures be taken to improve the implementation of the Fourfold Functions in Arts and Sciences programs within HEIs of the Caraga Region:

- Improve physical facilities and add comprehensive systems of instructional technology in schools where resources for teaching and space for instruction are scarce.
- Set up institutional research grants and mentorship schemes to nurture research capacity in faculty and students to promote interdisciplinary collaborations, self-driven studies, and cross-disciplinary collaborations.
- Establish more robust Extension Offices with defined impact objectives, coupled with incentives for faculty and student engagement, to enhance sustained participation in community outreach services.
- Activate innovation hubs and technology transfer offices in the regions to enhance support for the performing function, which includes creating projects and ventures, as well as developing income-generating projects and intellectual property initiatives.
- Incorporate trainings about all Fourfold Functions as part of faculty professional development so that faculty workload, trainings, and peer review mechanisms incorporate comprehensive contributions to instruction, research, extension, and production.
- Enhance cooperation with industry, local government units, and non-governmental organizations to achieve a better integration of research, practical training, and community-sustained extension and production work, while sustaining both extension and production outcomes.

The implementation of these recommendations is expected to promote balance and sustainability in the delivery of the Fourfold Functions, while enhancing the relevance, quality, and impact of the Arts and Sciences programs in the region.

CONCLUSION

This study evaluated the effectiveness of Arts and Sciences programs in accredited higher education institutions (HEIs) in the Caraga Region in meeting the Fourfold Functions. According to the findings, Instruction, as a function, yields the strongest results, while Research and Extension show moderate fulfillment, accompanied by notable difficulties.

Production lags the furthest behind, needing greater innovative institutional support for the development of activities aimed at generating revenue.

The descriptive analysis, which reinforces each function and articulates their interrelationships, provides a coherent snapshot of the strengths and gaps that shape the functions, aiding in the refinement of policies and programs for the future. This study could be furthered through qualitative collection techniques that would uncover deeper institutional challenges grounded beyond self-reported metrics.

To conclude, these findings provided meaningful and actionable recommendations for achieving enhanced functional performance and furthering the strategic objectives of higher education in the region.

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**TEACHERS' ARTIFICIAL INTELLIGENCE (AI) LITERACY FOR THE IMPLEMENTATION OF
REMOTE TEACHING IN UNIVERSITIES IN RIVERS STATE**

ELIPHALETPHEBE C. AMAEWHULE

Department of Educational Management,
Faculty of Education,
Rivers State University,
Port Harcourt, Rivers State, Nigeria
<https://orcid.org/0009-0003-3157-2415>

PRECIOUS C. ADERIYE

Department of Educational Management,
Faculty of Education,
University of Port Harcourt,
Port Harcourt, Rivers State, Nigeria
<https://orcid.org/0009-0008-5743-9002>

ABSTRACT

The study investigated teachers' Artificial Intelligence (AI) literacy for the implementation of remote teaching in Universities in Rivers State. Three research questions were raised and three hypotheses tested in the study. Descriptive survey design was adopted in the study. The population of the study was all the lecturers in the three public private Universities in Rivers State out of which 384 lecturers were sampled for the study using the Cochran formula while selection of respondents was through convenience sampling technique. The instrument used for data gathering was a 15 items questionnaire named "Teachers' Artificial Literacy for Remote Teaching Questionnaire" (TAILRTQ) which was face and content validated by three experts. There were 384 copies of questionnaire administered but only 351 copies representing 91.4% were retrieved and used for analysis. Research questions raised were answered using mean and standard deviation while the hypotheses were tested at 0.05 level of significance using z-test statistics. The result of the study revealed a low level of AI literacy among the teachers. However, it was indicated that the teachers identified that AI has potential benefits such as enriching online teaching experience and promoting critical thinking. The challenges identified included lack of technical know-how and insufficient technological infrastructure among others. The study recommended adequate sensitization of lecturers on the adoption of AI for all educational activities.

KEYWORDS

Teachers, Artificial Intelligence, Literacy, Remote Teaching, Universities

INTRODUCTION

Background

Technological advancement and global emergencies have continued to disrupt old ways of delivering services and the educational sector is not left behind. Technology today plays a lot of relevance in and outside the classroom including its use as a gaming instrument for teaching and learning (Amaewhule et al., 2020). The emergence of the COVID-19 pandemic which disrupted educational services across all levels forced most schools to shut down and the Universities were not left out. However, while some Universities, particularly the private ones were able to switch to other modes of instruction such as remote teaching and learning, the public ones found it difficult to cope as a result of insufficient technological capability and competence. This is not surprising as Lerias et al., (2024) asserted that acquiring and developing digital skills and competence is important for facilitating lifelong learning which most public Universities failed to achieve.

In this era of Artificial Intelligence, there is no doubt that lecturers in Universities particularly the public ones need to be adequately prepared to explore this development as a way of providing seamless remote teaching when the need arises. Conceptually, Artificial Intelligence (AI) refers to the ability of computers to carry out intelligent or human-like activities. In a related manner, Kaplan and Haenlein (2019) stated that AI is a system which has the ability to interpret data by using them flexibly to achieve specific goals and carry out specific tasks. AI literacy is therefore the ability of lecturers to show expertise on how to manage this technology to achieve outlined educational tasks.

Furthermore, Sperling et al., (2024) stated that AI literacy is the process of acquiring knowledge on AI, understanding its societal consequences in order to make more informed use of this technology. There is no doubt that Artificial intelligence (AI) holds transformative potential for education, promising personalized instruction, heightened student engagement, and improved educational efficiency (Ding *et al.*, 2024). However, it is only those who are literate in its usage that can maximize its usefulness including its deployment as a tool for remote teaching. Similarly, Long and Magerko (2020:598) stated that when we talk of AI literacy, we are referring to “a set of competencies that enables individuals to evaluate AI technologies critically; communicate and collaborate effectively with AI; and use AI as a tool online, at home, and in the workplace”. This description makes this technology a useful tool for remote teaching.

The relevance of AI to remote teaching requires proper understanding for it to be professionally deployed. According to Ng *et al.*, (2021), there are four-dimensions of AI literacy that every user must be familiar with and this includes knowing and understanding AI, applying AI applications, creating and evaluating AI applications, and considering ethical issues. Adequate knowledge of users in this dimension is important for it to be successfully integrated for remote teaching when the need arises. Teachers can therefore deploy this tool

whether in the time of emergencies or convenience so as to ensure that teaching and learning can go on seamlessly irrespective of the location of the teacher and/or students at any given period of time.

There is no sector that is not benefitting from the development in AI and its application has been useful in industry, banking, insurance, health, and defense sectors (Ganascia, 2018) and as such, its application in the Universities is not in doubt as long as lecturers are literate enough to understand how it can be utilized. This is required so as to attract the benefits that comes with the use of this technology which Celik *et al.*, (2022) indicated could include alleviating the pressures faced by teachers and streamlining their workload. Lecturers and students therefore have a lot that they can benefit when these technology is put to the right use based on understanding.

The deployment of AI as a tool for remote teaching in Universities no doubt comes with its fair of challenges ranging from the fact that the human and physical resources needed to make this happen are rarely available. Additionally, there is also the attitudinal bias from AI users within and outside the University. Scholars such as Chan and Tsi (2023) have lent their voice that AI does not replace the human touch in the teaching process where the teacher must guide the learner through their academic journey and this explanation is important to limit the phobia among some users about the use of AI in the classroom. Walter (2024) alluded to the fact that AI enriches educational experiences and promotes critical thinking but the fact remains that the lack of technological policies which sets the limit to its adoption also remains a challenge making the maximization of this technology difficult whether or not there is an emergency.

Lee *et al.*, (2024) carried out a study on Korean in-service teachers' perceptions of implementing Artificial Intelligence (AI) education for teaching in schools and their AI teacher training programs. Twenty respondents were given a questionnaire, and four focus group discussions were held. The results of the interviews revealed that although there was a clear demand for a AI driven curriculum that is more practice-oriented, the teachers indicated satisfaction when this is done. Many theory-centric courses, according to the respondents, did not provide useful skills or knowledge for classroom environments that are more like real ones.

Zhao *et al.*, (2022) carried out a study on developing AI literacy for primary and middle school teachers in China. Utilizing structural equation modeling, the data gathered from 1013 educators was examined. AI was found to be important for AI Ethics (AIE), Applying AI (AAI), Evaluating AI Application (EAIA), and Knowing and Understanding AI (Kuai). Hollands and Breazeal (2024) conducted another study on establishing AI literacy before adopting AI. Data from 265 instructors was gathered using an online questionnaire, and the teachers reported feeling more confident about their abilities to contribute to the future of AI, having a better understanding of AI ideas, and being more optimistic about the potential benefits of AI to society.

Ayanwale *et al.*, (2024) also carried out a related study on examining artificial intelligence literacy among pre-service teachers for future classrooms. In a quantitative study, 529 pre-service teachers at a university in Nigeria provided data, which was then evaluated using structural equation modeling (SEM). It has been demonstrated that having a solid understanding of AI greatly increases the likelihood of success in AI creation, use,

ethics, and problem-solving. Nevertheless, neither the idea that active AI use improves AI detection skills nor the relationship between emotion control and AI knowledge are true. The study highlights the ethical issues entwined with the persuasive and emotive aspects of AI use, identifying a trade-off between AI creation and use.

Lerias et al., (2024) investigated literacy in artificial intelligence as a challenge for teaching in higher education at Portalegre Polytechnic University. Data was gathered from 75 university lecturers using a questionnaire. On a Likert scale of 1 to 5, the study's average level of AI literacy was 3.28, and it was noted that 62.4% of the responses fell between levels 3 and 4. Also, the results showed that AI literacy was important to the lecturers. These studies establish the fact that different educational stakeholders still look forward to exploring further use of AI tools for achieving a variety of educational goals and objectives.

Aim and Objectives of the Study

The aim of the study was to investigate teachers' Artificial Intelligence (AI) literacy for the implementation of remote teaching in Universities in Rivers State. The specific objectives of the study included to:

- find out the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State
- determine the benefits of teachers' Artificial Intelligence (AI) literacy on the implementation of remote teaching in Universities in Rivers State
- examine the challenges of adopting Artificial Intelligence (AI) for the implementation of remote teaching in Universities in Rivers State

Research Questions

The following research questions were raised to guide the study:

1. What is the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State?
2. What are the benefits of teachers' Artificial Intelligence (AI) literacy on the implementation of remote teaching in Universities in Rivers State?
3. What are the challenges of adopting Artificial Intelligence (AI) for the implementation of remote teaching in Universities in Rivers State?

Hypotheses

The following hypotheses were tested at 0.05 level of significance:

1. There is no significant difference between the mean ratings of male and female respondents on the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State
2. There is no significant difference between the mean ratings of male and female respondents on the benefits of teachers' Artificial Intelligence (AI) literacy on the implantation of remote teaching in Universities in Rivers State

- There is no significant difference between the mean ratings of male and female respondents on the challenges to the adoption of Artificial Intelligence (AI) to remote teaching in Universities in Rivers State

METHODOLOGY

This study employed the descriptive survey design as it focused on investigating a phenomenon that currently exists. The population of the study was all the lecturers in the three public private Universities in Rivers State out of which 384 lecturers were sampled for the study. The sample size was determined using the Cochran formula for unknown population while the respondents were selected using convenience sampling technique consisting of 192 males and 192 females across the different institutions. The instrument used for data gathering was a 15 items questionnaire titled “Teachers’ Artificial Literacy for Remote Teaching Questionnaire” (TAILRTQ) and was responded to on a four point modified rating scale of Very High Level (VHL), High Level (HL), Low Level (LL) and Very Low Level (VLL) for research question one and Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with weighted values of 4, 3, 2 and 1 which was aggregated to 10 and divided by 4 to arrive at 2.50 which was the criterion mean score of agreeing or disagreeing with the items raised. The questionnaire was face and content validated by three experts (two in Educational Management at Rivers State University and one in Measurement and Evaluation at University of Port Harcourt). There were 384 questionnaire administered but only 351 copies representing 91.4% from 169 males and 182 females were retrieved and used for analysis. The research questions raised were answered using mean and standard deviation while the hypotheses were tested at 0.05 level of significance using z-test statistics.

RESULTS AND DISCUSSION

1. What is the level of teachers’ Artificial Intelligence (AI) literacy in Universities in Rivers State?

Table 1. Mean and standard deviation scores on the Level of Teachers’ Artificial Intelligence (AI) Literacy in Universities in Rivers State

S/No	Items	Male Respondents n=169		Female Respondents n=182		Average Mean	Decision
		Mean \bar{X}_1	SD	Mean \bar{X}_2	SD		
1	Abreast with the different concepts related to the use of AI	2.51	0.86	2.43	0.93	2.47	Low Level
2	Ever used AI to carry out any educational activity in the past	2.62	0.82	2.50	0.90	2.56	High Level
3	Adopted AI for assessing an	2.47	0.88	2.40	0.94	2.44	Low Level

	educational activity in the past							
4	Have an understanding of how AI works	2.42	0.91	2.38	0.96	2.40	Low Level	
5	Familiarization with the ethical guidelines for using AI	2.43	0.90	2.42	0.95	2.43	Low Level	
	Grand Mean and Standard Deviation	2.49	0.87	2.43	0.94	2.46	Low Level	

Table 1 showed that there was a low level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State since the average mean score of 2.46 was less than the criterion mean score of 2.50 used for decision making. Similarly, the level of literacy was low among the male and female teachers with mean values of 2.49 and 2.43 respectively. Specifically, while the teachers were literate in the use of AI, only the male teachers were literate in terms of being abreast with AI concepts but they were all not familiar with AI concept, adopted AI for assessment of educational activities nor have understanding of how AI works accounting for their low level of AI literacy.

2. What are the benefits of teachers' Artificial Intelligence (AI) literacy on the implementation of remote teaching in Universities in Rivers State?

Table 2. Mean and standard deviation scores on the Benefits of Teachers' Artificial Intelligence (AI) Literacy on the Implementation of Remote Teaching in Universities in Rivers State

S/No	Items	Male Respondents n=169		Female Respondents n=182		Average Mean	Decision
		Mean \bar{X}_1	SD	Mean \bar{X}_2	SD		
6	Provides a platform for critical thinking during teaching	2.82	0.78	2.70	0.80	2.76	Agreed
7	Enriches the teaching process with variety of teaching resources	2.90	0.75	2.77	0.78	2.84	Agreed
8	Automation of teaching activities for timely completion of scheduled activities	2.79	0.83	2.53	0.89	2.66	Agreed
9	Provides for personalized learning experience	2.92	0.73	2.81	0.76	2.87	Agreed
10	Promotes collaboration in the teaching process	2.85	0.77	2.68	0.81	2.77	Agreed
	Grand Mean and Standard Deviation	2.86	0.77	2.70	0.81	2.78	Agreed

Table 2 indicated that the teachers agreed on the benefits of AI in the implementation of remote teaching and an average mean score of 2.78 which was more than the criterion mean score of 2.50 used for decision making. The respondents agreed that AI provides a platform for critical thinking, enriches teaching, helps in automation of teaching, personalized learning and promotes collaboration and this was because the mean score of each of these items were above the criterion mean score of 2.50 used for decision making.

3. What are the challenges of adopting Artificial Intelligence (AI) for the implementation of remote teaching in Universities in Rivers State?

Table 3. Mean and standard deviation scores on the Challenges of Adopting Artificial Intelligence (AI) for the Implementation of Remote Teaching in Universities in Rivers State

S/No	Items	Male Respondents n=169		Female Respondents n=182		Average Mean	Decision
		Mean \bar{X}_1	SD	Mean \bar{X}_2	SD		
11	Inadequate technical know-how for AI adoption	2.94	0.72	2.86	0.74	2.90	Agreed
12	Shortage of technological infrastructure for AI usage	2.90	0.75	2.92	0.71	2.91	Agreed
13	Uncertainty around quality of data and information being used	2.83	0.78	2.80	0.76	2.82	Agreed
14	Capital intensive nature of AI adoption in teaching	2.72	0.85	2.70	0.80	2.71	Agreed
15	Problem of privacy in the use of AI	2.73	0.85	2.55	0.88	2.64	Agreed
Grand Mean and Standard Deviation		2.82	0.79	2.77	0.78	2.80	Agreed

Table 3 established that with mean scores of 2.94, 2.90, 2.83, 2.72 and 2.73 from the male teachers and 2.86, 2.92, 2.80, 2.70 and 2.55 from the female teachers, they both agreed that inadequate technical know-how, shortage of technological infrastructure, uncertainty about data quality, capital intensive nature of AI and problem of privacy were challenges to the adoption of AI for remote teaching in the Universities. The grand mean values of 2.82 and 2.77 from the male and female teachers as well as the average mean score of 2.80 showed that the respondents agreed with the items listed as the challenges of adopting Artificial Intelligence (AI) for the implementation of remote teaching in Universities in Rivers State.

Test of Hypotheses

Hypothesis One: There is no significant difference between the mean ratings of male and female respondents on the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State

Table 4. Summary of z-test analysis on the difference between the mean ratings of male and female respondents on the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State

Variable	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Male Respondents	169	2.49	0.87	349	0.62	1.96	0.05	Not rejected
Female Respondents	182	2.43	0.94					

Table 4 helps us to understand that the null hypothesis was not rejected and this was because the critical value of t which was 1.96 at 0.05 level of significance and 349 degrees of freedom was more than the estimated value of t-cal. Of 0.62 and this implied that there was no significant difference between the mean ratings of male and female respondents on the level of teachers' Artificial Intelligence (AI) literacy in Universities in Rivers State.

Hypothesis Two: There is no significant difference between the mean ratings of male and female respondents on the benefits of teachers' Artificial Intelligence (AI) literacy on the implantation of remote teaching in Universities in Rivers State

Table 5. Summary of z-test analysis on the difference between the mean ratings of male and female respondents on the benefits of teachers' Artificial Intelligence (AI) literacy on the implantation of remote teaching in Universities in Rivers State

Variable	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Male Respondents	169	2.86	0.77	349	1.90	1.96	0.05	Not rejected
Female Respondents	182	2.70	0.81					

Table 5 was able to show that the null hypothesis was not rejected and this was because the critical value of t which was 1.96 at 0.05 level of significance and 349 degrees of freedom was more than the estimated value of t-cal. Of 1.90 and this implied that there was significant difference between the mean ratings of male and female respondents on the benefits of teachers' Artificial Intelligence (AI) literacy on the implantation of remote teaching in Universities in Rivers State.

Hypothesis Three: There is no significant difference between the mean ratings of male and female respondents on the challenges to the adoption of Artificial Intelligence (AI) to remote teaching in Universities in Rivers State

Table 6. Summary of z-test analysis on the difference between the mean ratings of male and female respondents on the challenges to the adoption of Artificial Intelligence (AI) to remote teaching in Universities in Rivers State

Variable	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Male Respondents	169	2.82	0.79	349	0.60	1.96	0.05	Not rejected
Female Respondents	182	2.77	0.78					

Table 6 clarified that the null hypothesis was not rejected and this was because the critical value of t which was 1.96 at 0.05 level of significance and 349 degrees of freedom was more than the estimated value of t-cal. Of 0.62 and this implied that there was no significant difference between the mean ratings of male and female respondents on the challenges to the adoption of Artificial Intelligence (AI) to remote teaching in Universities in Rivers State.

Discussion of Findings

Responses from the teachers sampled for the study revealed that there was a low level of AI literacy among them and there was no significant difference in the response of the male and female teachers in this regard. This implies that the male and female teachers both agreed that there was a low level of AI literacy among them which calls for more enlightenment and empowerment in order to make these lecturers more AI literate. This may explain why the study by Lee et al., (2024) found that there was a clear demand for a AI driven curriculum that is more practice-oriented among teachers and the teachers indicated satisfaction when this is done implying that they looked forward to more integration of AI into school activities. In their responses, it was revealed that the lecturers have reasonably used AI in their teaching activities which is one of the important aspects of AI literacy. However, while the male teachers showed that they were better informed about basic AI concepts, the case of the female teachers was low. This means that the male teachers were more abreast with AI concepts than the female teachers. On the other hand, both the male and female lecturers indicated a low level to which AI is used for evaluation implying that they do not usually use this technology for assessment which is one of the essential needs of remote teaching. One of the major challenges of remote teaching is how to conduct evaluation which is one area where AI can be of assistance but the teachers are sadly not accustomed to this. Similarly, there was a low level to which the teachers understand how AI works in terms of its input, output and processes and they also indicated that they are not familiar with ethics in AI adoption. It can therefore be deduced that these

lecturers need to be further encouraged to embrace AI in all of their educational activities because of the enormous advantages that it has and not just in the area of remote teaching alone.

According to the responses of the teachers, there are several benefits that come with the use of AI in the implementation of remote teaching and the teachers agreed that one of these benefits is that it provides a platform for critical thinking. Supporting this assertion, the study by Lérias et al., (2024) indicated that on a Likert scale of 1 to 5, teachers average level of AI literacy was 3.28, and it was noted that 62.4% of the responses fell between levels 3 and 4 which showed that AI literacy was important to the lecturers. Similarly, the respondents agreed that this technology enriches the teaching process and this may be based on the variety of educational resource that AI offers making it a useful tool in the remote teaching process. With this technology, teachers and students are able to have an almost real life interactive experience as well as access useful products and services that can make teaching more meaningful to the learners. Other benefits that the respondents agreed to are the ability to automate instruction and teaching activities which means that the teacher does not need to be physically present to carry out his or her educational activities. There is also the benefit of personalized learning for the students and the promotion of collaboration. This means that group of teachers can come together and deliver instruction to their students irrespective of their location which means that students with learning challenges can be collectively assisted while the teachers collaborate which means that greater educational outcomes can be achieved while teaching remotely. In fact, Zhao et al., (2022) indicated in their study that teachers reported feeling more confident about their abilities to contribute to the future of AI, having a better understanding of AI ideas, and being more optimistic about the potential benefits of AI to society thereby corroborating the findings of this study that the teachers believe that they can achieve more through the adoption of AI in teaching whether remotely or otherwise.

The teachers agreed on the items listed as challenges to the adoption of AI for remote teaching and there was no difference in the opinion of the male and female teachers in this regard. In terms of challenges, the respondents agreed that some of the challenges to the adoption of AI for remote teaching includes the lack of technical know-how which means that the teachers may not be skilled enough in the use of this technology. Similarly, the shortage of critical technological infrastructure which makes AI operational such as efficiency internet and computer devices were also said to be in short supply and this can hinder the operation of AI for remote teaching. Other factors such as the problem of data quality, data privacy and capital intensive nature of AI adoption were identified as possible challenges. This position aligns with that of Ayanwale et al., (2024) which indicated that users still feel that there are ethical issues which limited their use of AI which is an issue that needs to be given attention to by experts in this area. This finding therefore suggests that there is need for collaboration among all educational stakeholders for teachers to be AI literate and adopt this technology for seamless remote teaching particularly during emergencies in the Universities.

CONCLUSION

It was concluded from the findings of the study that the male and female teachers showed no significant difference in their response about the level of teachers AI literacy, benefits of teachers' literacy and the challenges in the adoption of AI. The AI literacy of the teachers was to a low level but they had an understanding of the possible benefits of AI literacy to remote teaching but were faced with challenges around lack of technical know-how, infrastructure, data quality among others and this hinders the use of this technology for remote teaching in these Universities.

RECOMMENDATIONS

The following recommendations were made based on the findings of the study:

1. Lecturers in Universities need to be adequately sensitized and trained on how to use artificial intelligence in their various areas of responsibility particularly teaching as well as research and community development. This will help to improve the quality of service delivered by the teachers at low cost.
2. The integration of AI should be enforced as a matter of policy by the government and University administrators as this will assist lecturers to maximize the benefits that comes with its use for improving educational goals and objectives in their various institutions.
3. University management should provide institutional support to lecturers for the use of AI in teaching such as regular training, provision of subsidized tools, as well as access to critical infrastructure that will enable these lecturers to use this emerging technology appropriately and regularly as this will help promote their work efficiency across all levels.

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**TALENT MANAGEMENT PRACTICES ON EMPLOYEE PERFORMANCE IN A SELECTED
PRIVATE SCHOOLS**

MARJORIE C. JIMENEZ

Saint Michael College of Caraga

juryjimm@gmail.com

<https://orcid.org/0000-0002-7923-7347>

RICO JAMES T. FELIAS

Saint Michael College of Caraga

ricfels11@gmail.com

<https://orcid.org/0009-0008-1060-4939>

DARYLL G. LUIS

Saint Michael College of Caraga

luisdaryll17@gmail.com

<https://orcid.org/0000-0002-4441-0699>

RENITA LOURDES D. LAGAPA, MM

Saint Michael College of Caraga

renita_lagapa@smccnasipit.edu.ph

<https://orcid.org/0000-0001-8752-9465>

ABSTRACT

Talent management has emerged as a strategic human resource function linked to organizational performance; however, empirical evidence in private basic and higher education institutions in provincial contexts remains limited. This study examined the extent of talent management practices and their relationship with employee performance in selected private schools in Buenavista, Nasipit, and Carmen (BueNasCar), Agusan del Norte. Anchored on Social Exchange Theory and the Ability–Motivation–Opportunity (AMO) framework, the study employed a quantitative descriptive-correlational design. Data were gathered from 195 teaching and non-teaching personnel selected through stratified random sampling from ten private schools during School Year 2023–2024. An adapted and pilot-tested questionnaire measured three dimensions of talent management practices

(recruitment and selection; training and development; rewards and compensation) and four dimensions of employee performance (quantity of output, quality of output, timeliness of output, and presence at work). Descriptive statistics (weighted mean) and Spearman rank-order correlation were utilized for analysis. Findings revealed that talent management practices were implemented to a moderate extent (overall $M = 3.36$), with recruitment and selection ranked highest. Employee performance was likewise rated to a moderate extent (overall $M = 3.44$), with presence at work obtaining the highest mean ($M = 3.52$). Correlational analysis indicated a statistically significant positive relationship between talent management practices and employee performance ($\rho = .458$, $p = .001$), leading to the rejection of the null hypothesis. The results affirm that structured and consistent implementation of talent management practices contributes meaningfully to enhanced employee performance in private educational institutions. The study underscores the need for strategic investment in recruitment systems, continuous professional development, and competitive compensation structures to strengthen institutional effectiveness and long-term sustainability in the education sector.

KEYWORDS

Talent Management Practices, Recruitment and Selection, Training and Development, Rewards and Compensation, Employee Performance

INTRODUCTION

Background

Talent management defined as putting systems in place to recruit, identify, develop, engage, retain, and deploy personnel who are helpful to an organization (Quilliam, 2023). Based on Andreev (2023), attracting and retaining top talent, consistently inspiring them to perform better, and enhancing their abilities are all part of the ongoing talent management process. According to the statement, *What is Talent Management?* of McKinsey & Company (2023), an organization's performance as a whole and good talent management are significantly correlated; analysis showed 99% of respondents who claimed their organization's talent management was extremely successful indicated they outperformed their competition. According to the national study result of Cordero-Au Yeung and Tiongson (2022), organizations with a positive impression of talent acquisition, development, and retention are more likely to achieve positive organizational and human resource results.

Gudith (2023) states that when it comes to staffing, private schools, especially those in the K–12 sector, frequently have lesser finances than their public counterparts, and it can be challenging to draw and keep talented staff members, including teachers. Furthermore, private schools could find it hard to provide competitive pay and benefits, resulting in high employee turnover and difficulty retaining a committed and stable workforce. By taking a proactive approach to recruiting and retention, private schools can mitigate the effects of it.

Moreover, according to Dilip and Rajeshwari (2022), by that long-standing procedures that seek to place the appropriate person in the proper role can be covered by talent management. Finding qualified faculty members becomes difficult for educational institutions, and excessive employee turnover poses a serious risk to organizations, which leads to most institutions failing to provide administrative staff with the necessary training. In addition to that, Chyy (2019) stated that due to inadequate staff development and training, most private schools, especially secondary schools, have had low performance.

Therefore, based on the statement, *What is Talent Management?* of ADP (2023), it stated that employers find and create a staff that is as productive as possible and likely to stick around for a while using talent management. *Statement of What Is Employee Performance?* of Litmos (2023) states that performance is essential to organizational success, contributing to increased production, profitability, and employee morale by frequently reviewing employee performance.

According to the study of Alsakarneh et al. (2023), the talent management practices on employee performance are recruitment and selection, training and development, and rewards and compensation. Alsakarneh et al. (2023); Ekhsan et al. (2023); Baharin et al. (2023); Abdullahi et al. (2022); Atieno et al. (2022); Saarunya and Soundria (2021); and Akinremi and Adedeji (2019), concluded in their respective studies that implementing talent management practices can significantly improve and affect employee performance. In connection to the practices used, Khairina et al. (2022) and Fithri (2019) also stated that there are four dimensions of employee performance measured: quantity of output, quality of output, timeliness of output, and presence at work.

This study aimed to identify the talent management practices among employees in selected private schools around Buenavista, Nasipit, and Carmen (BueNasCar), Agusan del Norte, on employee performance for better operation and function in the organization. The study sought to identify talent management practices, such as recruitment and selection, training and development, and rewards and compensation based on employee performance. It evaluated the relationship between talent management practices and employee performance. The study showed the importance of talent management practices in improving employee performance, which benefits the organization. In addition, this study is related to the researchers' course, Bachelor of Science in Business Administration, prominent in Human Resource Management, which equips students with the knowledge and skills to implement effective talent management practices as future Human Resource Officers. It will help organizations attract, develop, retain, and engage top talent, ultimately contributing to organizational success.

Objectives of the Study/Statement of the problem

This study determined the impact of talent management practices on employee performance among employees in selected private schools around Buenavista, Nasipit, and

Carmen (BueNasCar), Agusan del Norte. It sought to answer the following questions in particular:

1. What is the profile of the respondents:
 - 1.1 job position;
 - 1.2 educational attainment;
 - 1.3 salary; and
 - 1.4 length of service?
2. To what extent are the talent management practices on employee performance in terms of:
 - 2.1 recruitment and selection;
 - 2.2 training and development; and
 - 2.3 rewards and compensation?
3. To what extent are the talent management practices affects the level of employee performance in terms of:
 - 3.1 quantity of output;
 - 3.2 quality of output;
 - 3.3 timeliness of output; and
 - 3.4 presence at work?
4. Is there a significant relationship between the Talent Management Practices employed by the Human Resource Officers and the level of Employee Performance?

THEORETICAL FRAMEWORK

This study is grounded on Social Exchange Theory (SET) and the Ability–Motivation–Opportunity (AMO) Theory, both of which provide complementary explanations of how talent management practices influence employee performance in educational institutions.

Social Exchange Theory

Social Exchange Theory, originally articulated by Homans (1985), conceptualizes social interaction as an exchange process in which individuals engage in action–reaction relationships governed by incentive mechanisms and expectations of mutual benefit. In organizational settings, this theory explains how employees and employers enter into reciprocal relationships that evolve over time through repeated exchanges of tangible and intangible resources. According to Benitez and Frank (2022), such exchanges are voluntary and are sustained by reciprocity and trust, eventually producing high-quality relationships between actors.

Four key components frame these exchanges: power, reciprocity, commitment, and trust.

- *Power* refers to the degree of dependence between actors and the capacity of one party to influence the actions or decisions of another. In employment relationships,

organizations exercise structural power through policies, rewards, and career opportunities, while employees possess performance-related power that affects organizational outcomes. This dynamic shapes how reciprocal relationships are negotiated and sustained.

- *Reciprocity* reflects the bidirectional exchange of efforts, resources, and benefits between employees and the organization. When schools invest in recruitment, professional development, and equitable compensation, employees are likely to reciprocate through enhanced performance, loyalty, and engagement.
- *Commitment* represents the willingness of both parties to fulfill their obligations within the exchange relationship. Employees who perceive organizational support through structured talent management practices are more inclined to demonstrate sustained dedication to institutional goals.
- *Trust* involves the expectation that the other party will act fairly and responsibly without excessive monitoring. Trust reduces uncertainty in employment relationships and strengthens cooperation and long-term engagement.

As emphasized in discussions of Social Exchange Theory in employee relations (2024), organizations that apply SET principles foster cultures characterized by cooperation, respect, and mutual accountability. In such environments, employees become motivated, satisfied, and committed, leading to improved productivity and organizational performance. Within the context of this study, talent management practices—specifically recruitment and selection, training and development, and rewards and compensation—serve as organizational investments that signal support and fairness. Employees, in turn, respond with higher levels of performance across quantity, quality, timeliness, and presence at work. Thus, SET provides a relational explanation for why strategic talent management strengthens employee performance in private schools.

Ability–Motivation–Opportunity (AMO) Theory

Complementing SET, this study is also anchored on the Ability–Motivation–Opportunity (AMO) Theory, which posits that employee performance is a function of three interrelated components: ability, motivation, and opportunity. According to the AMO framework, organizational systems that simultaneously enhance these three dimensions are most effective in achieving performance outcomes (AMO Theory: Ability, Motivation & Opportunities, 2024). Kellner et al. (2019) further argue that AMO theory offers a robust explanation of how human resource practices translate into measurable performance results.

- *Ability* refers to employees' job-related knowledge, skills, and competencies. In this study, ability is strengthened through effective recruitment and selection processes that attract qualified personnel, as well as through training and development initiatives that enhance competencies and professional growth. By ensuring the right person is placed in the right role and continuously upskilled, schools build a capable workforce prepared to meet performance standards.

- *Motivation* encompasses the internal and external drivers that encourage employees to exert effort. Rewards and compensation systems, recognition mechanisms, empowerment, and goal-setting strategies reinforce desired behaviors and align individual aspirations with organizational objectives. When employees perceive fairness and appreciation, their intrinsic and extrinsic motivation increases, positively influencing performance outcomes.
- *Opportunity* pertains to the availability of organizational conditions that enable employees to apply their abilities and motivation effectively. This includes access to resources, supportive leadership, participation in decision-making, and an environment conducive to performance. Without sufficient opportunity structures, ability and motivation may not translate into actual performance gains.
- *AMO theory* suggests that optimal performance occurs when all three components operate synergistically. In the context of private educational institutions, recruitment and training enhance ability; compensation and recognition strengthen motivation; and institutional support structures provide opportunity. Consequently, talent management practices function as integrated mechanisms that collectively drive improvements in quantity of output, quality of output, timeliness, and presence at work.

The integration of Social Exchange Theory and AMO Theory provides a comprehensive explanation of the relationship between talent management practices and employee performance. SET explains the relational and reciprocal nature of organizational investments in talent, while AMO clarifies the performance mechanism through which these investments produce measurable outcomes. Together, these frameworks justify the study's assumption that deliberate, structured, and supportive talent management practices significantly influence employee performance in selected private schools.

Literature Review

Employers face a human resources challenge in attracting and retaining skilled workers. Organizations need to have procedures in place that can be used to develop a workforce with the necessary technical knowledge and skills, personal qualities, and other productive capabilities (Nankervies et al., 2023). Because of this, attracting, nurturing, managing, and retaining people is a critical component of success for all firms. One of the elements that may have a favorable correlation with several performance metrics is the conviction that, when properly managed, it can be improved (Grayson, 2023).

Based on the findings of Atieno et al. (2023), talent management is a significant differentiator regardless of whether the organization is in the manufacturing or service sectors or the public or private sectors. Based on the findings, the research recommended focusing more on developing creative talent management techniques that may boost the attraction and acquisition of the proper personnel to ensure long-term performance. Ekhsan et al. (2023) stated that effective talent management may assist in selecting the appropriate individuals for the right jobs, providing the required training and development, and ensuring

staff have the tools and resources they need to achieve their performance. Vulpen (2023) also stated that the overarching purpose of talent management is to improve performance. This is best accomplished by developing a system that inspires and engages workers to perform to their full potential. When done correctly, organizations may gain a durable competitive edge and outperform their competitors by implementing an integrated system of personnel management methods that are difficult to replicate and duplicate. In other words, talent management is a process that uses integrated people management methods to drive performance.

Hastwell (2023) also states that talent management addresses employees' requirements throughout their careers, from recruiting to retention and final leave. Proper talent management not only assists in finding the correct talent in the first place but also ensures that talent stays for the long haul. According to Mohana et al. (2021), implementing a talent management system leads to employee performance, but a talent management output mediates the relationship between talent management and employee performance. Based on Ehksan et al. (2023), these findings suggest that excellent talent management may boost employee performance. *Talent management* is a systematic strategic effort the organization intends to attract, retain, develop, and motivate people by applying human resource management methods such as staff acquisition and assessment, learning and development, performance management, and remuneration. Also, in the study of Khairina et al. (2022), the findings indicate that using talent management has a favorable and substantial influence on employee performance. The talent management system may be used to improve the performance of individual employees and the entire organization.

According to the findings of Abdullahi et al. (2022), all talent management approaches significantly affect elements of Employee Performance and diminish negative behaviors among academic staff. Employee performance in attaining organizational goals and objectives determines an organization's success or failure. Much research claims that talent management techniques are unavoidable for better employee engagement and performance in today's corporate climate to obtain competitive advantages. According to Kaikhosroshvili (2023), performance management is a subset of talent management that focuses on assessing, monitoring, and developing employees' performance. It establishes performance output expectations and standards for determining how effectively personnel accomplish their objectives. It successfully supports the talent and facilitates their advancement inside the organization by reviewing how well an employee performs and creating personalized targets to improve their performance.

RESEARCH METHODS

Research Design

The researchers utilized the quantitative approach and a descriptive framework to evaluate the Talent Management Practices on Employee Performance in Selected Private Schools.

Research Locale

This study was conducted among employees in 10 selected private schools in Buenavista, Nasipit, and Carmen (BueNasCar), Agusan del Norte.

Buenavista, officially the Municipality of Buenavista, is a 1st class municipality in Agusan del Norte, Philippines. This place is in Agusan Del Norte, Region 13, Philippines; its geographical coordinates are 8° 58' 37" North, 125° 24' 32" East, and its original name (with diacritics) is Buenavista. Buenavista's recorded history begins in 1877. It was stated that this year, a group of nomadic Manobo from Agusan's borderlands discovered an appropriate location for their temporal-fishing retreat and meeting. "Municipality of Buenavista" through the efforts of Assemblyman Apolonio D. Curato and Governor Jose R. Rosales, Commissioner of Mindanao and Sulu Teofisto Guingona Sr., and Secretary of the Interior Elpidio Quirino, with a set of appointed officials to serve for one year.

On the island of Mindanao, the municipal center of Nasipit is around 8° 59' North, 125° 20' East. At these coordinates, the elevation is 19.0 meters or 62.2 feet above mean sea level. The municipality covers 144.40 square kilometres (55.75 square miles), accounting for 5.53% of Agusan del Norte's total area. On August 1, 1929, Nasipit was legally detached from the municipality of Butuan. Executive Order No. 181, issued by Acting Governor General Eugene Gilmore of the United States, established it as a municipality.

Carmen's municipal center is located on the island of Mindanao at roughly 8° 60' North and 125° 16' east. At these coordinates, the elevation is 11.0 meters or 36.2 feet above mean sea level. Carmen is a municipality on the coast of the province of Agusan del Norte. It has a land area of 214.44 square kilometres or 82.80 square miles, accounting for 8.21% of the total area of Agusan del Norte. Carmen was established as a municipality in 1949, when the barrios of Carmen, Tagcatong, Cahayagan, and San Agustin were split from the municipality of Nasipit and incorporated into the newly formed town under Republic Act No. 380, which was passed on June 15, 1949. Congressman Marcos M. Calo sponsored this bill. The town was established on July 1, 1949.

Research Respondents

The respondents of this study were the employees employed in 10 selected private schools in Buenavista, Nasipit, and Carmen (BueNasCar), Agusan del Norte for the school

year 2023-2024. The study used stratified random sampling due to the significant number of populations of respondents from the selected private schools.

Respondents	Population			Sample					
	Male	Female	Total	Male		Female		Total	
	F	F	F	f	%	f	%	f	%
SJHSBAI	21	34	55	10	5.13	17	8.72	27	13.85
BII	10	14	24	5	2.56	7	3.59	12	6.15
HHSCI	4	5	9	2	1.03	3	1.54	5	2.56
PH642-CIDP	1	9	10	1	0.51	5	2.56	6	3.08
GEAI	3	11	14	2	1.03	5	2.56	7	3.59
SMCC	69	113	182	34	17.44	56	28.72	90	46.15
NUCLS	0	2	2	0	0	1	0.51	1	0.51
LCS	2	15	17	1	0.51	7	3.59	8	4.10
NAC	24	36	60	12	6.16	18	9.23	30	15.39
OLCACI	9	10	19	4	2.05	5	2.56	9	4.62
TOTAL	143	249	392	71	36.42	124	63.58	195	100

Research Instrument

Researchers adapted and revised the questionnaire from the previous studies of Abdullahi et al. (2022) entitled "Talent Management Practices on Employee Performance: A Mediating Role of Employee Engagement in Institution of Higher Learning: Quantitative Analysis", Khairina et al. (2022) "The Influence of Talent Management Practices on Employee Performance: The Mediating Role of Employee Engagement and Employee Job Satisfaction. (Case Study at PT Bank Negara Indonesia (Persero) Tbk Regional Office 02)", and Fithri et al. (2019) "Impact of Work Environment on Employee Performance in Local Government of Padang City". The researchers modified the original questionnaires to include recent study questions, which was validated through pilot testing of 20 non-respondents' employees in selected private schools and passed the reliability testing.

- Part I. This contains the respondent's profile.
- Part II. It contains 30 questions about recruitment and selection, training and development, and rewards and compensation.
- Part III. It contains 20 questions about quantity of output, quality of output, timeliness of output, and presence at work.

Ethical Standards

The researchers followed a proper protocol that gave adequate information to the respondents and explained the researcher's virtue in confirming that the respondents' identity is protected and well-secured through the analysis method. To preserve the

confidentiality of the data provided by participants, the researchers utilized the questionnaire directly.

The study complied with ethical standards by giving the respondent a survey questionnaire with the researchers' informed consent and incorporating it. The researchers gave the questionnaire responses of the respondents a number. They need access to the total number of responses to protect their identity.

Data Gathering Procedures

The researchers used these succeeding procedures in data collection.

The researchers secured and sent a letter of permission to become one of the respondents in their research and include the permission to acquire the list of the total number of employees employed in the selected private schools to the head of the private school or the human resource officer.

After this, another letter of authorization to conduct a survey was sent to all selected private schools; after the approval was granted, the researchers disseminated the survey questionnaires through printed copies for the respondents which are the employees. Before conducting a survey, the researchers oriented the respondents to what their study entails to know and understand the study's reason.

After collecting the data, the researchers thoroughly evaluated, measured, presented in tables, analyzed, and interpreted the questionnaire to reach the appropriate conclusion. The information is tallied by the problems given.

Statistical Treatment

This study used measurable statistical tools to examine, analyze, and interpret the gathered data and information.

Weighted mean – This tool was used to determine the extent of talent management practices and the level of employee performance among employees.

Spearman Correlation – This tool was used to determine the relationship between the Talent Management Practices employed by the Human Resource Officers and the level of Employee Performance.

RESULTS AND DISCUSSION

This part discussed how the data was presented, analyzed, and interpreted. It also covered the findings and discussions on many problems and topics relating to how talent management practices affect employee performance in selected private schools. All 195 respondents who were employed in selected private schools in BueNasCar were able to respond to the survey questionnaires.

Table 2. Summary on the Extent of the Talent Management Practices on Employee Performance

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
Recruitment and Selection	3.49	Agree	Moderate Extent	1
Training and Development	3.46	Agree	Moderate Extent	2
Rewards and Compensation	3.11	Agree	Moderate Extent	3
Average Weighted Mean	3.36	Agree	Moderate Extent	

Table 9 shows the overall weighted mean of all the factors is 3.36. The verbal description is Agree with the verbal interpretation of Moderate Extent. Which further explains that the statement coincides with the respondent's experience where it is being practiced to private schools. Therefore, the extent of the talent management practices on employee performance moderately affects the respondents. This means that talent management practices are being practiced moderately by the school, which impacts employee performance.

It was based on the study of Alsakarneh et al. (2023); they stated that the study's findings indicated that talent management practices (recruitment and selection, training and development, and rewards and compensation) significantly and positively affect employee performance.

Table 3. Summary on the Extent of the Talent Management Practices that affects the Level of Employee Performance

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
Quantity of Output	3.38	Agree	Moderate Extent	4
Quality of Output	3.42	Agree	Moderate Extent	3
Timeliness of Output	3.43	Agree Strongly Agree	Moderate Extent	2
Presence at Work	3.52		Great Extent	1
Average Weighted Mean	3.44	Agree	Moderate Extent	

Table 14 shows an overall weighted mean of all the factors is 3.44, with a verbal description of Agree and a verbal interpretation of *Moderate Extent*, which further explains that the statement coincides with the respondent's experience. Therefore, the extent of the practices that affect employee performance moderately affects the respondents.

According to Kaikhosroshvili (2023), performance management is a subset of talent management that focuses on assessing, monitoring, and developing employees' performance. It establishes performance output expectations and standards for determining how effectively personnel accomplish their objectives. It successfully supports the talent and facilitates their advancement inside the organization by reviewing how well an employee performs and creating personalized targets to improve their performance.

Table 4. Test On Relationship Between The Talent Management Practices Employed By Human Resource Officers And The Employee Performance

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Talent Management Practices	Employee Performance	.458	.001	Reject H_{01}	There is a significant relationship between the talent management practices employed by Human Resource Officers: recruitment and selection, training and development, rewards and compensation and the extent of Employee Performance in terms of Quantity of Output, Quality of Output, Timeliness of Output, and Presence at Work.

Table 4 shows the spearman correlation test result in which all the correlations have a p-value lesser than the significance, which rejects the null hypothesis, it indicates that there is a significant relationship between the talent management practices employed by Human Resource Officers: recruitment and selection, training and development, rewards and compensation and the extent of Employee Performance in terms of Quantity of Output, Quality of Output, Timeliness of Output, and Presence at Work.

In the study of Mohana et al. (2021), talent management output mediates the relationship between talent management and employee performance, where implementing a talent management system leads to employee performance. Another study based on Ehksan et al. (2023), these findings suggest that excellent talent management boosts employee performance. *Talent management* is a systematic strategic effort the organization intends to attract, retain, develop, and motivate people by applying human resource management methods such as staff acquisition and assessment, learning and development, performance management, and remuneration. Also, in the study of Khairina et al. (2022), the findings indicate that using talent management has a favorable and

substantial influence on employee performance. The talent management system may be used to improve the performance of individual employees and the entire organization. Based on Knott (2016) also stated that most jobs require a certain level of employee performance, including timeliness, presence at work, quality, and quantity of output. A statistically significant relationship was found between the extent to which employee performance is impacted by talent management.

RECOMMENDATION

Primary Recommendation

Based on the study results, researchers recommend the following on the different issues and concerns.

The researchers recommend the improvement of the talent management practices which will result in further growth in the performance indicators such as the quantity of output, quality of output, timeliness of output, and presence at work. All private educational institutions in BueNasCar should be more deliberate in their talent management practices, particularly in recruitment and selection, training and development, and rewards and compensation. This will be achieved by enhancing hiring procedures, allowing high-potential candidates to join, creating specific training programs for upskilling employees, and modifying compensation structures to make them competitive and commensurate with industry standards. By selecting these areas, schools will know where to start in creating a more helpful workplace for employee engagement and, consequently, better overall performance.

Based on the findings of Atieno et al. (2023), talent management is a significant differentiator regardless of whether the organization is in the manufacturing or service sectors or the public or private sectors. Based on the findings, the research recommended focusing more on developing creative talent management practices that may boost the attraction and acquisition of the proper personnel to ensure long-term performance. Based on Chethana and Noronha's (2023) study, best practices for talent management are relevant to all sectors of the economy, including education. Higher education institutions need to nurture their talent. These institutions need to identify the competencies of their current workforces and address difficulties with emerging leadership talent because of the increasing competition. Another challenge is finding and retaining qualified workers, maximizing their talents, and minimizing their shortcomings. Because workers feel their abilities and skills are underappreciated, organizations lose talented and skilled employees to competitors.

Secondary Recommendation

To the Management

The management should spend more capital on replacing obsolete tools in recruitment and selection, training and development, and rewards and compensation

programs. This could include different recruitment strategies to attract the best talent, constant training to improve employees' skills, and revising the compensation packages that should align with the employee's contributions. Also, promoting employees' participation in these activities is critical, through clear communication and even giving them input or involvement in the decision-making.

According to Gülbahar (2020), educational institutions' management plans may be established using a talent management approach, training to improve school administrators' talent management practices can be implemented, and schools can use multiple channels to attract outstanding instructors.

To the Human Resource Department

The Human Resource Department should make these areas be at the top of the priority list. To initiate and implement recruitment and selection policies and procedures that identify, attract, and ensure that candidates have the proper skill set, experience, and cultural fit with the organization. Manages the formulation and execution of training and development programs that provide employees with the skills and knowledge required to perform well in their jobs and to grow within the organization. Implementing organizational rewards and compensation policies that reward and encourage high performance creates a cultural space for motivational workers.

Based on Węgrzynowicz (2022), it should be stressed that talent management is an essential aspect of human resource management for which managers are held accountable. It is necessary to thoroughly understand the employees' capabilities, objectives, and motivations before distributing new duties to them and, most importantly, making the proper decisions about talent development. Managers and HR departments have significant obstacles in acquiring and maintaining talent and long-term engagement to execute goals effectively.

To the Teaching and Non-teaching Personnel

Teaching and non-teaching personnel should actively engage in ongoing professional development initiatives. CPD (continuing professional development) is becoming an essential part of the educator's role; ensuring that teachers and non-teaching staff get involved in professional development initiatives regularly will be crucial. This could be attending various workshops, seminars, or classes to increase their abilities in various role-relevant skills. It should be discussed how to give the employees with bachelor's degrees and those earning less than Php 15,000 per month the chance for professional development and career advancement. All personnel should be able to contribute feedback on processes like recruitment and selection, training, and development, as well as on the pay structures.

As stated by the statement of *the Importance of Training and Development for Employees* (2021), employee development and training programs are crucial for improving employee performance. Employees who participate in successful training and development programs perform better.

To Outsource Training and Development Chains

These schools' partner with specialized training and development chains/providers should enhance their programs. Schools can implement blended learning approaches that combine online and in-person sessions by identifying core competencies and gaps, engaging reputable providers, and developing customized training modules. Additionally, schools should require employees to complete specific training or seminars as prerequisites for promotion. Continuous feedback mechanisms will ensure ongoing improvement, and a cost-benefit analysis will optimize investment returns.

Increasing employee productivity and organization income can be achieved by outsourcing training. It may help the institution in many ways, including by providing access to experts with a variety of talents and cutting-edge technology and by reducing costs and time through procedures that increase production and efficiency and foster staff retention. With their trademark, organizations may expand and maintain a strong foundation in this fiercely competitive industry thanks to this outsourcing training procedure (Neendoor, 2023).

To the Future Researchers

The researchers recommend that this study will serve as a guide or path for anyone who desires to evaluate the same topic concerning about Talent Management Practices on Employee Performance. And future researchers should take a holistic approach to studying talent management practices that consider a range of areas or other practices and choose respondents who served in the organization for more than six years. In this way, it can gain a deeper understanding of the practices that improve employee performance and invest and implement it to achieve organizational better performance.

Based on the statement of *Talent Management* (2023), talent management is a broad approach encompassing several human resource efforts like recruiting, retention, learning management, leadership development, and succession planning. When done correctly, it will choose the appropriate individuals for the right tasks and develop employees to perform to their full potential.

CONCLUSION

The study revealed that there is a significant relationship between talent management practices and employee performance in selected private schools in Buenavista, Nasipit, and Carmern (BueNasCar). Employees have a moderate engagement in recruitment and selection, training and development, and rewards and compensation, indicating that it positively influences and impacts employee performance in terms of quantity of output, quality of output, timeliness of output, and presence at work. The majority of the respondents are teaching employees, have bachelor's degrees, have less than Php 15,000 salary a month, work in their respective private schools for 1-5 years, and are employed by their respective private schools who get to experience the

school's talent management practices. This implies that the level of employee performance in terms of quantity of output, quality of output, timeliness of output, and presence at work, the employees do vary in how they rated their talent management practices implemented by the school as to recruitment and selection, training and development, and rewards and compensation.

Moreover, employees in selected private schools in Buenavista, Nasipit, and Carmern (BueNasCar), Agusan del Norte exhibit moderate extent on employee performance in terms of quantity of output, quality of output, timeliness of output, and presence at work. Talent management practices are vital to the organization, wherein they are the function of human resources and should be implemented, practiced, and enhanced to improve employee performance and achieve organizational goals and objectives.

Several related studies conclude that implementing talent management practices can significantly improve employee performance. It is aligned to the study of Alsakarneh et al. (2023), employees are expected to remain loyal to their employers in exchange for better treatment, including suitable talent management practices that give a promising career path; it explained that organization retention tactics should be emphasized before focusing on the recruiting, selection, and development processes. By implementing an efficient talent retention strategy, decision-makers may refrain from investing considerable time and money in recruiting and development. According to Damayanti's study (2023), employee performance results from an individual's actions during a specified period to complete a desired job or a person's capacity to achieve organizational goals. Employee performance is influenced by talent management practices such as recruiting and selection to boost talent attractiveness, coaching and mentoring for talent learning and development, and remuneration for talent retention. Human resource management departments should employ talent management practices to manage talented individuals. An organization must build employee talent management practices and processes to accept change by attracting, developing, and keeping exceptional workers to handle the organization's needs today and in the future. Based on the findings of Atieno et al. (2023), talent management is a significant differentiator regardless of whether the organization is in the manufacturing or service sectors or the public or private sectors. Based on the findings, the research recommended focusing more on developing creative talent management techniques that may boost the attraction and acquisition of the proper personnel to ensure long-term performance.

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CAREER ADVANCEMENT OPPORTUNITIES AND THEIR ROLE IN EMPLOYEE RETENTION STRATEGIES: CASE OF SAINT MICHAEL COLLEGE OF CARAGA

EMMYLIE A. OLAIVAR

Saint Michael College Of Caraga
Emmylie_olaivar@smccnasipit.edu.ph@
<https://orcid.org/0000-0001-9539-3852>

CLAIDEL MAE VALLESPIN

Saint Michael College Of Caraga
acalacherlyn655@gmail.com
<https://orcid.org/0000-0001-9837-4796>

IRIS OLAR CAGAMPANG

Saint Michael College Of Caraga
marygenrautraut@gmail.com
<https://orcid.org/0009-0008-7712-2846>

ABSTRACT

Employee retention remains a critical concern in private higher education institutions where limited career advancement pathways may influence workforce stability. Anchored on Herzberg's Two-Factor Theory, this study examined the role of career advancement opportunities in shaping employee retention strategies at Saint Michael College of Caraga. Specifically, it investigated professional development and professional career progression as motivator factors alongside compensation and benefits, job satisfaction, working conditions, and work engagement as retention mechanisms. An explanatory sequential mixed-method design was employed, wherein quantitative data were first collected from 115 teaching and non-teaching personnel using a validated 4-point Likert scale survey and analyzed through frequency, percentage, weighted mean, and Pearson Product Moment Correlation, followed by qualitative written interviews subjected to thematic analysis to contextualize the statistical results. Findings revealed that career advancement opportunities and retention strategies were perceived to operate at a moderate extent, with professional development ranking highest among advancement indicators and working conditions emerging as the most influential retention factor. Correlational analysis indicated that age was the only demographic variable significantly associated with retention strategies ($p < .05$), while gender, type of personnel, years of service, salary, and educational attainment

showed no significant relationship. Qualitative results further identified fair and motivating salaries, workforce well-being, and clear career trajectory planning as critical determinants of employees' intention to stay. The study affirms the complementary influence of hygiene and motivator factors in sustaining employee commitment and underscores the need for integrated institutional retention frameworks in private higher education settings.

KEYWORDS

Career Advancement Opportunities, Professional Development, Professional Career Progression, Retention, Compensation and Benefits, Job Satisfaction, Working Condition.

INTRODUCTION

Background

Nowadays, employees are increasingly focused on growing in their careers. They explore opportunities for advancement within their firms (Thwin, P. et al., 2023). Career opportunities had a significant positive effect on employee retention. The success of one's career in employment depends on both the individual and the opportunities available, such as professional development and career progression within an organization. Employees are considered the most essential resource in a company, often referred to as the lifeblood of an organization (Pagayan, 2021). Therefore, appropriate employee retention strategies should be implemented to retain employees and ensure their alignment with the organization's vision (Almari et al., 2019).

In the case of Saint Michael College of Caraga, employee retention is a top concern. Previous studies have shown a moderate influence on factors such as compensation, promotion, job satisfaction, work environment, and career opportunities on employee turnover (Dalde et al., 2023). The attrition rate for personnel in the school year 2021–2022 was recorded at 16.1%. Perceived career opportunities outside the organization and limited career advancement within the institution have contributed to employees' intentions to leave (Stahl et al., 2019). This highlights the importance of addressing career growth pathways to improve retention rates. Many studies have linked employee career advancement opportunities to retention in the workplace (Bhaumik et al., 2023). Researchers have explored various factors affecting employee retention, such as compensation and benefits, job satisfaction, work engagement, working conditions, recognition, and career development opportunities

Furthermore, implementing effective retention strategies has been emphasized as crucial for organizational improvement. Despite these studies, there remains a need to further investigate the impact of career advancement opportunities on employee retention in specific institutional settings, identifying gaps that may not have been sufficiently addressed in previous research.

General Objective

This study aimed to determine the role of career advancement opportunities in retention strategies. By assuming a strong correlation between career advancement and retention, this research seeks to provide insights into how institutions can address employee concerns and improve workplace conditions. The findings will enable Saint Michael College of Caraga to develop strategies for retaining competent educators and enhancing institutional stability. Specifically, it aimed to address the following questions below:

1. What are the career advancement opportunities given by SMCC to its teaching and non-teaching personnel in terms of:
 - 1.1 professional development;
 - 1.2 professional career progression?
2. What are the retention strategies given by the SMCC admin to retain the services of SMCC teaching and non-teaching personnel in terms of:
 - 2.1 compensation and benefits;
 - 2.2 job satisfaction
 - 2.3 working conditions; and
 - 2.4 work engagement?
3. Is there a significant relationship between career advancement and retention strategies at Saint Michael College of Caraga?
4. What are the other factors that are deemed necessary for employees to stay in the institution?

THEORETICAL FRAMEWORK

This study is anchored on Frederick Herzberg's Two-Factor Theory (1962), also known as the Motivation-Hygiene Theory. The framework guides the examination of career advancement opportunities and their role in retention strategies. It explains how motivators—particularly the possibility of growth and advancement—interact with retention-related factors such as job satisfaction, compensation and benefits, work engagement, and working conditions to influence an employee's decision to stay in his or her present organization.

Herzberg's theory posits that job satisfaction and job dissatisfaction arise from two distinct sets of factors: motivators and hygiene factors. Hygiene factors, such as salary, working conditions, supervision, company policies, and job security, prevent dissatisfaction but do not directly create satisfaction. Their absence leads to dissatisfaction, but their presence merely stabilizes the work environment. In contrast, motivators—including recognition, achievement, responsibility, the work itself, and personal growth—are intrinsic

to the job and directly contribute to satisfaction and motivation. Thus, hygiene factors maintain stability, while motivators drive engagement, performance, and retention.

In the context of retention, organizations must first address hygiene factors to prevent dissatisfaction. Competitive compensation, fair supervision, sound administrative policies, and safe working conditions create a foundation for employee stability. However, preventing dissatisfaction alone is insufficient for retaining talented employees. Organizations must also provide meaningful motivators that enhance fulfillment and commitment. Career advancement opportunities align with the motivator component of Herzberg's theory, particularly the possibility of growth and advancement, which allows employees to develop new skills, acquire knowledge, assume greater responsibility, and progress in their careers (Herzberg et al., 1993; Herzberg, 2003).

Motivators in the theory include: (1) the possibility of growth and advancement, enabling professional development and career progression; (2) the work itself, referring to satisfaction derived from meaningful tasks; (3) responsibility, involving autonomy and decision-making authority; (4) recognition for achievement, through feedback and acknowledgment; and (5) achievement, reflected in quality performance. These intrinsic factors strengthen job satisfaction and organizational commitment.

Hygiene factors, on the other hand, are extrinsic and include interpersonal relationships, salary and benefits, company policies and administration, supervision in terms of competence and fairness, and working conditions involving the physical environment and facilities. Although these factors do not create satisfaction, they are essential in preventing dissatisfaction and turnover intentions. A strategic balance between motivators and hygiene factors increases employees' willingness to remain in the organization.

This framework assumes a strong relationship between career advancement opportunities and retention strategies. By providing structured growth pathways and advancement opportunities, organizations enhance intrinsic motivation, which leads to higher job satisfaction and retention. Empirical support affirms this position. Abdulkhamidova (2021) emphasized the theory's relevance in explaining employee motivation, highlighting recognition, achievement, and growth as critical drivers. Indeed (2023) underscored the importance of job advancement opportunities in increasing productivity and motivation. Similarly, Washington (2020) reported that leaders who integrate compensation, conducive work environments, training and development, job satisfaction, and engagement—consistent with Herzberg's framework—successfully retain high-talent employees.

Grounded in Herzberg's Two-Factor Theory, this study conceptualizes career advancement opportunities as key motivators influencing retention strategies. The framework provides a systematic lens for analyzing how intrinsic and extrinsic workplace factors shape employees' decisions to stay in their present organization.

Literature Review

Career Advancement Opportunities as Retention Drivers

Career advancement is consistently linked to retention because it communicates long-term investment in employees and creates psychological attachment to the institution (Bhaumik et al., 2023; Thwin et al., 2023; Zhu & Song, 2022). In educational organizations, advancement opportunities influence whether employees see the institution as a place for sustained professional identity-building rather than as a temporary workplace (Booth et al., 2021; Ye et al., 2019). Anchored in Herzberg's Two-Factor Theory, advancement-related factors are often framed as "motivators" that foster satisfaction and commitment, increasing the likelihood of remaining in the organization (Herzberg, 1962; Main, 2023).

Professional development (PD) is commonly conceptualized as structured learning support—training, seminars, mentoring, and continuing education—designed to improve competence and performance (Noe, 2023; Parveen et al., 2022). Across studies and organizational reports, PD is repeatedly associated with stronger motivation and reduced turnover intention because it signals organizational support and enables employees to remain competitive and confident in their roles (The Conference Board, 2022; Morris et al., 2022; Dewa, 2020). In schools and colleges, PD strengthens teacher capacity, which improves institutional performance and reinforces employees' sense of professional efficacy, thereby supporting retention (Booth et al., 2021; Ye et al., 2019). However, equity in access to PD is also a key issue—where perceived unequal opportunities can undermine morale and attachment (The Conference Board, 2022).

Career progression is typically defined as movement to roles with higher responsibility, status, and, frequently, compensation—often through promotion systems or structured pathways (Corpuz, 2013; Parvin & Kabir, 2021). In educational workplaces, progression is not only vertical; advancement may include lateral role enrichment, expanded responsibilities, and parallel mobility that supports professional growth without necessarily leaving core teaching or service functions (Moalusi & Jones, 2019). Evidence suggests that unclear promotion policies and limited pathways can weaken job satisfaction and raise intentions to leave, particularly among high-performing staff who expect transparent progression mechanisms (Booth et al., 2021; Raduan & Na, 2020). When institutions provide credible and fair advancement systems, employees are more likely to develop long-term commitment and invest in organizational goals (Thwin et al., 2023; Zhu & Song, 2022).

Retention Strategies and HR Systems in Institutions

Employee retention is not a single strategy but a coordinated set of organizational practices aimed at sustaining satisfaction, commitment, and continued employment (Belete, 2018; Singh, 2019). Turnover is repeatedly described as costly because organizations must replace, retrain, and reintegrate new employees, disrupting continuity and productivity (Dewa A. S. et al., 2020; Onoja & Babatunde, 2023). Within this broader HR context, educational institutions typically use multiple retention levers—financial and non-financial—to maintain stability and performance (Nankervis et al., 2023). These levers align with Herzberg’s distinction: *hygiene factors* reduce dissatisfaction, while *motivators* enhance satisfaction and engagement (Herzberg, 1962).

Compensation and benefits remain foundational because they influence perceptions of fairness, security, and organizational value (Rao, 2022; Vanderwerf, 2022; Wright et al., 2023). Studies indicate that inadequate or inequitable pay structures reduce commitment and increase turnover intention, especially when employees perceive mismatch between effort and reward (Hanai & Pallangyo, 2020; Msisiri & Juma, 2018; Rakhra, 2018). At the strategic level, compensation systems are framed as part of talent attraction and retention that supports organizational competitiveness (Dirks, 2020; Nankervis et al., 2023; Smirnova, 2022). Yet compensation alone is often insufficient: integrated packages combining financial rewards with recognition and career development show stronger retention effects (Dong et al., 2023; Indeed, 2023). Some evidence also links higher wages with productivity, though retention outcomes are more reliable when pay is paired with supportive conditions and growth opportunities (Saleh, 2023; Sorn et al., 2023).

Job satisfaction is a core retention variable reflecting how employees evaluate their roles, recognition, advancement prospects, and support systems (Mratinkovic et al., 2023; Ramazan, 2023). In Herzberg’s framework, hygiene conditions prevent dissatisfaction, but true satisfaction is strengthened by motivators such as recognition and advancement (Herzberg, 1962; Main, 2023). Leadership support is repeatedly emphasized: administrators’ supportive behaviors correlate with teachers’ job satisfaction and well-being, reinforcing institutional attachment (Ramazan, 2023). Job satisfaction also interacts with organizational commitment—employees who feel aligned with institutional goals and supported by policies are more likely to remain (Suryani, 2018).

Working conditions include the physical environment, workload demands, interpersonal relations, organizational transparency, and job design. Job design strategies—such as job rotation and job enrichment—are argued to increase motivation and reduce withdrawal behaviors (Appelbaum, 2020). Evidence in education suggests that conducive environments and attention to staff well-being are especially critical for retaining employees, including those in high-demand contexts (Beng et al., 2020). Work-life balance is also increasingly linked with satisfaction and performance, with implications for retention among younger cohorts and modern workforces (Waworuntu et al., 2022; Westover, 2023).

Work engagement is described as a positive and persistent work-related mindset characterized by energy, dedication, and absorption (Shibiti, 2020). Engagement is strengthened when employees perceive career growth and organizational support; it also functions as a pathway through which HR practices translate into retention outcomes (Zhu & Song, 2022). In education, engaged employees are more likely to sustain effort and remain, particularly when work meaning, growth, and support are visible (Shibiti, 2020; Zhu & Song, 2022).

Other Factors that Sustain Employees' Decision to Stay

Beyond advancement and formal retention strategies, literature highlights additional determinants shaping employees' decision to remain. Organizational commitment is a recurring predictor of staying, reflecting psychological attachment and willingness to continue membership (Suryani, 2018). Perceived fairness and justice—particularly in pay, benefits, and advancement processes—also influence retention by shaping trust and long-term reciprocity (Msisiri & Juma, 2018; Rakhra, 2018). Leadership and relational climate matter: flexibility, trust, and supportive management practices contribute to sustained well-being and reduce intentions to leave (Ramazan, 2023; Westover, 2023). Additionally, retention patterns are often complex and may involve mediating or moderating variables that shape the strength of relationships between career opportunities and retention outcomes, reinforcing the need for context-specific institutional evidence (Alkahtani, 2018). In sum, the literature supports a multi-factor retention model where financial incentives, advancement structures, working conditions, and psychosocial factors jointly determine whether employees remain (Singh, 2019; Nankervis et al., 2023).

RESEARCH METHODS

Research Design

This study utilized a mixed-method approach using an explanatory sequential design, wherein quantitative data were collected and analyzed first, followed by qualitative data to further explain and elaborate the quantitative results.

The quantitative phase employed a descriptive-correlational design to determine the relationship between career advancement and retention strategies among teaching and non-teaching personnel of Saint Michael College of Caraga (SMCC). The study was anchored on Frederick Herzberg's Two-Factor Theory to determine career advancement and its role in retention strategies. A standardized and modified questionnaire served as the primary tool for gathering quantitative data.

After the quantitative analysis, a qualitative phase using written interviews was conducted to provide deeper explanations of the statistical findings. The qualitative data

were used to clarify patterns, relationships, and significant results identified in the quantitative phase.

Research Locale

The study was conducted at Saint Michael College of Caraga, located in the Municipality of Nasipit, Agusan del Norte, along Atupan Street beside Saint Michael the Archangel Parish Church, near Versoza Park and the Nasipit Municipal Hall.

The College of Tourism, Hospitality, Business and Management offers programs such as Bachelor of Science in Business Administration (BSBA) major in Human Resource Management, Marketing Management, Financial Management, Bachelor of Science in Entrepreneurship, Bachelor of Public Administration, Bachelor of Science in Hotel and Restaurant Management, and Bachelor of Science in Tourism Management.

Research Respondents

The respondents consisted of teaching and non-teaching personnel of SMCC. A purposive sampling technique was used. The total population was 115 personnel, composed of 76 teaching personnel (66.09%) and 39 non-teaching personnel (33.91%).

Among the teaching personnel, 49 were females and 27 were males. Among the non-teaching personnel, 24 were females and 12 were males. The majority of respondents were teaching personnel. Selected participants were also invited to participate in written interviews during the qualitative phase to elaborate on the quantitative findings.

Research Instrument

The study utilized a modified survey questionnaire based on “Factors Influencing Employee Turnover in Saint Michael College of Caraga” (Dalde et al., 2023) and a self-made instrument. The questionnaire underwent validation to ensure reliability and accuracy.

The instrument consisted of four parts: (1) demographic profile, (2) professional development and progression, (3) retention strategies, and (4) open-ended questions on additional factors influencing employee retention. Responses were measured using a 4-point Likert scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree).

Ethical Standards

Ethical standards were strictly observed. The purpose of the study was clearly explained to participants prior to data collection. Participation was voluntary, and informed consent was secured. Confidentiality and anonymity were maintained. Data collected were used solely for research purposes, and respondents were given the freedom to withdraw at any time.

Data Gathering Procedure

The data collection followed the explanatory sequential mixed-method design.

First, the researchers secured permission from the Human Resource Office through a formal letter of request. Upon approval, the quantitative phase was conducted. Survey questionnaires were distributed to teaching and non-teaching personnel, and respondents were given adequate time to complete them. The collected data were checked, coded, tabulated, and subjected to statistical analysis using frequency, percentage, weighted mean, and Pearson Product Moment Correlation.

After analyzing the quantitative results, the qualitative phase was conducted to explain and contextualize significant findings. Selected respondents participated in written interviews. The responses were collected and transcribed verbatim.

The qualitative data underwent systematic coding. The researchers organized responses into meaningful units, identified recurring patterns, and grouped them into categories. Thematic analysis was then applied to generate themes that explained the statistical results. Data reduction, categorization, theme development, and interpretation were conducted to ensure consistency and credibility.

Finally, the findings from both phases were integrated. The qualitative themes were used to support, explain, and clarify the quantitative results, thereby providing a comprehensive understanding of the role of career advancement in employee retention strategies.

Statistical Treatment

The following statistical tools were employed:

- **Frequency and Percentage** to describe the profile of respondents.
- **Weighted Mean** to determine the level of retention strategies.
- **Pearson Product Moment Correlation** to determine the significant relationship between respondents' profile and retention strategies.

RESULTS AND DISCUSSION

1. What is the profile of the respondents in terms of age, gender, type of personnel, years of service, salary, and educational attainment?

Table 1. Distribution of the Respondents in terms of Age

Age	F	%	Rank
25–34 years old	78	67.8	1
35–54 years old	29	25.2	2

55 years old and above	8	7.0	3
Total	115	100	

Table 1 shows the age profile of the respondents. As viewed from the table, ages 25 to 34 years old have a frequency of 78, which is 67.8 percent of the total population and ranks 1. Ages from 35 to 54 years old have a frequency of 29, representing 25.2 percent, and rank 2. The last in rank are those aged 55 years old and above with a frequency of 8 or 7.0 percent. Therefore, most respondents are young employees aged 25 to 34 years old.

According to Medallon (2020), Millennials, those currently in their 20s and 30s, were projected to comprise almost half of the entire global workforce by 2020. As the largest generation in the workplace, this demographic dominance explains why a significant portion of the institution's personnel belongs to this age bracket.

Furthermore, as people get older, they experience significant changes in a wide variety of domains that also affect their work outcomes. Among others, with increasing age, individuals lose fluid intellectual abilities but gain knowledge and experience. Gradual changes in personality, affect, and emotion can also be observed. At work, overall, older individuals report more positive job attitudes, experience fewer negative emotions, and describe their job environment more favorably than their younger counterparts do (Kollman et al., 2020). This implies that while the institution is composed mostly of young employees, older employees may demonstrate stronger job stability and positive work attitudes.

Gender

Table 3. Distribution Of The Respondents In Terms Of Gender

Gender	F	%	Rank
Male	42	36.5	2
Female	73	63.5	1
Total	115	100	

Table 3 presents the gender profile of the respondents. Females rank 1 with a frequency of 73 or 63.5 percent of the total population, while males have a frequency of 42 or 36.5 percent and rank 2. The majority of the respondents are female.

Many studies state that women are enormously over-represented in the educational setting (Dhone & Katekhaye, 2023). This finding is consistent with the institutional context of Saint Michael College of Caraga, where teaching roles are primarily occupied by female personnel.

Moreover, men and women behave differently when seeking career advancement and in their career aspirations. For men, advancement is linked to performance, whereas women use a multi-pronged approach focusing on preparing for career success and

building role competency. Differences in strategy for advancement mean men will actively engage in behaviors to advance even when they do not have the knowledge or experience to perform in the new role. Conversely, women seek to feel competent in a work role prior to seeking it out (Hartman & Barber, 2020). This may have implications for career progression initiatives and retention strategies within the institution.

Table 4. Distribution of the Respondents in terms of Type of Personnel

Type of Personnel	F	%	Rank
Teaching	76	66.1	1
Non-Teaching	39	33.9	2
Total	115	100	

Table 4 shows that 76 respondents (66.1%) are teaching personnel, while 39 respondents (33.9%) are non-teaching personnel. The majority of respondents are teaching personnel.

School personnel can be divided into two categories: teachers and non-teaching staff (Meador, 2021). Every stakeholder of an institution is significant in their own way. However, teaching staff directly influence student learning, while non-teaching personnel ensure that everything is clean, organized, recorded, and readily available (Bordia, 2022).

Most of the respondents belong to the teaching category, which is significant since teaching personnel often attribute employee retention to career development factors such as institutional support for staff career growth, employee promotions by merit, and a clear career path definition (Escuredo, 2019).

Table 5. Distribution of the Respondents in terms of Years of Service

Years of Service	F	%	Rank
0–1 year	20	17.4	3
More than 1–3 years	45	39.1	1
More than 3–15 years	40	34.8	2
16–20 years and above	10	8.7	4
Total	115	100	

Table 5 shows that 45 respondents (39.1%) have served more than a year to 3 years, ranking 1. Forty respondents (34.8%) have served more than 3 years to 15 years, ranking 2. Twenty respondents (17.4%) served 0–1 year, ranking 3, while 10 respondents (8.7%) served 16 years and above, ranking 4.

Therefore, most respondents have more than a year to 3 years of experience. According to Graham (2020), beginning teachers quickly improve during their initial years in the field. However, Suryani (2018) found that individuals who have been in an organization

for years would willingly sacrifice their lives to meet the organization's objective and are more likely to stay due to stability and familiarity.

Table 6. Distribution of the Respondents in terms of Salary

Salary	F	%	Rank
Less than Php 15,000	30	26.1	2
Php 15,001–Php 20,000	43	37.4	1
Php 20,001–Php 25,000	26	22.6	3
Php 25,001–Php 30,000	10	8.7	4
Php 30,001 above	6	5.2	5
Total	115	100	

Most respondents (37.4%) earn Php 15,001–Php 20,000 monthly. Compensation significantly influences employee retention. Offering competitive base salaries demonstrates that the organization values employees' time and energy (Crail, 2023). Salary heavily influences employee performance and retention, as raising salaries increases take-home earnings and satisfaction (Saleh, 2023).

Lower salaries may affect effort and quality of work and make it difficult to retain good teachers who may seek better income elsewhere. This highlights the importance of fair and competitive compensation in sustaining retention.

Table 7. Distribution of the Respondents in terms of Educational Attainment

Educational Attainment	F	%	Rank
High School Level	0	0	5.5
High School Graduate	0	0	5.5
College Level	6	5.2	3.5
Bachelor's Degree	53	46.1	1
Master's Degree with units	50	43.5	2
Doctorate Degree with units	6	5.2	3.5
Total	115	100	

Most respondents (46.1%) hold a Bachelor's degree, followed closely by 43.5% with Master's degree units. According to Lee and Lee (2020), 88% of large school districts offer more pay to teachers with master's degrees, which explains the motivation for academic upgrading.

However, educational advancement does not necessarily equate to dissatisfaction. Teachers who did not pursue graduate studies may still demonstrate perseverance and enthusiasm in their teaching career (Fabelico & Afalla, 2020). Nevertheless, advanced qualifications remain linked to professional growth and potential career advancement.

Overall, the profile of respondents indicates a young, predominantly female, teaching workforce with early-career tenure, moderate salary levels, and strong undergraduate educational attainment. These demographic characteristics provide important context for analyzing career advancement opportunities and retention strategies within the institution.

2. What are the career advancement opportunities given by SMCC to its teaching and non-teaching personnel in terms of professional development and professional career progression?

Table 8. Extent on the Career Advancement Opportunities Toward Professional Development Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. The school offers opportunity to enhance my competencies.	3.42	Agree	Moderate Extent	2
2. The school supports me to pursue further studies and advance my career.	3.43	Agree	Moderate Extent	1
3. The school provides seminars and trainings to improve my expertise.	3.37	Agree	Moderate Extent	3.5
4. The school motivates me to share my expertise with colleagues in the workplace.	3.37	Agree	Moderate Extent	3.5
5. The school advances an opportunity for a higher position with a proportional salary.	3.14	Agree	Moderate Extent	5
Average Weighted Mean	3.35	Agree	Moderate Extent	

Table shows the extent of the career advancement opportunities toward professional development discrimination. The statement that the school supports me in pursuing further studies and advancing my career has a weighted mean of 3.43, with the verbal description of agree and a verbal interpretation of moderate extent ranked 1. Also, The school advances an opportunity for a higher position with a proportional salary, has a weighted mean of 3.14 with the verbal description of agreement and verbal interpretation of moderate extent, and is the rank 5.

Based on the data shown above, professional development plays a crucial role in retaining qualified staff, providing essential growth opportunities, and improving worker satisfaction (Parsons, 2022). This development increases staff efficacy and feelings of competency and bolsters motivation and a sense of belonging within the organization. By

offering career advancement opportunities, employees can be knowledgeable about the progression of technology, the core values of the organization, and their own work experience, thanks to professional development opportunities (Ejaz et al., 2023).

To sum up, the career advancement opportunities toward professional development discrimination have a weighted mean of 3.35, with the verbal description of Agree and the verbal interpretation of Moderate Extent. This coincides with Kilag et al.'s (2023) study that organizations that provide training and educational facilities for their employees create a supportive environment that promotes learning and collaboration. Such an environment encourages employees to be more dedicated to their roles and the organization.

As Dewa (2020) suggests, employees who receive proper education and training and work in a positive workplace environment with their colleagues are more likely to increase their productivity. Therefore, career advancement opportunities are beneficial for individual professional growth and contribute to the organization's overall success and efficiency.

Table 9. Extent on the Career Advancement Opportunities Toward Professional Career Progression Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. The school provides a fair and just promotion.	3.19	Agree	Moderate Extent	4
2. The school has a clear and systematic promotion policy.	3.17	Agree	Moderate Extent	5
3. The school performance appraisal is fair and just to all employees.	3.21	Agree	Moderate Extent	2
4. The school career goals are apparent.	3.27	Agree	Moderate Extent	1
5. The school provides me with a clear career path.	3.20	Agree	Moderate Extent	3
Average Weighted Mean	3.21	Agree	Moderate Extent	

Table shows the extent of the career advancement opportunities toward professional career progression discrimination. The highest rank indicator is the statement The school career goals are apparent, has a weighted mean of 3.27 with a verbal description of Agree and verbal interpretation of moderate extent; also, The school has a clear and systematic promotion policy has a weighted mean of 3.17 with a verbal description of Agree and a verbal interpretation of moderate extent and is the rank 5. Therefore, career progression can be

described as achieving high status within the workplace by performing practical work, generally increasing a worker's level of competence and salary.

According to Kekeocha et al. (2022), one of the biggest problems for many firms and organizations has always been retaining personnel in their organizations. However, promotion to higher positions in the organization can thus be simplified and, based on the data above, coincided with Raduan & Na (2020) stating that teachers often need to be given a clear career progression route. The progression along this clear career path has also been associated with advancing teacher expertise, including experience and competence.

Table 10. Summary on the Extent on the Career Advancement Opportunities Discriminations

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Professional Development Discrimination	3.35	Agree	Moderate Extent	1
2. Professional Career Progression Discrimination	3.21	Agree	Moderate Extent	2
Average Weighted Mean	3.28	Agree	Moderate Extent	

Table shows a summary of the extent of career advancement opportunities discrimination. Among the factors, Professional Development ranks as one with a weighted mean of 3.35, with a verbal description of Agree and a verbal interpretation of moderate extent. Also, Professional career progression discrimination has a weighted mean of 3.21, with a verbal description of Agree and a verbal interpretation of Moderate extent.

Based on the data shown above, professional development and career progression are crucial for teachers' career advancement, impacting their income and prestige. Education and training programs, essential for promotions and salary increases, play a critical role in this progression. Chaaban et al. (2023) state that career development through these programs leads to promotions and higher pay. The literature on enhancing teachers' careers highlights various interrelated factors across different systems that often correlate with job retention and educational development.

Moreover, Grayson (2023) emphasizes that teacher career development is a lifelong series of activities, including seminars and training sessions, that contribute to career exploration, establishment, success, and fulfillment. These activities moderately influence career advancement opportunities, enabling teachers to achieve professional growth and personal satisfaction. Consequently, professional development and career progression moderately impact teachers' career advancement, fostering their overall development and retention within the education sector.

To sum up, the summary on the extent of the career advancement opportunities discriminations has an overall weighted mean of 3.28, with a verbal description of Agree and a verbal interpretation of Moderate extent, which further explains that the statement coincides with the respondents' experience. Therefore, the extent of the factors is moderately influential to the respondents

3. What are the retention strategies given by the SMCC admin to retain the services of SMCC teaching and non-teaching personnel in terms of compensation and benefits, job satisfaction, working conditions, and work engagement?

Table 11. Extent on the Retention Strategies Toward Compensation and Benefits Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. The school salary grades are well structured.	3.05	Agree	Moderate Extent	3
2. The management prioritizes the welfare of its employees through health insurance.	3.37	Agree	Moderate Extent	1
3. The benefit package of the school is fair and equitable.	3.29	Agree	Moderate Extent	2
4. I stay in my job because of the competitive salaries in the market rate.	3.03	Agree	Moderate Extent	4.5
5. I stay in my job because my salary commensurate on my job description.	3.03	Agree	Moderate Extent	4.5
Average Weighted Mean	3.16	Agree	Moderate Extent	

Table shows the extent of the retention strategies toward compensation and benefits. The management prioritizes the welfare of its employees through health insurance has a weighted mean of 3.37, with the verbal description of Agree and a verbal interpretation of Moderate Extent ranked 1. Also, I stay in my job because of the competitive salaries in the market rate and I remain in my career because my salary commensurate with my job description rank 4.5 and have a weighted mean of 3.03 with the verbal description of Agree and verbal interpretation of Moderate Extent.

Compensation plays a moderately influential role in employee retention. Employees who feel valued at work are often happier, more productive, and less likely to seek other employment opportunities (Indeed, 2023). In addition to financial benefits, employees also highly value non-financial benefits like career development opportunities and salary

compensation (Dong et al., 2023). Compensation not only motivates employees' productivity but also fosters loyalty. Hanai and Pallangyo (2020) highlight that compensation and job satisfaction are firmly linked, mainly through payment categories such as salary increases based on competence or performance. This connection underscores how compensation, while not the sole factor, significantly contributes to retaining employees by enhancing their job satisfaction and commitment.

To sum up, the retention strategies regarding compensation and benefits have an average weighted mean of 3.16, with a verbal description of Agree and a verbal interpretation of Moderate Extent, which coincides with Nagaprakash (2023) statement that organizations must understand how compensation and benefits influence employee motivation and retention.

Table 12. Extent on the Retention Strategies Toward Job Satisfaction Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am satisfied with my current job position.	3.28	Agree	Moderate Extent	2
2. I feel valued in the organization.	3.31	Agree	Moderate Extent	1
3. My work gives me a sense of fulfillment.	3.22	Agree	Moderate Extent	3
4. I feel proud to be part of this institution.	3.20	Agree	Moderate Extent	4
5. I am satisfied with the recognition I receive for my work.	3.15	Agree	Moderate Extent	5
Average Weighted Mean	3.23	Agree	Moderate Extent	

Table shows the extent of the retention strategies toward job satisfaction discrimination. The highest rank indicator is the statement I feel valued in the organization, with a weighted mean of 3.31 with the verbal description of Agree and verbal interpretation of Moderate Extent. The lowest ranked indicator is I am satisfied with the recognition I receive for my work with a weighted mean of 3.15.

Job satisfaction plays a significant role in employee retention. Employees who are satisfied with their work are more likely to remain in the organization. Recognition, fulfillment, and pride in one's work contribute to job satisfaction and organizational commitment. When employees feel valued, they are more engaged and dedicated to their roles.

To sum up, job satisfaction has an average weighted mean of 3.23, verbally described as Agree and interpreted as Moderate Extent, indicating that job satisfaction moderately influences employee retention.

Table 13. Extent on the Retention Strategies Toward Working Conditions Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. The working environment is conducive.	3.34	Agree	Moderate Extent	1
2. I have good working relationships with colleagues.	3.30	Agree	Moderate Extent	2
3. The management treats employees fairly.	3.18	Agree	Moderate Extent	4
4. The institution provides adequate facilities and resources.	3.22	Agree	Moderate Extent	3
5. I feel safe in my workplace.	3.15	Agree	Moderate Extent	5
Average Weighted Mean	3.24	Agree	Moderate Extent	

Table shows the extent of the retention strategies toward working conditions discrimination. The highest rank indicator is the statement The working environment is conducive, with a weighted mean of 3.34.

Working conditions significantly influence employees' decisions to stay. A conducive environment, good interpersonal relationships, and adequate facilities contribute to employees' comfort and productivity. Employees who work in a supportive and safe environment are more likely to remain in the organization.

To sum up, working conditions have an average weighted mean of 3.24, verbally interpreted as Agree with Moderate Extent, which moderately influences retention.

Table 14. Extent on the Retention Strategies Toward Work Engagement Discrimination

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am enthusiastic about my work.	3.29	Agree	Moderate Extent	1
2. I am motivated to perform my tasks effectively.	3.27	Agree	Moderate Extent	2

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
3. I feel emotionally connected to my work.	3.19	Agree	Moderate Extent	3
4. I am willing to go beyond what is expected in my job.	3.16	Agree	Moderate Extent	4
5. I feel energized when working.	3.12	Agree	Moderate Extent	5
Average Weighted Mean	3.21	Agree	Moderate Extent	

Table shows the extent of the retention strategies toward work engagement discrimination. The highest rank indicator is the statement I am enthusiastic about my work, with a weighted mean of 3.29.

Work engagement reflects a positive, fulfilled state of mind associated with work. Employees who are enthusiastic and motivated are more likely to remain in their jobs. Engagement strengthens commitment and increases the likelihood of retention.

To sum up, work engagement has an average weighted mean of 3.21, verbally described as Agree and interpreted as Moderate Extent, indicating that engagement moderately influences employee retention.

Table 15. Summary on the Extent on the Retention Strategies

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
Compensation and Benefits	3.16	Agree	Moderate Extent	4
Job Satisfaction	3.23	Agree	Moderate Extent	2
Working Conditions	3.24	Agree	Moderate Extent	1
Work Engagement	3.21	Agree	Moderate Extent	3
Average Weighted Mean	3.21	Agree	Moderate Extent	

Table shows the summary of retention strategies discrimination. Among the indicators, Working Conditions ranks first with a weighted mean of 3.24, followed by Job Satisfaction with 3.23, Work Engagement with 3.21, and Compensation and Benefits with 3.16.

Overall, retention strategies have an average weighted mean of 3.21, with a verbal description of Agree and verbal interpretation of Moderate Extent. This indicates that retention strategies moderately influence employees' decision to stay in the institution.

4. Is there a significant relationship between the profile of the respondents and retention strategies in Saint Michael College of Caraga?

Table 16. Test on Relationship Between the Profile of the Respondents and Retention Strategies Discrimination

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Age	Retention Strategies Discrimination	-.211	.024	Reject H01	There is a significant relationship between the profile of the respondents and retention strategies discrimination factors.
Gender	Retention Strategies Discrimination	.123	.191	Accept H01	
Type of Personnel	Retention Strategies Discrimination	-.036	.699	Accept H01	
Years of Service	Retention Strategies Discrimination	-.124	.187	Accept H01	
Educational Attainment	Retention Strategies Discrimination	.094	.317	Accept H01	There is no significant relationship between the profile of the respondents and retention strategies discrimination factors.
Salary	Retention Strategies Discrimination	.043	.645	Accept H01	

Table shows the correlation between the respondents' profile and retention strategies discrimination factors. The correlation between age and retention strategies discrimination factors has a correlational coefficient of $-.211$ (negligible association) with a significance of $.024$ ($p\text{-value} < 0.05$), gender and retention strategies discrimination factors has a correlational coefficient of $.123$ (positive association) with a significance of $.191$ ($p\text{-value} > 0.05$), type of personnel and retention strategies discrimination factors has a correlational coefficient of $-.036$ (negligible association) with a significance of $.699$ ($p\text{-value} > 0.05$), years of service and retention strategies discrimination factors has a correlational coefficient of $-.124$ (negligible association) with a significance of $.187$ ($p\text{-value} > 0.05$), educational attainment and retention strategies discrimination factors has a correlational coefficient of $.094$ (positive association) with a significance of $.317$ ($p\text{-value} > 0.05$), and

salary and retention strategies discrimination factors has a correlational coefficient of .043 (positive association) with a significance of .645 (p -value > 0.05).

Table 16 shows the correlation between the respondents' profiles. Among all the correlations, only the correlation between age and retention strategies discrimination factors has a p -value lesser than $\alpha = 0.05$ level of significance, which rejects the null hypothesis.

Therefore, there is no significant relationship between the profile of the respondents in terms of gender, type of personnel, years of service, educational attainment and salary, and the retention strategies discrimination factors. At the same time, there is a significant relationship between the respondents' profiles regarding age and discrimination factors in retention strategies.

Table 16 revealed that there is no significant relationship exists between the respondents' profiles regarding gender, type of personnel, years of service, educational attainment and salary, and the retention strategies discrimination factors in Saint Michael College of Caraga. At the same time, there is a significant relationship between the respondents' profiles regarding age and discrimination factors in retention strategies. Additionally, future studies should explore other aspects aside from age that influence retention strategies and discrimination factors.

Moreover, employee retention may be influenced by demographic factors such as age, gender, education level, salary, job position, and length of employment (Kumar P. et al., 2023). However, our data presented a contradiction to Kumar's study, indicating no significant relationship between gender, education level, salary, job position, and length of employment in employee retention. However, our findings do reveal a significant effect of age on employee retention. This suggests that contrary to Kumar's findings, age is a crucial factor influencing whether employees stay with a company, while other demographic factors appear to have no substantial impact.

5. What are the other factors that are deemed necessary for employees to stay in the institution?

This study explores the other necessary factors for employees to stay in the institution. The data revealed three overarching themes:

1. Fair and Motivating Salaries
2. Empowering Workforce Well-Being
3. Exploring Personnel's Career Trajectory

Fair and Motivating Salaries

In the context of teaching and non-teaching personnel, the most significant problem in employee retention falls into regular salary appraisals, salary standardization, salary commensurate with work, job market rate, and salary as a motivator for work and salary to sustain the daily needs.

Identifying the key improvements or initiatives to encourage employee retention empowers workforce well-being. This underscores the holistic approach to employee welfare, which encompasses not just financial aspects but specifically emotional, mental, social, and spiritual aspects in the workplace.

Overall, an organization should ensure that its valued workforce stays and takes steps to ensure that highly skilled talents remain (Onoja & Babatunde, 2023). The organization should provide all forms of well-being, such as emotional, mental, social, and spiritual, so that the employees have peace of mind, can work better for the organization, and can increase productivity (Harshitha & Senthil, 2021).

Empowering Workforce Well-Being

“It is important because this study serves as a bridge of communication to the administration and fosters a positive work environment where employees feel engaged and valued.”

This emphasizes that employee retention is not solely based on salary but also on how employees perceive their treatment, recognition, and overall work environment. Providing emotional support, transparent communication, and organizational appreciation are essential components of workforce well-being.

Exploring Personnel’s Career Trajectory

This theme explores how personnel’s personal career trajectory influences their retention and advancement in the institution. Understanding these perspectives can help institutions develop better strategies to retain employees longer.

Nowadays, employees are increasingly focused on growing in their careers. They explore opportunities for advancement within their firms (Thwin et al., 2023). Growth is an integral part of every individual’s career. Employees need help planning their career development path and making informed decisions about their professional and personal growth (Chandrika & Rajeshwari, 2023).

In the context of teaching and non-teaching personnel, the most crucial factor in foreseeing their career path five years from now falls into three sub-themes: progression, pursuing further studies, and retaining still. This was visibly seen in their statements:

Respondent 1. “5 years from now, I see myself still working here in SMCC and being promoted.”

Respondent 3. “I think 5 years from now, myself will see into progression or successful professional employee for this institution.”

Respondent 5. “I can see myself 5 years from now with a Master’s degree continuing my career here in SMCC.”

Respondent 4. “If I will follow my personal plan, in the next 5 years I will continue to teach in the school and finished my future plan of taking the Doctorate degree.”

Respondent 2. “I might still be one of the administrators of the institution.”

Respondent 6. “I see myself continuing my service in the institution.”

Effective administration is pivotal in employees' decisions to stay with an organization. Majority of the respondents expressed their sentiments that they envisioned themselves being promoted, pursuing further studies, and remaining at the same institution for the next five years.

One respondent said that:

Respondent 7. “I will stay forever in this institution because I love SMCC the compassion and dedication being a teacher in this institution.”

Respondent 8. “Still working here in SMCC with the same designation.”

This statement highlighted the respondent’s strong commitment and positive sentiment toward SMCC, driven by administrative support and a sense of belonging, which is supported in the study of Bamboo HR LLC (2024), when an employee creates their career path; they are not the only one who benefits. Employers also benefit when employees are more engaged in their job and long-term relationship with the company.

Therefore, Herzberg's Two-Factor Theory underscores the significance of job advancement and growth opportunities in retaining employees. Job advancement provides a clear path for progression, motivating employees to work toward promotions and increasing productivity. Similarly, growth opportunities, such as professional development, can boost employee motivation and engagement (Indeed, 2023).

RECOMMENDATION

Strengthen career advancement opportunities by providing structured professional development programs, including regular seminars, training, and workshops aligned with employees’ career goals.

Develop a clear and transparent promotion system that outlines criteria, performance appraisal standards, and career pathways for both teaching and non-teaching personnel.

1. Implement regular salary reviews and ensure compensation is commensurate with qualifications, years of service, and job responsibilities to remain competitive with market rates.
2. Enhance employee welfare programs by improving health insurance benefits, wellness initiatives, and support systems that address emotional, mental, social, and spiritual well-being.
3. Foster a positive and inclusive work environment by strengthening communication between administration and employees, promoting fairness, and recognizing employee achievements.
4. Increase engagement strategies by encouraging participation in decision-making processes and creating opportunities for employees to share expertise and innovations.

CONCLUSION

This study examined the relationship between career advancement opportunities and retention strategies among teaching and non-teaching personnel at Saint Michael College of Caraga, anchored on Herzberg's Two-Factor Theory. The findings indicate that both career advancement opportunities—specifically professional development and professional career progression—and retention strategies—namely compensation and benefits, job satisfaction, working conditions, and work engagement—were perceived to operate at a moderate extent. These results suggest that while the institution has established foundational mechanisms to support employee growth and retention, these mechanisms are not yet maximized in influencing long-term organizational commitment.

The correlational analysis revealed that age is the only demographic variable significantly associated with retention strategies, whereas gender, type of personnel, years of service, educational attainment, and salary did not demonstrate significant relationships. This implies that generational factors may shape retention perceptions more strongly than structural or positional characteristics. The absence of significant relationships across most demographic variables suggests that retention strategies may function as institution-wide mechanisms rather than being profile-dependent.

Qualitative findings further enriched the quantitative results by identifying additional retention determinants, including fair and motivating salaries, workforce well-being, and clearly defined career trajectories. These themes reinforce the dual importance of hygiene factors (e.g., compensation, working conditions) and motivators (e.g., growth, advancement, recognition), consistent with Herzberg's framework.

Overall, the study contributes empirical evidence to the discourse on employee retention in private higher education institutions. It underscores the need for integrated retention policies that simultaneously strengthen structural support systems and intrinsic motivational pathways to enhance institutional sustainability and workforce stability.

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A TRACER STUDY OF TERTIARY EDUCATION SUBSIDY (TES) GRANTEES OF SAINT MICHAEL COLLEGE OF CARAGA

ARLYN Q. BONJAN

Saint Joseph Institute of Technology/ Saint Michael College of Caraga

arlynbonjan@gmail.com

<http://orcid.org/0000-0003-3475-4313>

JACKELOU M. MADLOS

Saint Joseph Institute of Technology

mapajackelou1@gmail.com

ABSTRACT

This study traced the graduates who were Tertiary Education Subsidy (TES) grantees of Saint Michael College of Caraga (SMCC) from School Year 2019 to 2024 to assess their demographic profile, employability outcomes, and experiences with institutional support services. Anchored on Human Capital Theory, the research examined whether investments in education through TES translated into employment, income generation, and skill development. A multi-method research design was employed, integrating quantitative and qualitative approaches. Survey data were collected from 306 TES graduates using a modified CHED Graduate Tracer Study (GTS) instrument, while 12 participants underwent semi-structured interviews. Descriptive statistics (frequency and percentage) were used for quantitative analysis, and thematic analysis was applied to qualitative data. Findings revealed that most graduates were young (20–25 years old), single, and early in their careers. While 76.47% were employed, primarily in the education sector, the majority held entry-level positions and earned below ₱15,000 in their first job. A significant proportion secured employment within six months after graduation, indicating favorable employability outcomes. However, only 21.5% of total TES grantees during the period graduated, revealing retention concerns. Qualitative findings showed that both technical (IT/computer) and non-technical (communication, problem-solving, human relations) skills acquired during college positively contributed to workplace performance, though gaps in advanced digital competencies, particularly in Excel functions, were identified. The study affirms the contribution of TES and institutional support services to graduate employability while highlighting the need to strengthen retention mechanisms, industry linkages, digital skill integration, and graduate tracking systems. These findings provide empirical evidence for policy enhancement, curriculum responsiveness, and strategic improvement of student support services to ensure sustained alignment with labor market demands.

KEYWORDS

Tracer Study, Tertiary Education Subsidy (TES), TES Grantees, Employability Skills, Student Support Services

INTRODUCTION

Background

Conducting a tracer study is crucial for the institution to assess the long-term impact of its educational programs and the support services received by the graduates. It serves as a follow-up mechanism to track the graduates' progress and evaluate the effectiveness of the institution's support services. In addition, a tracer study helps the institution gather insights into how well the program prepares graduates for real-world challenges, especially employment. By understanding the graduates' experiences and challenges, institutions can refine their program offerings, including support services, to better serve current and future students. Institutions may refine their program offerings and improve student support services by conducting a tracer study. According to Cahyo Nugroho et al. (2018), every higher education institution is expected to have an alumni tracer program in the form of a tracer study to know the absorption and position of graduates in the world of work and industry. It is supported by Abdulloh et al. (2022), who stated that one of the things that need to be evaluated is the level of absorption of graduates into the working industry. In addition, a tracer study is required to assess the school's success in learning that has been applied to the curriculum. Senekal and Smith (2022) also agree that graduate tracer studies are recommended for exploring employment destinations and employability.

On the other hand, schools are expected to provide critical and essential features, not only the quality of the program and its delivery but also adequate school facilities, student support, and student services (Tadle et al., 2021). Ensuring that learners have access to education is insufficient to promote equality of educational opportunities unless sound student support is provided, particularly for students from disadvantaged backgrounds (Shikulo & Lekhetho, 2020). Therefore, higher education institutions (HEIs) should provide effective support services that meet the needs of students to enhance their learning experience and academic success and empower them to be self-directed lifelong learners who may help them seek employment. Considering these facts, the researcher profiled the graduates, tracked their employability, and determined the support services they experienced while studying at Saint Michael College of Caraga to improve the student support services of the Admission and Scholarship Office for current and future TES grantees. Thus, the study's findings provide critical insights for SMCC to enhance its academic programs and student support services to better prepare students for the labor market.

Objectives of the Study/Statement of the problem

The study aimed to trace the graduates who were TES grantees of SMCC from School Year 2019 to 2024.

Specifically, it answered the following questions:

1. What is the demographic profile of the respondents in terms of:
 - 1.1 age
 - 1.2 civil status
 - 1.3 professional examination(s) passed
 - 1.4 reason(s) for taking the degree program, and
 - 1.5 training/activities attended during college?

2. What is the total number of TES grantees, and how many graduated from S.Y. 2019 to 2024 at SMCC?

3. What are the employment characteristics of the respondents in terms of:
 - 3.1 employment status
 - 3.2 nature of employment
 - 3.3 nature of current work
 - 3.4 location of current work
 - 3.5 duration of finding a job
 - 3.6 gross monthly income, and
 - 3.7 first job level position?

4. What employability skills or competencies were learned in college that the graduates were able to apply in their first job?

THEORETICAL FRAMEWORK

This study is founded on the theory of Human Capital, emphasizing the returns on educational investments, particularly employment, income, and career advancement. Accordingly, human capital theory assumes that education determines the marginal productivity of labor, and this determines earnings. It has become widely assumed that intellectual formation constitutes economic capital, higher education is preparation for work, and primarily education (not social background) determines graduate outcomes (Marginson, 2019). Hence, the study of Asombo et al. (2023) recommends that the government increase education expenditure and encourage and promote academic excellence with appropriate remunerations such as granting scholarships, employment, training, and re-training of excellent students.

Hence, this study benefits significantly from the framework of human capital theory. It provides a valuable framework for the study by emphasizing the transformative role of

educational programs and subsidies like TES in building the recipient's human capital. In the context of this study, this theory was used to highlight how investments in education contribute to the graduate's development of skills and knowledge; investigate whether TES grantees have transitioned to meaningful employment, reflecting their enhanced human capital; and explore whether the graduates' employability has resulted in higher incomes and better socio-economic well-being.

Literature Review

People live in a rapidly changing world with diverse demands and challenges (Del Rosario, 2019). Considering this, governments worldwide are increasingly challenging universities to produce human resources with the right skill sets and knowledge required to drive their economies in this twenty-first century. Thus, universities must produce graduates that bring tangible and meaningful contributions to the economy. Graduate tracer study (GTS) is hailed as one of the ways universities can respond and reposition themselves to the actual needs of the industry (Nyasulu et al., 2019). It represents one of the key approaches for enhancing study program effectiveness in contemporary higher education (Nudzor & Ansah, 2020). Additionally, GTS plays a key role in informing higher education institutions worldwide about the efficacy of their programs and preparing graduates for the job market (Chima et al., 2023).

Additionally, a tracer study can provide helpful information to evaluate higher education results and can be used to improve and guarantee the quality of higher education institutions (Shelly Andari et al., 2021). Significantly, a graduate is one of the essential supports in developing a university. Graduates have a role in helping universities develop into the community through collaboration in academic terms (Thomas & Wagiu, 2019). Hence, HEIs must prepare graduates for careers by monitoring their performance. They must also evaluate academic relevancy to practical needs (Lukman et al., 2023). Research by J. Senekal and Munro (2019) indicated that graduate tracer studies may be an appropriate research method for responding to various problems in a higher education context, including difficulties associated with higher education transformation and graduate employability. Besides the Malaysian context, the tracer study also drew insights from international perspectives on the employed theoretical framework, comprising the theories of job market signaling, human capital, and neoliberalism, to provide a comprehensive understanding of graduate employability (Dela Cruz, R. A., 2023).

Moreover, HEIs are responsible for ensuring the quality of education of their learners. GTS is one of the methods these institutions can use to monitor the quality of their programs (Tefera, 2018). It is an essential tool for educational planners, as they provide valuable information for evaluating the results of higher education and training institutions (Campiseno & Maratas, 2018). By conducting a tracer study, an institution can determine how effectively it has strengthened its students' abilities and prepared them for the workplace (Plaza et al., 2022). Furthermore, graduates' satisfaction encourages continual improvement towards engaging in open, mutually beneficial ways and spreading knowledge

to uplift others and positively use their influence to impact the community, the country, and the world (Gentova et al., 2023).

Martin et al. (2015) acknowledged that a tracer study is used to trace the graduates from their school of origin to their place of employment or self-employment to obtain the needed information. It also determined the extent to which factors affect the employment status of the graduates. Tracer studies, according to Santos et al. (2013), are essential sources of information to know what happens to graduates of academic programs in HEIs. GTS not only covers the employment history and profile, skills and competencies, and career advancement endeavors of the graduates of the HEI but also serves as an evaluation and monitoring instrument in which the effectiveness and relevance of the offered training and programs can be measured (Shrestha, 2021).

Individuals who have developed the competencies that firms feel to be most important are more likely to obtain a job. It requires the educational process to go beyond imparting knowledge and developing skills. It must be leveled to ensure and produce employable graduates (Albina & Sumagaysay, 2020). Every year, hundreds of thousands of fresh graduates join the labor force and compete for entry-level positions in the private and public sectors. They possess different levels of the acquired skills from their alma mater that are expected to be relevant and matched to the job requirements, like technical skills, information technology skills, communication skills, entrepreneurial skills, and the like (Dela Rosa & Galang, 2021). These data show the importance of HEIs in the graduate's career and job opportunities.

In support of generating a more skilled workforce, scholarships to deserving students allow them to pursue their studies and contribute to the country's development (Capistrano et al., 2020). It is universally accepted that human resources are the foundation of a country's economy. However, education is accessible to less privileged members of society. Hence, academic scholarship grants have been created to provide less fortunate yet deserving students with access to education and build a better future (Modales et al., 2022). Thus, to improve the production of high-level human resources that can spearhead efforts to attain national development, many countries, including the Philippines, have provided student scholarship grants (Cagasan et al., 2019).

Magno et al. (2023) acknowledged that one way to develop human resource potential is by enhancing higher-quality education through student scholarship programs. In connection, Ortiz et al. (2019) stated that ensuring equitable and inclusive access to quality higher education remains one of the primary agendas of many governments worldwide due to its crucial role in economic development and poverty reduction. Providing access to quality education to students, especially those from disadvantaged backgrounds, not only helps raise their potential income but also benefits society in the long run. Further, according to Barr (2001), the quality and diversity of higher education are essential for their own sake and national competitiveness. Many students have had problems with their finances in the past years, especially their education expenses. They are affected by the crisis financially,

emotionally, and by their well-being (Capinig et al., 2023). That is why the government provides student assistance programs that will lessen the students' burden with their tuition and other school fees, such as the Tertiary education Subsidy (TES) program of the Unified Financial Assistance System for Tertiary Education Act (UniFAST).

The TES is one of the four programs under Republic Act No. 10931, also known as the Universal Access to Quality Tertiary Education Act (UAQTEA). This act intends to provide all Filipinos with an equal opportunity to quality tertiary education to ensure the optimized utilization of government educational resources (Maga-Ao et al., 2019). TES is a form of financial assistance that plays a vital role in augmenting the financial incapacities of students enrolled in HEIs. Through R.A. No. 10931, which was passed into law on August 3, 2017, the citizens were allowed full access to quality education by providing adequate funding and increasing the participation rate in tertiary education. It further gives poor but deserving students chances to reach their goals and finish a degree. The Implementing Rules and Regulations (IRR) of this law recognize the complementary roles of public and private HEIs and technical-vocational institutions in the tertiary education system and the invaluable contribution of private tertiary institutions to the education system. As embedded in our Philippine Constitution, quality education is an inalienable right of all Filipinos, and it is the state's policy to protect and promote the rights of students to quality education at all levels (Pacheco et al., 2022).

Nowadays, finding employment is as challenging as finding a needle in a haystack. Moreover, many graduates are noted to have work that is not related to their course in college. Hence, GTS is essential for understanding the relevance and quality of programs offered by universities and the labor market (Sanchez et al., 2017). Scholar graduates also provide relevant information to not only provide a better understanding of the relevance and quality of programs offered but also improve the administration of the scholarship program using tracer studies (Capistrano et al., 2020).

Taking this into account, the researcher aimed to provide not only a better understanding of the relevance and quality of programs offered by the institution but also to improve the support services of the Admission and Scholarship Office on the management of the TES program using this tracer study. The office offers various support services to the grantees, such as students' TES application, orientation, TES updates, monitoring of grades, staff assistance for grant-related concerns, and the disbursement of funds. According to Banayo et al. (2023), scholars are managed by providing services such as scholarship updates, which are about disseminating relevant information and announcements from the department. Meanwhile, scholarship staff assistance is given as they oversee meeting the needs of the scholars from the time they submit their scholarship applications until they complete their degrees, among other duties. Support for scholarship-related problems is also extended to the students to further the academic and personal growth of the scholars. Lastly, scholarship benefits are also given to the scholars, including tuition and other school fees.

To effectively facilitate the management of the TES program and provide improved support services to the current grantees of SMCC, the researcher proposed a recommendation for improving student support services as an output based on the study's findings. It will help the Admission and Scholarship Office better support grantees in earning a degree, potentially leading to better employment. As a result, a higher level of satisfaction among the graduates will be attained, leading to an increase in the admission of college students, which will also lead to an increased number of TES grantees at SMCC. It is supported by Estacio et al. (2022) by stating that student support offices enhance students' educational experience through the services and programs that meet student needs. Additionally, Blacer-Bacolod & S. Bacolod (2021) indicated that student support services assist students in different aspects while they are in school. Furthermore, financial aid, as one of the institution's support services, has critical importance as a factor in college enrollments (Wilcox, 1991).

SMCC, through the Office of Admission and Scholarship, provides support services to the grantees. These support services for the grantees are vital in increasing their chances of continuing in college and meeting their academic needs, leading to degree completion and success. Considering this, the study will help the office improve its support services strategies, especially in managing and facilitating the TES program, leading to strengthening alumni relations and improved admission strategies. Therefore, the researcher aimed to conduct this tracer study not only for curriculum enhancement but also to improve the support services for the current and future TES grantees of SMCC.

RESEARCH METHODS

Research Design

This study employed a **multi-method research design** integrating quantitative and qualitative approaches to conduct a tracer study of TES grantees of Saint Michael College of Caraga (SMCC). Multi-method research involves the systematic use of more than one form of data collection to enhance analytical depth and validity (Mik-Meyer, 2020).

In the quantitative phase, a descriptive survey design was utilized to gather data on graduates' demographic profiles, degree programs, and employment characteristics. The modified CHED Graduate Tracer Study (GTS) instrument served as the primary tool. Frequency and percentage distributions were computed to describe employment trends, program representation, and graduate outcomes.

The qualitative phase addressed Problems 4 and 5 through semi-structured interviews with selected TES graduates. A thematic analysis approach was employed to identify recurring patterns related to employability skills acquired in college and experiences with institutional support services (Dawadi, 2020). Integrating quantitative

profiling with qualitative insights strengthened interpretive rigor and enhanced the reliability of findings (Blacer-Bacolod & Bacolod, 2021).

Context and Participants

The study was conducted at Saint Michael College of Caraga (SMCC), a private Roman Catholic higher education institution in Nasipit, Agusan del Norte, Philippines. Established in 1948 by the Missionaries of the Sacred Heart, SMCC offers 19 CHED-recognized degree programs eligible for TES grants. For SY 2023–2024, total enrollment reached 5,028 students across basic and higher education levels (SMCC Registrar, 2024).

The respondents were TES grantee graduates from SY 2018–2019 to SY 2023–2024. Using convenience sampling, 306 respondents were selected from a population of 1,662 graduates. The largest proportion came from SY 2023–2024 due to accessibility. Degree distribution showed 64.71% from board programs (e.g., Criminology, Education) and 35.29% from non-board programs (e.g., Business Administration, IT, Hospitality).

Additionally, 12 graduates participated in in-depth interviews to provide qualitative insights regarding employability skills and support service experiences. Combining survey respondents and interview participants ensured comprehensive representation.

Ethical Standards

Ethical compliance was strictly observed. Institutional permission was secured from the Registrar, Student Affairs and Services, and the Office of the Vice President for Academic Affairs and Research. Participants received informed consent forms detailing the study's purpose, procedures, and voluntary nature.

Confidentiality and anonymity were ensured. Data were used solely for research purposes and stored securely. Participation proceeded only upon documented consent.

Data Collection and Tools

The study utilized a **modified CHED Graduate Tracer Study (GTS) instrument**. Selected items were removed to align with study objectives, while additional questions on age and college training participation were included. The survey collected demographic data, employment characteristics, employability competencies, and perceptions of Admission and Scholarship Office support services.

Quantitative data were gathered via online surveys and printed questionnaires over a one-month period. Qualitative data were collected through individual interviews guided by open-ended questions. Descriptive statistics (frequency and percentage) analyzed quantitative responses. Qualitative data underwent thematic analysis to identify major themes and sub-themes, supported by direct participant quotations. Findings from both

strands were integrated to generate comprehensive conclusions and inform institutional recommendations for improving TES support services.

RESULTS AND DISCUSSION

1. What is the demographic profile of the respondents in terms of:

- 1.1 age
- 1.2 civil status
- 1.3 professional examination(s) passed
- 1.4 reason(s) for taking the degree program, and
- 1.5 training/activities attended during college?

Table 1. *Frequency Distribution of the Respondents' Age*

Age	Frequency	Percentage
20 – 25	191	62.42
26 – 30	83	27.12
31 – 35	22	7.19
36 – 40	7	2.29
Above 40	3	0.98
Total	306	100

The table reveals that most respondents are 20 to 25 years old, comprising 62.42% of the total respondents. The 26 to 30 age group follows, accounting for 27.12%. A smaller proportion of respondents belong to the 31 to 35 and 36 to 40 age brackets, comprising 7.19% and 2.29%, respectively. Lastly, those above 40 years old make up the smallest group, with only 0.98% representation. This result indicates a youthful respondent base, which reflects the nature of the respondents being studied, such as young professionals or early-career individuals, given that they are graduates of A.Y. 2019–2024. The study by Tutor et al. (2019) supports this result, indicating that 73.4% of surveyed graduates were aged 24–27, with an additional 9.3% aged 21–23, suggesting that many graduates are in their early to mid-20s, reflecting the typical age range for recent graduates in the Philippines.

Table 2. *Frequency Distribution of the Respondents' Civil Status*

Civil Status	Frequency	Percentage
Single	267	87.25
Married	38	12.42
Widow	1	0.33
Separated	0	0
Total	306	100

This indicates that most respondents (87.25%) are single. It supports Table 3 results that most respondents belong to a younger age group (20–25 years old), mostly in their early career opportunities. Only 12.42% of the respondents are married, further reflecting the

youthful demographic of the study's respondents. Dela Rosa and Galang (2021) support this result, revealing that most of the graduates are single, with a percentage of 97.98%, since most of them are between the ages of 20 and 30. Similarly, a tracer study conducted by Gerada (2011) revealed that most respondents were single and aged between 25 and 26, highlighting the prevalence of single status among young professionals.

Table 3. Frequency Distribution of the Respondents' Professional Examination(s) Passed

Professional Examination(s) Passed	Frequency	Percentage
Licensure Examination for Teachers (LET)	51	16.67
Criminologist Licensure Examination (CLE)	33	10.78
Librarians Licensure Examination (LLE)	3	0.98
Civil Service Examination	2	0.65
PNP Entrance Examination	2	0.65
None	215	70.26
Total	306	100

The table clearly shows that most respondents, specifically 215 (70.26%) graduates, have not passed any professional examination because most graduates of education and criminology programs have not yet taken a licensure examination or are still waiting for examination results. Additionally, some were enrolled in programs that do not require a professional license to engage in lawful employment or practice within their respective fields, such as business administration, hospitality management, tourism management, information technology, and similar courses where licensure is not required for employment.

Among those who have taken and passed professional examinations, the LET has the highest percentage at 16.67%, followed by the CLE with 10.78%, reflecting the presence of graduates from programs that mandate licensure for professional practice as shown in Table 2. A few respondents passed other professional exams, including the LLE (0.98%), PNP Entrance Examination (0.65%), and Civil Service Examination (0.65%). Tutor et al. (2019) support this finding by emphasizing that licensure examinations are essential for regulated professions such as education and criminology. Francisco (2024) further reveals that many respondents passed the LET, highlighting the high licensure rate among education graduates.

Table 4. Frequency Distribution of the Respondents' Reasons for Taking the Degree Program

Reasons for taking the Degree Program	Frequency	Percentage
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High Grades in the course/subject area(s) related to the course	29	3.75
Good grades in high school	29	3.75
Influence of parents or relatives	89	11.48
Peer Influence	48	6.19
Inspired by a role model	72	9.29
Strong passion for the profession	99	12.77
Prospect for immediate employment	66	8.52
Status or prestige of the profession	29	3.75
Availability of course offerings in the chosen institution	78	10.06
Prospect of career advancement	47	6.06
Affordable for the family	124	16.00
Prospect of attractive compensation	16	2.06
Opportunity for employment abroad	32	4.13
No particular choice or no better idea	17	2.19
Total	775	100

Table 4 indicates that the most cited reason for taking a degree program among graduates is affordability for the family (16.00%), suggesting that economic considerations significantly influence educational choices. It is followed by a strong passion for the profession (12.77%), indicating that some graduates pursued their degrees out of genuine interest. The influence of parents or relatives (11.48%) and the availability of course offerings (10.06%) highlight the impact of family and institutional accessibility, especially in less urbanized areas such as Nasipit, Agusan del Norte. Gines (2014) supports these findings, revealing affordable tuition fees as rank 1, followed by prestige and prospects for employment and career advancement.

Table 5. Frequency Distribution of the Respondents' Training/Activities Attended during College

Training/Activities Attended	Frequency	Percentage
On the Job Training	25	7.53
Seminars/Workshops/Symposiums	44	13.25
Job Fair	8	2.41
Leadership Training	9	2.71
Pre-Employment Training	1	0.30
Pre-Service Teacher Training	5	1.51
Feasibility Study Subject Culmination Event	1	0.30

Work Ethics and Employment Orientation	7	2.11
Financial Literacy	8	2.41
Digital Literacy/IT Training	2	0.60
Research Conference	1	0.30
Practice Teaching	6	1.81
Students' Congress	1	0.30
Criminology Trainings	5	1.51
Community Extension Services	4	1.20
School-related Competitions	4	1.20
None	201	60.54
<hr/>		
Total	332	100
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Table 5 shows that a significant majority (60.54%) indicated that they did not participate in any training or activities during college. Among those who engaged, Seminars, Workshops, and Symposiums (13.25%) and On-the-Job Training (7.53%) were most attended. Participation in professional trainings such as practice teaching and criminology training helped bridge theoretical knowledge and real-world application. Tutor et al. (2019) emphasize that participation in seminars and workshops positively influenced graduates' engagement and life satisfaction. Francisco (2024) further indicates that activities like practice teaching significantly contributed to graduates' preparedness for the workforce.

2. What is the total number of TES grantees, and how many graduated from S.Y. 2019 to 2024 at SMCC?

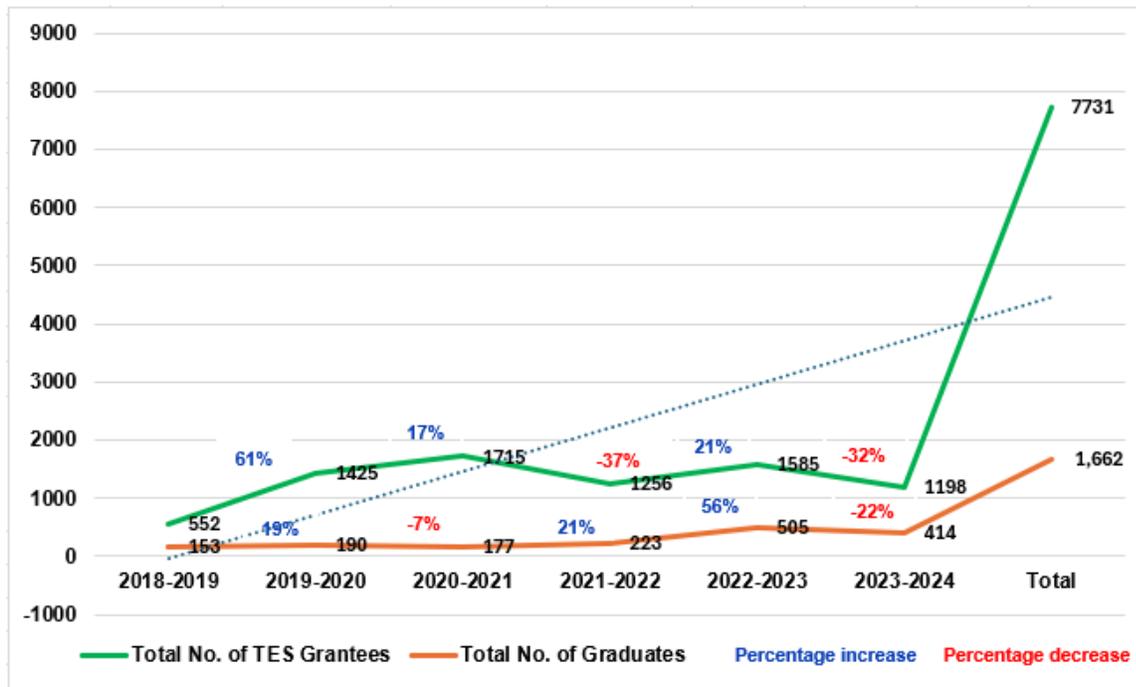


Figure 1. Number of TES Grantees and Graduates at SMCC

Figure 1 shows the total number of TES grantees and the corresponding number of graduates at SMCC from S.Y. 2019-2024. It also illustrates the trend or the percentage changes between consecutive years. The green line represents the total number of TES grantees, which shows fluctuations throughout the covered period. From S.Y. 2018–2019 to 2019–2020, there was a significant 61% increase. This growth continued modestly by 17% in S.Y. 2020–2021, reaching 1,715 grantees — the peak before experiencing a 37% decline in S.Y. 2021–2022, dropping to 1,256. The numbers slightly recovered in S.Y. 2022–2023 with a 21% increase but again declined by 32% in S.Y. 2023–2024. The total number of TES grantees for six years reached 7,731.

On the other hand, the brown line shows the number of TES grantees who graduated. There was a 19% increase in graduates in S.Y. 2019–2020, followed by a minor 7% decrease in S.Y. 2020–2021. A steady increase resumed in the succeeding years: 21% (2021–2022), 56% (2022–2023), the highest growth rate among graduates, before declining again by 22% in S.Y. 2023–2024. In total, 1,662 TES grantees graduated during this period, approximately 21.5% of the total grantees. However, included in 1,715 grantees were first-year to third-year students. There were 1,945 fourth-year TES grantees during S.Y. 2019-2024. Thus, out of 1,945 fourth-year TES grantees, only 1,662 graduated during the period, with 283 grantees who did not graduate.

3. What are the employment characteristics of the respondents?

Table 8 reveals that the majority (76.47%) of the respondents are currently employed, indicating that most graduates were able to find work opportunities after completing their degree programs. However, 19.93% of respondents reported being unemployed, meaning

they have worked previously but are currently unemployed due to family concerns, taking advance or further study, and health-related reasons. The remaining 3.60% have never been employed because of limited job opportunities and personal reasons. This result is supported by Abana et al. (2021), showing that graduates are competent because most of them are employed with regular or permanent status.

Table 6. Frequency Distribution of the Respondents' Current Employment Status

Current Employment Status	Frequency	Percentage
Employed	234	76.47
Not Employed	61	19.93
Never been Employed	11	3.60
Total	306	100

Moreover, Gallera (2023) reveals that most graduates were employed, with some experiencing underemployment and unemployment. Factors contributing to underemployment included a mismatch between graduates' chosen programs and job opportunities. At the same time, unemployment was influenced by a lack of job-seeking motivation, financial dependence on parents, and limited job prospects.

Table 7. Frequency Distribution of the Respondents' Nature of Current Employment

Nature of Current Employment	Frequency	Percentage
Regular or Permanent	125	40.85
Casual	16	5.23
Contractual	68	22.22
Temporary	25	8.17
None	72	23.53
Total	306	100

Table 7 reveals that most respondents (40.85%) are currently employed with regular or permanent status, indicating that many graduates have secured stable and long-term employment. It is followed by contractual (22.22%), temporary (8.17%), and casual (5.23%), reflecting that some graduates are engaged in time-bound or project-based employment arrangements, which may offer less job security compared to regular employment. Some graduates (23.53%) are not currently employed or have never been employed, as indicated in Table 8. Cagasan et al. (2019) support this result, revealing that more than four-fifths of

the respondents (84%) reported having a regular or permanent appointment status in their current jobs. The remaining few either had contractual, temporary, or casual appointments. Prospero, M. (2019) confirms that most graduates hold a regular or permanent employment status. Dela Rosa and Galang (2023) also agree, stating that most employed graduates are regular/permanent.

Table 8. Frequency Distribution of the Respondents' Nature of Current Work

Nature of Current Work	Frequency	Percentage
Education	80	26.14
Agriculture, Hunting and Forestry	3	0.98
Manufacturing	10	3.27
Electricity, Gas and Water Supply	1	0.33
Construction	6	1.96
Wholesale and Retail Trade, repair of motor vehicles, motorcycles, and personal and household goods	27	8.82
Hotels and Restaurants	16	5.23
Transport Storage and Communication	5	1.63
Financial Intermediation	11	3.59
Real Estate, Renting and Business Activities	8	2.61
Public Administration and Defense; Compulsory Social Security	10	3.27
Health and Social Work	10	3.27
Other community, Social, and Personal Service Activities	6	1.96
Private Households with Employed Persons	1	0.33
Transportation	4	1.31
Business Process Outsourcing	5	1.63
Others	31	10.13
None	72	23.53
Total	306	100

Table 8 shows that *Education* is the most common field of employment, and 26.14% of the respondents work in this sector, showing a significant number of graduates pursued degrees aligned with teaching or academic roles, particularly those who passed the LET, as reflected in Table 5. A notable 8.82% are employed in *Wholesale and Retail Trade and Repair Services*, which often offer accessible opportunities for new graduates. Other represented fields include *Hotels and Restaurants* (5.23%), *Financial Intermediation* (3.59%), *Health and Social Work* (3.27%), and *Public Administration and Defense* (3.27%). Moreover, 10.13% identified "Others" as their field of work, such as virtual assistance, graphic design, and business development, that were not specifically categorized in the survey. Furthermore,

23.53% of the respondents reported "None," which is consistent with Table 8 on employment status. These graduates are still seeking employment, pursuing further studies, or have not looked for a job due to family or personal reasons.

The CHED (2021) supports these results, indicating that most graduates from teacher education programs are typically absorbed by the education sector, especially those who have passed the LET, reflecting a high employment rate in this field. Tun's study (2020) also demonstrated that most graduates were engaged in a service business, followed by trading, which is aligned with the nature of management accounting and marketing management academic programs. Additionally, some newly graduated are employed in sectors outside their field of specialization due to limited job opportunities, contributing to job mismatch and underemployment (Seameo Innotech, 2020).

Table 9. Frequency Distribution of the Respondents' Location of Current Work

Location of Current Work	Frequency	Percentage
Local	224	73.20
Abroad	10	3.27
None	72	23.53
Total	306	100

Table 11 reveals that most employed respondents (73.20%) work locally, indicating that they primarily find job opportunities within the country. A small portion (3.27%) are employed abroad, suggesting that while there are opportunities for overseas employment, only a limited number of graduates have pursued or secured jobs abroad. Meanwhile, 23.53% indicated "None" as their work location, which aligns with the earlier data from Table 8, showing that these respondents are either unemployed or have never been employed. This is supported by Andaya et al. (2024), indicating that most respondents secured employment from local and international competitive companies within less than three months after graduation.

Table 10. Frequency Distribution of the Respondents' Duration of Finding their First Job after Graduation

Duration of Finding a Job after Graduation	Frequency	Percentage
Less than a month	126	41.18
1 to 6 months	123	40.20
7 to 11 months	14	4.58
1 year to less than 2 years	23	7.52
2 years to less than 3 years	3	0.98

3 years to less than 4 years	6	1.96
None	11	3.59
Total	306	100

Table 10 indicates that the majority of respondents (81.38%) found their first employment within six months after graduation, 41.18% in less than a month, and 40.20% within one to six months, showing that the institution's graduates are generally competitive and readily employable upon graduation. However, while most of them found a job in less than six months, a smaller portion of respondents experienced more extended search periods—4.58% found jobs within 7 to 11 months, 7.52% within 1 to 2 years, and 2.94% took 2 to 4 years to secure employment, indicating challenges such as limited job opportunities or personal reasons. Notably, 3.59% of respondents indicated “None,” meaning they have not yet experienced employment since graduation. It aligns with the data presented in Table 8.

Macatangay (2013) supports these results, revealing that most participants were gainfully employed and obtained their first jobs in less than 1 year. Additionally, 84% of the graduates were able to get their first job within 6 months after graduation (Tun, 2020). The results are further supported by Ramirez et al. (2014), indicating that most graduates land course-related jobs within a short period after graduation. However, the programs must be studied carefully for continuous improvement to give better chances for students to be hired immediately after or even before graduation (Cabrini et al., 2020).

Table 13 shows that most respondents (71.24%) earn below ₱15,000.00 monthly income on their first jobs after college, showing that they are employed in entry-level positions or sectors that offer relatively modest compensation, as reflected in Table 14, where most of them are in rank or clerical positions. About 13.07% earn between ₱15,000.00 to less than ₱20,000.00, while only 12.09% earn ₱20,000.00 and above. Those with higher income levels are employed in specialized fields, hold supervisory or managerial positions, or work abroad where salaries are relatively higher.

Table 11. Frequency Distribution of the Respondents' Gross Monthly Income

Gross Monthly Income	Frequency	Percentage
Below ₱5,000.00	38	12.42
₱5,000.00 to less than 10,000.00	106	34.64
₱10,000.00 to less than 15,000.00	74	24.18
₱15,000.00 to less than 20,000.00	40	13.07
₱20,000.00 to less than 25,000.00	16	5.23
₱25,000.00 and above	21	6.86
None	11	3.59

Total	306	100
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Meanwhile, 3.29% of respondents reported no monthly income due to unemployment, further supporting earlier findings on employment status. This result is supported by Santos et al. (2013), revealing that in the year 2013-2014, the majority (53.57%) of the graduates earned about 5,000 to less than 10,000 (10 or 50%), followed by 10,000 to less than 15,000 in a month (eight or 40%). Additionally, Dela Rosa & Galang (2023) revealed that most of the employed graduates earn 10,000.00 to ₱20,000.00 a month. Moreover, Prospero (2019) states that most graduates have monthly incomes of ₱18,500 to less than ₱23,000 in their first jobs.

Table 14 reveals that most respondents (67.65%) started their careers in *rank or clerical* positions, indicating that most graduates enter the workforce through entry-level roles. It is typical for fresh graduates, especially those without work experience or professional licenses. Notably, 24.18% secured *professional, technical, or supervisory* roles. Only a small percentage (4.58%) of graduates reported being employed in *managerial or executive* positions, which is expected given their recent graduation dates. Lastly, 3.59% indicated “None,” meaning they have not yet experienced any form of employment, aligning with earlier findings from Table 8.

Table 12. Frequency Distribution of the Respondents' First Job Level Position

First Job Level Position	Frequency	Percentage
Rank or Clerical	207	67.65
Professional, Technical, or Supervisory	74	24.18
Managerial or Executive	14	4.58
None	11	3.59
Total	306	100

This result is supported by Tun's study (2020), stating that 43% of the graduates are still in rank-and-file positions, and only 10% hold middle-level positions. Though the results are favorable, the institution should continue improving its program curriculum, meeting international standards, and continually satisfying the students regarding the quality of its education (Dela Rosa & Galang, 2023).

4. What employability skills or competencies were learned in college that the graduates were able to apply in their first job?

Table 13 clearly illustrates the connection between the graduates' skills developed during college and their practical application in their first jobs. Technical (IT/computer skills) and non-technical (soft skills) emerged as themes.

Table 13. Employability Skills or Competencies Learned in College

Actual Responses from the Participants	Sub-Themes	Major Themes
<p><i>P1: "I was able to use what I have learned in BSIT course, like hardware troubleshooting (computer, printer, laptop), and network maintenance."</i></p> <p><i>P2: "The specific skills that I have learned in college, which I was able to use in my first job, is regarding computer hardware and computer systems, which I able to handle technical problems."</i></p> <p><i>P5: "I am competent in handling Microsoft Offices and other software-related applications. In my first job, I handled Microsoft Office works and other software applications such as Quickenroll, Learning Management System (LMS), turnstile, and the server. I learned Microsoft Office and other software applications during my college years. Competent ko sa mga software applications."</i></p>	IT/Computer Skills	Technical Skills
<p><i>P3: "I have learned communication skills, problem-solving, and accounting. And I was able to apply these skills in my first job."</i></p> <p><i>P4: "The specific skills or competencies that I have learned in college which I used in my first job are communication skills, human relations, and stress management skills."</i></p> <p><i>P6: "Throughout my college years, I developed strong presentation skills through various academic projects, organizational activities, and competitions. I was able to carry this skill into my first job as a Sales Development Representative, where I regularly used it to communicate with prospects, deliver compelling sales pitches, and contribute to building strong client relationships."</i></p>	Soft Skills	Non-Technical Skills

P8: "In college, I learned skills that helped me a lot in my job now as an HR. I learned how to stay organized, which helps me keep employee records and do payroll properly. I also improved my communication skills, so I can talk clearly with job applicants and employees. Paying attention to details was important in school, and now it helps me make sure contracts and salaries are correct. Lastly, I learned how to solve problems, which is useful when handling employee concerns or hiring needs."

Five graduates emphasized the importance of technical skills or competencies (e.g., troubleshooting, network maintenance, Microsoft Office applications, software applications) in their first jobs. For example, Participant 2 shared that he handled technical problems in his first job because of the skills he learned in college. Another participant (P5) shared that he is competent in handling Microsoft Offices and other software-related applications because of what he learned in college. On the other hand, five participants mentioned that the soft skills (e.g., presentation, organizational, communication, human relations, attention to detail, and problem-solving skills) they gained during college helped them in their first jobs, especially in roles that required interacting with people, presenting ideas, or working with teams. For example, one graduate (P6) shared that her experience delivering presentations during college helped her perform better as a Sales Development Representative.

Another graduate (P8) mentioned that her improved communication skills supported her tasks in HR, such as speaking with applicants and resolving employee concerns. They emphasized the importance of communication skills developed in college through presentations, organizational activities, and class participation. Chico, A. (2021) supports this result by stating that most of the respondents' competencies in terms of communication skills, critical thinking skills, problem-solving skills, and human relations skills are helpful in their first job. Ramirez et al. (2014) also agree, revealing that the graduates claimed that their knowledge, academically acquired skills, and competencies contributed significantly to their job performance. Likewise, the academic-acquired abilities and competencies of the graduates are relevant to their chosen occupations. The study also indicates that the graduates possess the skills and competencies necessary to succeed in this competitive world. Furthermore, Tun (2020) revealed that most respondents were employed in a field related to their degree through the help of what they have learned from the institution. Abana et al. (2021) also emphasize that graduates must acquire innovative skills such as information and communication technology.

Table 16 reveals insights into the skills or competencies that graduates wished they had developed more during college to better prepare for their first job. The thematic analysis points to one significant area of concern: technical skills. Most participants agreed with stronger technical competencies, particularly in complex Microsoft Excel functions and other software applications. Three participants emphasized the practical relevance of Excel,

particularly in performing tasks that required formulas, data organization, and analysis functions beyond basic computer literacy.

Participant 4 shared that the technical skills (IT/computer skills), especially Excel function and formula, were not well developed in college, only the basics were taught. Participant 3 agreed, stating that they did not focus much on Excel, like its complex functions and formulas. Participant 7 further agreed, emphasizing that many tasks in the workplace required more advanced skills, such as using complex formulas in Excel. The graduates emphasized the practical relevance of Excel, particularly in performing tasks that required formulas, data organization, and analysis functions beyond basic computer literacy.

Table 14. *Skills or Competencies that Need to be Developed*

Actual Responses from the Participants	Sub-Themes	Major Theme
<i>P2: "Yes, ma'am, there are specific skills or competencies that I wish I have developed more, specifically in terms of the field of programming and the fundamentals of computer networks. At the same time, being a full stack developer. So, these are the specific skills that I wish I had developed more during college."</i>	IT/Computer Skills	Technical Skills
<i>P3 "Yes, ma'am. In my college, we did not focus much on Excel. But I cannot say that my Excel skills are low because when it comes to computer literacy, I am knowledgeable. It is just that my weakness is the Excel formulas and functions."</i>		
<i>P4: "The technical skills, like IT skills, were not developed in college — for example, only the basics of Excel were taught. As a teller, when I started the work, there was already DCPR. That's why technical skills are needed to perform the task efficiently."</i>		

Abana et al. (2021) support this result, emphasizing that graduates must acquire innovative skills such as information and communication technology. The program must continue to provide adequate and relevant competencies by integrating the 21st century and lifelong learning skills to help graduates succeed professionally and personally (Olegario & Argonza, n.d.).

RECOMMENDATIONS

- **CHED & UniFAST.** Utilize the findings to evaluate alignment between TES-supported programs and labor market demands. Strengthen curriculum development to ensure

employability relevance and assess the overall effectiveness and sustainability of the TES program. Continue financial support initiatives that reduce economic barriers and improve tertiary education access for disadvantaged students.

- **SMCC Administrators.** Use the results for institutional planning and enhancement of student support services beyond financial assistance, particularly in career readiness and employment facilitation. Expand industry linkages and alumni networking for job placement support. Integrate advanced ICT competencies (e.g., Excel functions) and relevant trainings into curricular or graduation requirements. Establish a graduate tracking system and alumni database for continuous engagement and institutional improvement.
- **Office of Admission and Scholarship.** Improve monitoring of TES grantees through a tracking system to support retention and completion. Strengthen communication through a centralized TES portal, SMS/email updates, and accessible information channels. Conduct regular financial literacy seminars for all grantees. Highlight TES success stories to motivate students and promote the program.
- **Guidance Office.** Enhance counseling, mental health, and career development services. Strengthen visibility and impact of job fairs and career seminars to ensure graduates recognize and benefit from these initiatives.
- **SMCC Alumni Association.** Support graduates' transition to employment through mentorship, job referrals, and industry linkages. Provide career guidance grounded in real-world industry expectations to strengthen alumni engagement and institutional credibility.
- **Future Researchers.** Conduct longitudinal tracer studies to monitor career trajectories and emerging skill demands. Replicate the study with larger samples and additional variables to validate findings and assess the long-term impact of the TES program.

CONCLUSION

The findings indicate that TES grantees of SMCC are predominantly young, single, and in the early stages of their professional careers. Affordability significantly influenced program choice, although personal passion and career aspirations were also relevant factors. While many graduates transitioned successfully into the workforce—particularly in education and other aligned sectors—a gap remains between the number of TES grantees and those who completed their degrees, suggesting retention challenges that require institutional attention. Although employability skills acquired during college contributed positively to workplace performance, limited participation in co-curricular trainings and identified gaps in advanced digital competencies highlight areas for enhancement. The Office of Admission and Scholarship demonstrated a meaningful role in supporting TES grantees through financial management and academic monitoring, contributing to successful degree completion and employment outcomes. Overall, the study affirms the institutional contribution to graduate employability while identifying strategic areas for strengthening support systems, curriculum responsiveness, and graduate tracking mechanisms to ensure sustained program effectiveness and alignment with labor market demands.

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ARTIFICIAL INTELLIGENCE ANXIETY AND THE LEARNING MOTIVATION OF STUDENTS

PAUL MICHAEL P. CAGANDE

Saint Michael College of Caraga

pcagande@gmail.com

0009-0001-3696-2936

MARIANNE NICOLE N. BALOIS

Saint Michael College of Caraga

nicolebalois@gmail.com

0009-0003-6033-7844

ACE PATENIA

Saint Michael College of Caraga

acefpatenia@gmail.com

0009-0005-8442-7558

CHARMAINE Q. BEDAYO

Saint Michael College of Caraga

charm.bedayo@gmail.com

0000-0003-3985-6108

ABSTRACT

Artificial Intelligence (AI) has transformed our lives, affecting how we think, act, and interact with society. With the rise of these technologies, students need to understand, adapt, and develop AI-related skills for their future endeavors. This study utilized a descriptive-quantitative research design to explore the relationship between Artificial Intelligence Anxiety (AIA) and Learning Motivation among students of the College of Teacher Education at Saint Michael College of Caraga. It is anchored on the theory of reasoned action (Fishbein & Ajzen, 1975) and supported by self-determination theory (Ryan & Deci, 2000). Data were collected from 199 students across various education programs using stratified random sampling, with instruments including an adapted version of the Artificial Intelligence Anxiety Scale (AIAS). Statistical analysis revealed moderate levels of AI anxiety predominantly influenced by AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness. The study found that these anxieties significantly influence students' learning motivations, with AI Learning Intention being the most affected. This research underlines the need for integrating AI education that addresses anxiety and

enhances motivation among future educators. Primary recommendations include incorporating AI fundamentals in the curriculum to better prepare students for evolving educational demands.

KEYWORDS

AI Job Replacement Anxiety, AI Learning Anxiety, AI Learning Intention, Artificial Intelligence Anxiety, Extrinsic Learning Motivation, Intrinsic Learning Motivation, Learning Motivation, Learning-Self Efficacy, Sociotechnical Blindness

INTRODUCTION

Background

In the modern era, Artificial Intelligence (AI) has emerged as a transformative technology, encompassing fields such as robotics, deep learning, machine learning, and natural language processing. The advent of AI-powered tools like ChatGPT has increased public awareness and integration of AI into various domains, including education (Eager & Brunton, 2023). Within the educational context, AI refers to computing systems capable of human-like cognitive tasks, such as learning, adapting, synthesizing information, and correcting errors (Chatterjee & Bhattacharjee, 2020; Haenlein & Kaplan, 2019). Recent studies indicate that AI-driven digital technologies have significantly influenced human cognition, behavior, and social interactions (Chen et al., 2020; Johnson & Verdicchio, 2017; Khasawneh, 2018).

Despite its potential, AI has raised concerns among experts and influential figures, such as Bill Gates and Elon Musk, regarding its possible negative consequences. A major concern is the potential loss of human control over AI, which could lead to harmful outcomes for society (Johnson & Verdicchio, 2017). In education, students may struggle to keep pace with the rapidly evolving AI landscape, leading to a gap between their skills and the increasing complexity of AI technologies. This gap has contributed to rising AI anxiety, where students feel overwhelmed by the subject, affecting their motivation to learn (Khasawneh, 2018). Addressing this issue is critical, as AI-related knowledge and skills are increasingly essential for future careers (Gati & Kulcsár, 2021; OECD, 2018).

Prior research suggests that students with positive attitudes toward AI are more likely to engage with AI-related learning (Ng & Chu, 2021). Similarly, studies have shown that Korean high school students were more inclined to study AI when they had a favorable perception of it (Fornell & Larcker, 1981; Kim & Lee, 2020). However, students in online learning environments may experience anxiety, which can hinder their intrinsic motivation to learn (Almaiah & Al-Khasawneh, 2020). In the Philippines, leveraging AI in education offers an opportunity to enhance instructional effectiveness and adaptability (Tong et al., 2019). However, the rapid advancement of AI challenges traditional educational approaches,

necessitating curriculum reforms to keep pace with technological developments (Taeihagh, 2021).

This study was conducted at Saint Michael College of Caraga, Nasipit, Agusan del Norte, focusing on all College of Teacher Education (CTE) students from first-year to fourth-year levels. Given the complexity of AI algorithms, students may feel overwhelmed, leading to decreased motivation and a lack of appreciation for the subject's practical and enjoyable aspects. Conversely, concerns about AI replacing human jobs may serve as a motivating factor for students to develop AI-related competencies. Therefore, this study aims to examine students' AI anxiety and learning motivation, assess the levels of AI anxiety and motivation based on verified variables, and explore the relationship between AI anxiety and learning motivation.

Objectives of the Study/Statement of the problem

The study aimed to determine the relationship between Artificial Intelligence Anxiety and the Learning Motivation among CTE students of Saint Michael College of Caraga.

Specifically, the research seeks to address the following questions:

1. What is the students' profile in terms of:
 - 1.1 Age;
 - 1.2 Gender;
 - 1.3 Year Level;
 - 1.4 Gadgets Frequently Used; and
 - 1.5 Monthly Family Income?

2. What is the level of Artificial Intelligence Anxiety of the respondents in terms of:
 - 2.1 AI Learning Anxiety;
 - 2.2. AI Job Replacement Anxiety; and
 - 2.3 Sociotechnical Blindness?

3. What is the level of the Learning Motivation of the respondents in terms of:
 - 3.1 Intrinsic Learning Motivation;
 - 3.2 Extrinsic Learning Motivation;
 - 3.3 Learning Self-Efficacy; and
 - 3.4 AI Learning Intention?

4. Is there a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation?

5. Is there a significant relationship between the respondents' profile and their Artificial Intelligence Anxiety?

6. Is there a significant relationship between the respondents' profile and their Learning Motivation?

Theoretical Framework

This study is anchored on the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975), which seeks to explain the relationship between intention and behavior. The theory posits that an individual's intention is the primary determinant of whether they will engage in a specific behavior. Intention, in turn, is shaped by personal beliefs and attitudes. In the context of this study, Artificial Intelligence Anxiety (AIA) is considered a belief that influences students' motivation to learn AI-related subjects. Prior research suggests that anxiety related to technology can either hinder or enhance an individual's future behavioral intention (Brosnan & Lee, 1998; Igbaria et al., 1994; Russon et al., 1994; Y. Wang, 2007).

Additionally, Self-Determination Theory (SDT) (Ryan & Deci, 2000) is also discussed in relation to motivation. SDT differentiates between two types of motivation: intrinsic motivation, which is internally driven, and extrinsic motivation, which is shaped by external factors. Intrinsic motivation fosters persistence and engagement in learning, whereas extrinsic motivation helps individuals' complete tasks that may not initially interest them (Fishbach & Woolley, 2022; Woolfolk, 2016). In the context of AI anxiety, individuals experiencing higher levels of AIA may also exhibit increased learning motivation, as anxiety can act as a stimulus that encourages skill development.

Literature Review

The study of artificial intelligence (AI) and its integration into education has significantly evolved since its inception in the 1940s, progressing through machine learning, deep learning, and generalized AI (Sağıroğlu & Demirezen, 2020). AI technologies have become deeply embedded in modern life, influencing fields such as recruitment, healthcare, and education (Kartal & Turan, 2021). In education, AI has transformed how students learn and how teachers manage administrative tasks (Joseph, 2019). However, the rise of AI has also prompted concerns about its implications, including fears of job displacement, societal dependence on technology, and existential anxieties regarding its potential to replace human functions (Johnson & Verdicchio, 2017; Wang & Wang, 2022). These issues highlight the need to examine students' profiles, levels of AI-related anxiety, and learning motivations to address the challenges and opportunities AI presents in education effectively.

One significant trend is the increasing anxiety surrounding AI, termed "AI Anxiety," which can manifest as fears of learning AI technologies, job replacement, and sociotechnical blindness (Johnson & Verdicchio, 2017; Wang & Wang, 2022). Sociotechnical blindness, in particular, reflects a lack of understanding of AI's dependence on human input and social institutions. Studies suggest that this fear may stem from misconceptions about

AI functioning independently of humans, a notion reinforced by media and public discourse (Richardson, 2015). Despite the potential for AI to improve education, such anxieties can hinder students' willingness to engage with AI technologies, impacting their learning motivation and future career prospects (Wang & Siau, 2019).

Learning motivation, which includes intrinsic and extrinsic factors, is another critical area of focus. Intrinsic motivation, driven by curiosity and personal satisfaction, often leads to better learning outcomes (Mazllami, 2020), while extrinsic motivation, influenced by rewards and social expectations, can be effective in the short term but may not foster long-term engagement (Deci et al., 1999). In AI-integrated environments, students' self-efficacy and their intention to learn AI play a pivotal role. Research indicates that students with a positive attitude toward AI are more likely to engage with it, and higher self-efficacy correlates with greater confidence and persistence in learning tasks (Ng & Chu, 2021; Bandura, 1986). However, gaps remain in understanding how intrinsic and extrinsic motivations interact with AI anxiety and how these factors influence students' learning behaviors and academic success.

Demographic factors, such as age, year level, gender, and socioeconomic status, also play a role in shaping students' experiences with AI. Generation Z, characterized by technological proficiency and a preference for digital learning tools, faces unique challenges, including short attention spans, high levels of anxiety, and reliance on technology (Giunta, 2017; Jenkins, 2019). Gender differences in attitudes toward technology have also been observed, with female students and teachers often experiencing higher levels of anxiety than their male counterparts (Awofala et al., 2017; Chua et al., 1999). Furthermore, socioeconomic disparities, particularly in developing regions like Southeast Asia, exacerbate the digital divide, limiting students' access to AI technologies and hindering their educational progress (Schleicher, 2020). These demographic factors must be considered to design inclusive and equitable AI-based educational interventions.

Furthermore, despite advancements in AI and its applications in education, research gaps persist. In this study, there is limited understanding of the relationship between students' demographic profiles and their levels of AI anxiety and learning motivation. Additionally, while tools like the AI Anxiety Scale (Wang & Wang, 2022) provide insights into anxiety dimensions, more research is needed to explore the interplay between AI anxiety and intrinsic/extrinsic motivations. Moreover, the long-term effects of AI on students' psychological well-being, creativity, and decision-making remain underexplored (Yu & Li, 2022). Addressing these gaps is crucial for developing strategies that mitigate AI anxiety, enhance learning motivation, and promote equitable access to AI technologies in education.

RESEARCH METHODS

Research Design

The study employed a **descriptive–quantitative research design** to determine the relationship between Artificial Intelligence Anxiety and the Learning Motivation of College of Teacher Education (CTE) students at Saint Michael College of Caraga (SMCC) in Nasipit, Agusan del Norte. This design enabled the researchers to obtain measurable data that describe the characteristics of the variables under investigation and examine the degree of association between them.

A survey questionnaire served as the primary data-gathering instrument, allowing the researchers to systematically collect responses from participants regarding their level of Artificial Intelligence Anxiety and Learning Motivation. The quantitative approach facilitated objective data analysis and supported the formulation of conclusions based on statistical evidence.

Research Locale

The study was conducted at **Saint Michael College of Caraga (SMCC)**, formerly Saint Michael Institute (SMI), located at Barangay 4, Atupan Street, Nasipit, Agusan del Norte, Philippines, beside the Saint Michael Parish (SMP). As the only Catholic educational institution in Nasipit, SMCC has provided quality education and academic excellence for over 75 years.

Specifically, the respondents were drawn from the **College of Teacher Education (CTE)**, which offers the following academic programs:

- Bachelor of Secondary Education (BSED) major in:
 - English
 - Science
 - Social Studies
 - Mathematics
- Bachelor of Elementary Education (BEED)
- Bachelor of Physical Education (BPED)
- Bachelor of Technical Vocational Teacher Education (BTVTED)

These programs are administered under the supervision of the Dean and respective Program Heads.

Research Respondents

The respondents of the study consisted of 199 enrolled students from the College of Teacher Education during the School Year 2023–2024. A stratified random sampling technique was utilized to ensure proportional representation across the different CTE programs, namely:

- BSED-English
- BSED-Science
- BSED-Social Studies
- BSED-Mathematics
- BEED
- BPED
- BTVTED

The respondents were categorized according to their age, gender, year level, gadgets frequently used, and monthly family income, which were analyzed under the demographic profile section of the study.

Research Instrument

The primary instruments used in this study included the Artificial Intelligence Anxiety Scale (AIAS) adapted from Wang et al. (2022) and Wang and Wang (2022). The AIAS measured students' perceived level of anxiety related to Artificial Intelligence in the learning process. Intrinsic and extrinsic learning motivation were assessed using the seven-item scale developed by Nordhaug (1989). Learning self-efficacy was measured using items adapted from Bandura (1977), while learning intention items were based on the Technology Acceptance Model constructs proposed by Venkatesh et al. (2003). The questionnaire consisted of two parts: Part I identified the respondents' demographic profile, including name (optional), age, gender, year level, gadgets frequently used, and monthly family income; while Part II-A identified the factors of Artificial Intelligence Anxiety, namely AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness. Part II-B identified the factors of Learning Motivation, including Intrinsic Learning Motivation, Extrinsic Learning Motivation, Learning Self-Efficacy, and AI Learning Intention. The questionnaire employed a four-point Likert scale to measure responses, ranging from strongly agree to strongly disagree, with corresponding verbal interpretations. The instrument was validated by a panel of experts prior to administration.

Data-Gathering Procedure

The data-gathering process involved several steps. First, a letter of approval was secured from the Dean of the College of Teacher Education, granting permission to collect data from first-year to fourth-year students during the School Year 2023–2024. An orientation was then conducted to inform the respondents of the purpose of the study and to emphasize ethical considerations such as confidentiality and voluntary participation.

After obtaining informed consent, the researchers personally distributed the survey questionnaires to the respondents and allowed sufficient time for completion. Subsequently, the completed questionnaires were retrieved and prepared for analysis. The collected data were then identified, classified, and organized using the designated statistical tools for interpretation.

Statistical Treatment

The gathered data were summarized, translated, and analyzed using appropriate statistical tools. Frequency and percentage were used to describe the demographic profile of the respondents. Weighted mean was employed to determine the level of Artificial Intelligence Anxiety and Learning Motivation of CTE students. Spearman Rho Correlation was used to determine the significant relationship between Artificial Intelligence Anxiety and Learning Motivation. Additionally, Pearson's r Correlation was utilized to determine the significant relationship between the respondents' profile and their Artificial Intelligence Anxiety and Learning Motivation.

RESULTS AND DISCUSSION

Problem 1: What is the students' profile in terms of age, gender, year level, gadgets frequently used, and monthly family income?

Table 2. Distribution of the Respondents in terms of Age

Age	F	%	Rank
18-21 years old	124	62.31	1
22-25 years old	64	32.16	2
26 years old and above	11	5.53	3
Total	199	100	

The majority of respondents (62.31%) fall within the 18-21 age bracket, while only 5.53% are aged 26 and above. This aligns with Puiu (2017) and Seemiller and Grace (2017), who describe Generation Z as highly immersed in digital technologies. Younger members of Generation Z, as revealed by recent studies, are particularly receptive to adopting new technologies like AI. This highlights the importance of tailoring educational strategies to address generational characteristics.

Table 3. Distribution of the Respondents in terms of Gender

Gender	F	%	Rank
Male	47	23.62	2
Female	152	76.38	1
Total	199	100	

Female respondents constituted 76.38% of the sample, significantly outnumbering male respondents (23.62%). According to UNESCO (2023), women dominate the teaching force globally, though their representation decreases at higher education levels. Lin et al. (2021) suggest female students may perceive themselves as less motivated to learn AI, raising questions about the gender gap in AI-related learning.

Table 4. Distribution of the Respondents in terms of Year Level

Year Level	F	%	Rank
1 st Year	44	22.11	3
2 nd Year	55	27.64	2
3 rd Year	61	30.65	1
4 th Year	39	19.60	4
Total	199	100	

Third-year students (30.65%) represented the largest group, while fourth-year students (19.60%) were the smallest. This result aligns with Sulasula (2023), who emphasizes the growing relevance of AI in education and the need to assess students' readiness to adopt AI technologies. Similar trends are observed in other Asian countries, such as China and South Korea (Zhang & Lu, 2021), where AI is being actively integrated into education.

Table 5. Distribution of the Respondents in terms of Gadgets Frequently Used

Gadgets Frequently Used	F	%	Rank
Smartphones/Cellphones	143	71.86	1
Tablets	2	1.01	4
Laptops	48	24.12	2
Computers	6	3.01	3
Others	0	0	5
Total	199	100	

Smartphones are the most frequently used device (71.86%), indicating their critical role in students' academic and personal activities. Studies confirm smartphones' dual utility as both educational tools and entertainment devices. However, misuse or overreliance on smartphones could hinder students' learning goals (Gowthami & VenkataKrishnaKumar, 2016; Tossell et al., 2015).

Table 6. Distribution of the Respondents in terms of Monthly Family Income

Monthly Family Income	F	%	Rank
₱5,000 and below	74	37.19	1
₱5,001-₱10,000	69	34.67	2
₱10,001-₱30,000	38	19.09	3

₱30,001-₱50,000	15	7.54	4
₱50,001 and above	3	1.51	5
Total	199	100	

Most respondents (37.19%) belong to families earning ₱5,000 or below monthly, reflecting economic constraints. Research shows that students from low-income families often face limited access to digital technologies, potentially affecting their academic performance and AI literacy (Vogels, 2021; National Center for Education Statistics, 2017).

Problem 2: What is the level of Artificial Intelligence Anxiety of the respondents in terms of AI Learning Anxiety, AI Job Replacement Anxiety, and Sociotechnical Blindness?

Table 7. Level of Artificial Intelligence Anxiety of the respondents in terms of AI Learning Anxiety

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning to understand all of the special functions associated with an AI technique/product makes me anxious.	2.82	Agree	Moderate	1
2. Learning to use AI techniques/products makes me anxious.	2.68	Agree	Moderate	5
3. Learning to use specific functions of an AI technique/product makes me anxious.	2.69	Agree	Moderate	3.5
4. Learning how an AI technique/product works makes me anxious.	2.69	Agree	Moderate	3.5
5. Learning to interact with an AI technique/product makes me anxious.	2.66	Agree	Moderate	6.5
6. Taking a class about the development of AI techniques/products makes me anxious.	2.66	Agree	Moderate	6.5
7. Reading an AI technique/product manual makes me anxious.	2.64	Agree	Moderate	8
8. Being unable to keep up with the advances associated with AI techniques/products makes me anxious.	2.73	Agree	Moderate	2
Average Weighted Mean	2.70	Agree	Moderate	

Respondents showed moderate anxiety (2.70 weighted mean) regarding learning AI, particularly in understanding AI techniques and manuals. Granter et al. (2017) suggest that

the complexity of AI can heighten anxiety due to perceived learning difficulties. This aligns with findings that anxiety often stems from vicarious exposure to AI challenges.

Table 8. Level of Artificial Intelligence Anxiety of the respondents in terms of AI Job Replacement Anxiety

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am afraid that AI may make us dependent.	3.21	Agree	Moderate	7
2. I am afraid that AI may make us even lazier.	3.38	Agree	Moderate	1
3. I am afraid that if I begin to use AI, I will become dependent upon them and lose some of my reasoning skills.	3.18	Agree	Moderate	8
4. I am afraid that widespread use of humanoid robots will take jobs away from people.	3.35	Agree	Moderate	3.5
5. I am afraid that AI may replace humans.	3.23	Agree	Moderate	6
6. I am afraid that AI will replace someone's job.	3.35	Agree	Moderate	3.5
7. I am afraid that the increasing use of AI may lead to job loss without proper training.	3.37	Agree	Moderate	2
8. I am afraid that a significant portion of the workforce will need to switch professions due to AI.	3.26	Agree	Moderate	5
Average Weighted Mean	3.29	Agree	Moderate	

Moderate anxiety (3.29 weighted mean) was reported regarding AI's impact on employment, including fears of dependency on AI and job loss. Studies (Huang & Rust, 2018; Frey & Osborne, 2017) predict significant job displacement due to AI, which could deepen economic inequalities (Bossmann, 2016).

Table 9. Level of Artificial Intelligence Anxiety of the respondents in terms of Sociotechnical Blindness

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I am afraid that AI product may be misused.	3.34	Agree	Moderate	2
2. I am afraid of various problems potentially associated with AI.	3.20	Agree	Moderate	8
3. I am afraid that AI may get out of control and malfunction.	3.29	Agree	Moderate	5
4. I am afraid that AI may lead to robot autonomy.	3.21	Agree	Moderate	7
5. I am afraid that the true extent of AI's impact on society may not be fully understood.	3.28	Agree	Moderate	6
6. I am afraid that reliance on AI may lead to a loss of essential skills and knowledge.	3.34	Agree	Moderate	2
7. I am afraid that AI's capabilities may be exaggerated, leading to unrealistic expectations.	3.30	Agree	Moderate	4
8. I am afraid that AI's development may prioritize profit over ethical considerations.	3.34	Agree	Moderate	2
Average Weighted Mean	3.29	Agree	Moderate	

Respondents expressed moderate concerns (3.29 weighted mean) about AI being misused, leading to ethical issues and loss of essential skills. Literature (Haseski, 2019; Akkaya et al., 2021) highlights that insufficient understanding of AI exacerbates anxiety, while positive perceptions (Jeffrey, 2020) coexist with concerns about AI's societal impacts.

Table 10. Summary on the Level of Artificial Intelligence Anxiety of the respondents

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
• AI Learning Anxiety	2.70	Agree	Moderate	3
• AI Job Replacement Anxiety	3.29	Agree	Moderate	1.5
• Sociotechnical Blindness	3.29	Agree	Moderate	1.5
Average Weighted Mean	3.09	Agree	Moderate	

The overall artificial intelligence anxiety of respondents was moderate (3.09 weighted mean). Takil et al. (2022) and Neudert et al. (2020) emphasize that AI anxiety is widespread, shaped by ethical, economic, and sociotechnical concerns.

Problem 3: What is the level of the Learning Motivation of the respondents in terms of Intrinsic Learning Motivation, Extrinsic Learning Motivation, Learning Self-Efficacy, and AI Learning Intention?

Table 11. Level of the Learning Motivation of the Respondents in terms of Intrinsic Learning Motivation

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning AI-related skills can improve my personal development.	3.06	Agree	Moderate	4
2. The process of learning AI-related skills is very interesting.	3.15	Agree	Moderate	1
3. Learning AI-related skills can enrich my skills.	3.01	Agree	Moderate	5.5
4. The process of learning AI-related skills is challenging.	3.10	Agree	Moderate	2
5. Learning AI-related skills will benefit me a lot.	3.08	Agree	Moderate	3
6. Learning AI-related skills can help me develop my potential.	3.01	Agree	Moderate	5.5
7. Learning AI-related skills can help personal growth.	2.82	Agree	Moderate	7
Average Weighted Mean	3.03	Agree	Moderate	

Respondents exhibited moderate intrinsic motivation (3.03 weighted mean), finding AI learning interesting but not fully recognizing its personal growth potential. Studies (Bisdas et al., 2021; Lee et al., 2022) highlight the importance of integrating AI into curricula to foster intrinsic interest.

Table 12. Level of the Learning Motivation of the Respondents in terms of Extrinsic Learning Motivation

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. Learning AI-related skills can increase my advantage in finding a job.	2.96	Agree	Moderate	1
2. Learning AI-related skills can ensure that I keep my job in the future.	2.78	Agree	Moderate	3
3. Learning AI-related skills can help me get a higher salary in the future.	2.70	Agree	Moderate	5
4. My opinions will receive more attention from the	2.74	Agree	Moderate	4

team after learning AI-related skills.				
5. Learning AI-related skills improves people's opinion of me.	2.67	Agree	Moderate	6
6. I will be recognized for my outstanding performance in learning AI-related skills.	2.66	Agree	Moderate	7
7. In general, learning AI-related skills is very useful for achieving my goals.	2.88	Agree	Moderate	2
Average Weighted Mean	2.77	Agree	Moderate	

Moderate extrinsic motivation (2.77 weighted mean) was observed, with job prospects being a key motivator. However, external recognition was less influential. Research (Fraser, 2016; Srnicek & Williams, 2015) suggests that job-related anxiety might drive extrinsic motivation.

Table 13. Level of the Learning Motivation of the Respondents in terms of Learning Self-Efficacy

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I find learning AI-related skills is easy for me.	2.87	Agree	Moderate	5
2. I do have the ability to learn AI-related skills.	2.95	Agree	Moderate	4
3. I do have the solid basis to master AI-related skills.	2.74	Agree	Moderate	7
4. I am not afraid to learn AI-related skills.	3.07	Agree	Moderate	2
5. I have enough intelligence to learn AI-related skills.	2.79	Agree	Moderate	6
6. I am aware of how AI can help me be more creative and learn.	3.11	Agree	Moderate	1
7. I am not afraid to interact with AI	3.04	Agree	Moderate	3

technologies to support my skills.
Average Weighted Mean 2.94 Agree Moderate

Respondents demonstrated moderate confidence (2.94 weighted mean) in mastering AI-related skills. Vu and Lim (2022) emphasize that self-efficacy positively influences AI adaptation.

Table 14. Level of the Learning Motivation of the Respondents in terms of AI Learning Intention

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
1. I intend to learn AI-related skills.	3.08	Agree	Moderate	3
2. I believe that I am ready to learn AI-related skills.	3.07	Agree	Moderate	4
3. I plan to learn AI-related skills in the future.	3.01	Agree	Moderate	5
4. I am more likely to learn AI because of my positive attitude toward it.	2.97	Agree	Moderate	6.5
5. I am motivated to learn AI because I am confident in my ability to understand it.	2.97	Agree	Moderate	6.5
6. I am interested in acquiring knowledge on AI technologies and techniques for educational purposes.	3.11	Agree	Moderate	2
7. I am prepared to adopt and utilize AI to improve the teaching and learning process.	3.14	Agree	Moderate	1
Average Weighted Mean	3.05	Agree	Moderate	

AI learning intention was the highest motivator (3.05 weighted mean), with respondents moderately prepared to adopt AI in teaching and learning. Gherheş and Obrad (2018) found similar trends, with students optimistic about AI's societal benefits.

Table 15. Summary on the Level of the Learning Motivation of the Respondents

Indicators	Weighted Mean	Verbal Description	Verbal Interpretation	Rank
Intrinsic Learning Motivation	3.03	Agree	Moderate	2
Extrinsic Learning Motivation	2.77	Agree	Moderate	4
Learning Self-Efficacy	2.94	Agree	Moderate	3

AI Learning Intention	3.05	Agree	Moderate	1
Average Weighted Mean	2.95	Agree	Moderate	

The overall learning motivation was moderate (2.95 weighted mean). Wang et al. (2022) found that AI learning intention is influenced by self-efficacy and moderated by AI anxiety.

Problem 4: Is there a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation?

Table 16. Test on Relationship between the Respondents' Artificial Intelligence Anxiety and their Learning Motivation

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Respondents' Artificial Intelligence Anxiety	Respondents' Learning Motivation	.243	.001	Reject H_{01}	There is a significant relationship between the respondents' Artificial Intelligence Anxiety and their Learning Motivation.

A positive but low correlation ($r = .243$, with a significance of $.001$ using $p\text{-value} < 0.05$) was found, indicating that AI anxiety moderately impacts learning motivation. In the study of Wang & Wang (2022), the results indicated that artificial intelligence anxiety was facilitative to some extent, as it appeared to influence motivated learning behaviors. Also, Wang & Wang (2022) suggest that while AI job replacement anxiety can enhance extrinsic motivation, learning anxiety negatively influences both intrinsic and extrinsic motivations.

Additionally, factors such as AI literacy, confidence in AI, and perceiving the purpose of learning AI for social good have been found to positively influence students' behavioral intention to engage in AI learning (Chai, Lin et al., 2020; Chai, Wang, et al., 2020).

Problem 5: Is there a significant relationship between the respondents' profile and their Artificial Intelligence Anxiety?

Table 17. Test on Relationship between the Respondents' Profile and Artificial Intelligence Anxiety

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
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Age		-.247	.038	Reject H_{02}	There is a significant relationship between the respondents' profile in terms of age and their Artificial Intelligence Anxiety.
Gender	Artificial Intelligence Anxiety	-.018	.805	Accept H_{02}	There is no significant relationship between the respondents' profile in terms of gender, year level, gadgets frequently used, and monthly family income, and their Artificial Intelligence Anxiety.
Year Level		-.044	.537	Accept H_{02}	
Gadgets Frequently Used		-.079	.270	Accept H_{02}	
Monthly Family Income		-.083	.246	Accept H_{02}	

Only age showed a significant negative correlation that has -.247 correlational coefficient and a significance of .038 (p -value < 0.05) with AI anxiety, suggesting younger respondents experience higher anxiety. Zhang & Dafoe (2019) and Almaiah et al. (2022) stated that younger students may feel more anxious due to frequent interactions with AI technologies.

Problem 6: Is there a significant relationship between the respondents' profile and their level of Learning Motivation?

Table 18. Test on Relationship between the Respondents' Profile and Level of Learning Motivation

Variable 1	Variable 2	Correlation Coefficient	p-value	Decision	Interpretation
Age		.088	.216	Accept H_{03}	There is no significant relationship between the respondents' profile in terms of age and gender, and their level of Learning Motivation.
Gender		-.040	.575	Accept H_{03}	
Year Level	Level of the Learning Motivation	.214	.002	Reject H_{03}	There is a significant relationship between the respondents' profile in terms of year level

Gadgets Frequently Used	.050	.487	Accept H_{03}	and their level of Learning Motivation. There is no significant relationship between the respondents' profile in terms of gadgets frequently used and monthly family income, and their level of Learning Motivation.
Monthly Family Income	-.019	.785	Accept H_{03}	

Year level was the only significant factor that has a correlational coefficient of .214 (positive but low correlation) with a significance of .002 (p -value < 0.05), implying that higher-level students are more motivated to learn AI. According to Almaiah et al. (2022), advanced topics such as AI are more likely to be introduced in higher-level courses in many educational institutions. As students reach these levels, structured exposure to AI through their curriculum could naturally increase their interest and motivation to learn more about AI technologies.

RECOMMENDATION

Based on the findings of the study conducted among College of Teacher Education (CTE) students at Saint Michael College of Caraga, the following recommendations are proposed:

1. **Curriculum Integration of AI Concepts.** The College of Teacher Education is encouraged to integrate Artificial Intelligence (AI) fundamentals, applications in education, and ethical considerations into its curriculum to reduce AI-related anxiety and enhance students' readiness for technology-driven teaching environments.
2. **Professional Development for Educators.** School administrators and teachers should implement continuous training, seminars, and capacity-building programs focused on AI literacy and pedagogical integration to support the effective use of AI tools in instructional practices.
3. **Multidisciplinary and Collaborative Engagement.** Collaboration among educators, technology experts, and professionals from related disciplines such as psychology and social sciences should be strengthened to ensure a comprehensive and context-sensitive implementation of AI in education.
4. **Future Research on AI Integration.** Future researchers are encouraged to examine the long-term effects of AI on learning motivation and anxiety, as well as institutional readiness for AI adoption, to support the development of effective and ethical AI-based teaching and learning practices.

CONCLUSION

This study investigated the relationship between Artificial Intelligence (AI) Anxiety and Learning Motivation among College of Teacher Education students at Saint Michael College of Caraga. Findings indicated that respondents exhibited moderate levels of AI anxiety and learning motivation, reflecting both awareness of AI's educational relevance and concerns regarding its complexity and potential impact on employment. A significant positive relationship was found between AI anxiety and learning motivation, suggesting that AI-related apprehension may simultaneously function as a barrier and a motivational driver for acquiring AI competencies. Additionally, age was significantly associated with AI anxiety, while year level showed a significant relationship with learning motivation. These results emphasize the need for targeted curricular and institutional interventions to reduce AI-related anxiety and enhance students' readiness for AI-integrated educational environments.

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