

Integrating Sustainable Development Goals Into Quality Management Practices: Basis For Proposed Framework and Strategic Plan

Ryan C. Fontanilla¹

1 – University of Cagayan Valley, Philippines

mcnp.isap.rdc@gmail.com / researchoffice@mcnp.edu.ph

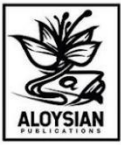
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Abstract

Sustainable Development Goals (SDGs) have become a central agenda in higher education as institutions respond to global demands for sustainability, accountability, and inclusive development. However, integration efforts often remain fragmented and insufficiently embedded within formal quality management systems, particularly in accreditation-driven contexts such as the Philippines. In this regard this study investigated the integration of SDGs into the Quality Management System (QMS) practices of the Medical Colleges of Northern Philippines and the International School of Asia and the Pacific during Academic Year 2025–2026 as a basis for a proposed framework and strategic plan. Anchored on PACUCOA accreditation domains and Juran’s Quality Trilogy, the study employed an embedded mixed-method design, with quantitative data from 146 respondents (teaching personnel, non-teaching personnel, middle managers, and higher administrators) selected through stratified random sampling and qualitative insights validated through the Delphi method. Results revealed that SDG integration is generally high and largely institutionalized across most domains, particularly in student services, research, laboratory, and governance, but comparatively lower in physical plant and facilities. Qualitative findings indicate that while sustainability practices are value-driven and evident, they lack formal structure, systematic documentation, and coherence. Statistical analysis confirmed that quality planning, control, assurance, and improvement significantly influence SDG integration, with quality assurance emerging as the most critical factor. Challenges were rated moderate, particularly in faculty capacity, technology integration, monitoring systems, and institutional alignment. No significant differences were found among respondent groups, indicating shared institutional perceptions, while significant relationships between SDG integration and quality dimensions highlight the importance of structured systems. Based on these findings, the IMPACT–SDG Framework was developed and validated with very high expert consensus, alongside a five-year strategic plan to operationalize SDG integration. The study concludes that while sustainability integration is evident, it remains partially institutionalized, requiring a more coherent, system-driven approach within higher education quality management practices.

Keywords: *Sustainable Development Goals, Quality Management System, Higher Education, Institutional Framework, Strategic Planning*



INTRODUCTION

Higher education institutions (HEIs) are increasingly recognized as key drivers of sustainable development, extending their roles beyond instruction and research toward broader societal transformation. In this context, integrating the United Nations' Sustainable Development Goals (SDGs) has become a strategic imperative for ensuring institutional relevance, accountability, and resilience. Quality Management Systems (QMS), particularly those aligned with accreditation frameworks such as PACUCOA, provide structured mechanisms for embedding sustainability into governance, instruction, research, and community engagement. Thus, SDG integration within QMS practices represents both a global responsibility and a pathway to institutional excellence.

Despite growing attention, gaps persist in both scholarship and practice. Existing studies largely emphasize descriptive accounts of sustainability initiatives, with limited focus on systematic, measurable, and institution-wide integration within quality management frameworks (Lozano et al., 2015; Filho et al., 2019; Stukalo & Lytvyn, 2021). Methodologically, few studies employ mixed-method approaches capable of capturing both the extent and dynamics of integration (Ferreira et al., 2019; Supising et al., 2024). At the institutional level, MCNP and ISAP demonstrate sustainability initiatives; however, these remain fragmented and lack a unified framework for integration into QMS practices, reflecting broader challenges such as limited resources, uneven faculty capacity, and weak monitoring systems.

In response, this study investigated the integration of SDGs into the QMS practices of MCNP and ISAP, examined influencing factors and challenges, and developed and validated a framework grounded in quality planning, control, assurance, and improvement as basis for a strategic plan. The study focused on key SDGs relevant to higher education, including SDGs 3, 4, 5, 7, 8, 10, 11, 16, and 17, and aimed to provide an evidence-based model for the systematic integration of sustainability within higher education quality management practices.

RESEARCH METHODOLOGY

This section presents the research methodology adopted in the study, outlining the design, participants, instruments, and procedures employed. It provides the basis for ensuring the validity, reliability, and rigor of the investigation on SDG integration within QMS practices.

Research Design

This study employed an embedded mixed-method design in which quantitative data served as the primary strand and qualitative data as supportive. The quantitative component measured the extent of SDG integration into Quality Management System (QMS) practices, the associated factors based on Juran's Quality Trilogy (quality planning, control, assurance, and improvement), and the challenges encountered. The qualitative component, collected through Focused Group Discussions (FGDs), provided contextual explanations of institutional practices. To ensure validity of the proposed framework, the Delphi technique was applied using iterative expert evaluation to establish consensus.

Participants of the Study

A total of 146 respondents from the Medical Colleges of Northern Philippines (MCNP) and the International School of Asia and the Pacific (ISAP) participated in the study, including teaching personnel (n=56), non-teaching personnel (n=69), middle managers (n=15), and higher administrators (n=6). Respondents were selected using stratified random sampling to ensure proportional representation across institutional roles and departments. For the qualitative phase, 12 participants with at least three years of experience and involvement in PACUCOA domains were purposively selected. Additionally, seven experts in higher education, accreditation, and sustainability were engaged for Delphi validation.

Data Gathering Tools

Data were collected using a researcher-developed structured questionnaire and a semi-structured FGD guide. The questionnaire consisted of three parts: (1) assessment of SDG integration across ten PACUCOA domains using a 4-point scale (Fully Integrated to Not Integrated), (2) factors affecting integration based on Juran's Quality Trilogy using a 4-point scale (Strongly Affects to Does Not Affect), and (3) challenges across eight domains using a 4-point scale (Great Challenge to Not a Challenge). The instrument demonstrated excellent content validity (CVI = 0.96–1.00) and reliability (Cronbach's α = 0.906–0.987). The FGD guide elicited qualitative insights on experiences and institutional practices.

Data Gathering Procedure

Following ethical clearance, structured questionnaires were administered to respondents to collect quantitative data on SDG integration, influencing factors, and challenges. Subsequently, qualitative data were gathered through FGDs and open-ended responses to explain quantitative patterns. Data integration was performed during analysis, after which a framework was developed based on empirical findings. The proposed framework was then validated using the Delphi method through multiple rounds of expert feedback until consensus was achieved.

Data Analysis

Descriptive statistics were used to analyze respondent assessment on the levels of SDG integration, influencing factors, and challenges on the integration of sustainable development goals to the quality management practices of the institutions. Pearson product-moment correlation was used to determine relationships between SDG integration and influencing factors. Qualitative data were analyzed using thematic analysis to identify patterns and explanations. For framework validation, the Delphi method utilized standard deviation to measure consensus, with lower values indicating stronger agreement.

RESULT AND DISCUSSION

This section presents the results of the study and provides an in-depth discussion of the findings in relation to the research objectives.

1. Assessment of Respondents on the Integration of the Sustainable Development Goals to the Quality Management System Practices of the MCNP and ISAP

The findings in table 1 reveal that SDG integration within the Quality Management System (QMS) practices of MCNP and ISAP is generally high yet not fully institutionalized, reflecting a pattern consistent with higher education institutions (HEIs) globally. Strong performance in domains such as Student Services, Laboratory, Research, and Organization and Administration indicates that sustainability is most visible in governance, service delivery, and operational processes, particularly in areas aligned with SDG 4 (Quality Education), SDG 3 (Good Health and Well-being), and SDG 17 (Partnerships for the Goals) (Deniau, 2023; Sannella, 2020). However, qualitative evidence shows that while SDG-related practices are embedded in institutional values and activities, they remain insufficiently formalized within structured systems, reinforcing the documented gap between declarative commitment and actual implementation (Alcántara-Rubio et al., 2022; Franco et al., 2019). Across domains, integration is uneven and often implicit, particularly in instruction and faculty-related processes, where the absence of systematic curriculum mapping and sustained professional development limits deeper institutionalization (Kioupi & Voulvoulis, 2019; Naureen et al., 2020; Supising et al., 2024). A critical constraint is the weakness of monitoring, documentation, and reporting mechanisms, as SDG initiatives are implemented but not consistently tracked or linked to measurable indicators, thereby constraining institutional visibility, accountability, and continuous improvement (De Villiers et al., 2024; Ali, 2022; Stukalo & Lytvyn, 2021). Resource and infrastructure limitations further affect integration, particularly in physical facilities, where sustainability efforts are evident but constrained by financial capacity and planning systems (Chankseliani & McCowan, 2021; Kuzmak, 2024; Philippine Institute for Development Studies [PIDS], 2023). Overall, the convergence of evidence indicates that SDG integration is operationally present but not yet systemically embedded, highlighting the need to strengthen quality management mechanisms—particularly planning, control, assurance, and continuous improvement—to transform sustainability initiatives into coherent, institution-wide practices consistent with Total Quality Management principles (Fernandes & Singh, 2024; Nogueiro & Saraiva, 2023; Stukalo & Lytvyn, 2021).

2. Associated Factors that Affect the Integration of the Sustainable Development Goals in the Quality Management System

Table 2 show that the Quality Management System (QMS) factors influencing SDG integration in MCNP and ISAP are significant yet not fully optimized, with Quality Assurance ($M = 3.26$) and Quality Control ($M = 3.24$) emerging as the most influential dimensions. This underscores the critical role of monitoring, evaluation, and compliance mechanisms in advancing sustainability integration within higher education, consistent with evidence that quality assurance systems are central to institutionalizing SDGs (Stukalo & Lytvyn, 2021; Leal Filho et al., 2023). However,

Table 1. Assessment of Respondents on the Integration of the Sustainable Development Goals to the Quality Management System Practices of the MCNP and ISAP

| Domain | Quantitative Result | Qualitative Result | Data Convergence |
|---------------------------|---|--|--|
| Philosophy and Objectives | <ul style="list-style-type: none"> • Category Mean: 3.30 (Fully Implemented) • Highest: Inclusive Education (3.44), Partnerships (3.43) • Lowest: Gender Equality (3.08); Reduced Inequality (3.17) | SDG integration is present and value-driven but not yet fully institutionalized | Integration is strongly embedded in institutional philosophy, while formal systems and equity prioritization remain evolving |
| Faculty | <ul style="list-style-type: none"> • Category Mean: 3.29 (FI) • Highest: Innovation through research/industry projects (3.44); • Lowest: Sustainability training (3.19), Gender Equality (3.23), Reduced Inequalities (3.24) | Faculty engagement exists but SDG awareness and training are uneven | Faculty supports SDG integration operationally, but uneven awareness and training reflect partial internalization |
| Instruction | <ul style="list-style-type: none"> • Category Mean: 3.27 (FI) • Highest: Quality education (3.40), Decent work (3.37); • Lowest: Sustainable Cities (3.08), Gender Equality (3.16) | SDGs are embedded in curriculum but not systematically structured | Instruction reflects SDG alignment, though integration remains uneven and largely implicit across programs |
| Laboratory | <ul style="list-style-type: none"> • Category Mean: 3.38 (FI) • Highest: Quality education via facilities (3.49), Peace & justice (3.44) • Lowest: Partnerships (3.33) | SDGs are integrated in operations but constrained by resources and coordination | Strong institutional integration is evident, but operational limitations affect consistency and depth |
| Research | <ul style="list-style-type: none"> • Category Mean: 3.35 (FI) • Highest: Innovation-driven research (3.44), Quality education (3.41) • Lowest: Sustainable Communities (3.24), Decent Work (3.29), Partnerships (3.33) | Research is a key driver of SDG integration but limited by funding and participation | SDGs are strongly embedded in research, though sustainability of outputs depends on resources and broader engagement |
| Library | <ul style="list-style-type: none"> • Category Mean: 3.30 (FI) • Highest: Partnerships | SDG-related activities exist but | Integration is evident but visibility and |

| | | | |
|--|---|---|---|
| | <p>(3.42), Reduced Inequalities (3.41), Innovation (3.41)</p> <ul style="list-style-type: none"> • Lowest: Gender Equality (3.22), Clean Energy (3.24), Sustainable Cities (3.24) | are not consistently documented or monitored | impact are limited by documentation and monitoring gaps |
| Student Services | <ul style="list-style-type: none"> • Category Mean: 3.42 (FI) • Highest: Scholarships (3.61), Peace & justice (3.56), Health (3.49) • Lowest: Partnerships (3.29), Innovation (3.31) | Strong SDG implementation in health, wellness, and student-centered programs | Student services demonstrate the strongest SDG integration, translating sustainability into direct student outcomes |
| Social Orientation & Community Involvement | <ul style="list-style-type: none"> • Category Mean: 3.27 (FI) • Highest: Partnerships (3.35), Quality education (3.33) • Lowest: Gender Equality (3.21), Peace & justice (3.18) | SDGs are reflected in partnerships and outreach but lack clear direction and coordination | Community engagement aligns with SDGs, though effectiveness varies due to coordination and structural limitations |
| Physical Plant & Facilities | <ul style="list-style-type: none"> • Category Mean: 3.24 (Integrated) • Highest: Clean energy (3.37), Peace & justice (3.35) • Lowest: Quality education (3.21), Industry innovation (3.19), Partnerships (3.19) | Sustainability initiatives exist but are limited by budget and planning constraints | Integration is evident but not fully institutionalized due to financial and infrastructural limitations |
| Organization & Administration | <ul style="list-style-type: none"> • Category Mean: 3.34 (FI) • Highest: Partnerships (3.49), Health (3.40), Quality education (3.37) • Lowest: Decent Work (3.24), Reduced Inequalities (3.24) | SDG integration is policy-driven but lacks clear direction and consistent implementation | Governance supports SDG integration, but variations in coordination and policy interpretation affect consistency |

qualitative findings reveal that these mechanisms are inconsistently implemented and insufficiently systematized, particularly in Quality Planning ($M = 3.20$), where the absence of clear strategic direction, defined ownership, and integrated frameworks limits coherent SDG adoption. Similarly, while control mechanisms are present, gaps in documentation, monitoring systems, and enforcement weaken their effectiveness, reflecting broader institutional challenges related to accountability and performance measurement (De Villiers et al., 2024; Ali, 2022). Although Quality Assurance supports integration through audits and accreditation processes, its impact is constrained by weak documentation and inconsistent use of key performance indicators, while Quality Improvement ($M = 3.22$) remains dependent on resource availability, partnerships, and capacity-building efforts. Overall, the convergence of findings suggests that SDG integration is operationally supported by QMS mechanisms but remains partially developed, as gaps in planning coherence, monitoring, and resource allocation hinder full institutionalization. This reinforces the need for a coordinated application of quality planning, control, assurance, and continuous improvement to transform sustainability initiatives into systematic and sustained institutional practices, consistent with Total Quality Management principles (Fernandes & Singh, 2024; Nogueiro & Saraiva, 2023; Supising et al., 2024)

3. Challenges Encountered in the Integration of the Sustainable Development Goals in the Quality Management Practices

The findings indicate that the challenges encountered in integrating SDGs into QMS practices are consistently moderate yet systemic (table 3), reflecting structural rather than incidental constraints within the institutions. Across domains, key issues include limited faculty capacity, inadequate technological infrastructure, constrained financial and material resources, weak monitoring and reporting systems, fragmented institutional alignment, and underdeveloped partnership mechanisms. Although SDG-related activities are present, qualitative evidence reveals that these efforts are often uncoordinated, insufficiently documented, and not fully aligned with institutional strategies, limiting their overall effectiveness. This pattern supports existing literature that identifies resource limitations, capacity gaps, and weak governance structures as major barriers to SDG institutionalization in higher education (Alcántara-Rubio et al., 2022; Naureen et al., 2020; Kuzmak, 2024). Moreover, the lack of reliable data systems and standardized monitoring frameworks constrains evidence-based decision-making and continuous improvement, reinforcing concerns on weak SDG reporting and accountability mechanisms (De Villiers et al., 2024; Ali, 2022). External and contextual constraints—such as limited government support, socio-political influences, and resistance to change—further shape institutional capacity to sustain integration efforts. Overall, the convergence of findings suggests that while SDG integration is institutionally initiated, it remains partially constrained by internal system inefficiencies and external environmental factors, underscoring the need for stronger alignment of capacity-building, resource allocation, monitoring systems, and strategic governance to achieve full and sustained institutionalization.

Table 2. Assessment of the Respondents on the Associated Factors that Affect the Integration of the Sustainable Development Goals in the Quality Management System of MCNP and ISAP

| Domain | Quantitative Result | Qualitative Result | Data Convergence |
|---------------------|--|---|--|
| Quality Planning | <ul style="list-style-type: none"> • Category Mean: 3.20 (Affects) • Highest: Identification of SDG-integrated processes (3.25), KPIs (3.25) • Lowest: Training & awareness, stakeholder engagement, benchmarking, resource allocation (3.17) | Lack of clear direction, planning framework, ownership, and strategic alignment for SDG integration | Planning influences SDG integration but remains fragmented, with weak coordination, unclear responsibilities, and partially developed systems |
| Quality Control | <ul style="list-style-type: none"> • Category Mean: 3.24 (Affects) • Highest: Scholarships & equity support (3.31) • Lowest: Documentation, monitoring, technology-driven systems, compliance enforcement | Implementation is inconsistent; monitoring, documentation, and compliance are weak despite existing policies | Control mechanisms exist but are inconsistently enforced, with gaps in monitoring systems, accountability, and SDG-specific indicators |
| Quality Assurance | <ul style="list-style-type: none"> • Category Mean: 3.26 (Strongly Affects) • Highest: Resource consumption review (3.32), SDG reporting (3.32) • Lowest: Monitoring QMS processes, audits, KPI use | Monitoring, documentation, and evaluation are insufficient; SDGs not consistently linked to accreditation and QMS processes | Assurance supports SDG integration through audits and compliance, but effectiveness is limited by weak documentation, inconsistent KPI use, and fragmented systems |
| Quality Improvement | <ul style="list-style-type: none"> • Category Mean: 3.22 (Affects) • Highest: External partnerships (3.28), revising QMS policies (3.27) • Lowest: Recognition systems, resource allocation, publication/visibility | Improvement efforts exist but depend on training, curriculum updates, and partnerships; constrained by resources | Improvement contributes to SDG integration, but impact remains capacity-dependent and limited by financial, technological, and structural constraints |

Table 3. Assessment of the Respondents on the Challenges Encountered in the Integration of the Sustainable Development Goals in the Quality Management Practices of MCNP and ISAP

| Domain | Quantitative Result | Qualitative Result | Data Convergence |
|---|--|---|---|
| Faculty Capacity & Professional Development | <ul style="list-style-type: none"> • Category Mean: 2.93 (Moderate Challenge) • Highest: Limited faculty development (3.03), Limited training (2.99) • Other: Workload (2.88), Limited expertise (2.90) | Lack of orientation, training, and sustained capacity-building; SDG understanding remains limited | Faculty capacity is a key enabler but not fully institutionalized, with training structures present yet insufficient and inconsistent |
| Technology Integration & Instructional Innovation | <ul style="list-style-type: none"> • Category Mean: 2.90 (Moderate Challenge) • Highest: Limited access to digital resources (2.99), Lack of innovation methods (2.93) • Other: Weak institutional culture (2.81) | Technology is used but constrained by cost, access, and limited innovation integration | Technology integration is functional but underutilized, supporting operations more than transforming instruction |
| Resources, Infrastructure & Funding | <ul style="list-style-type: none"> • Category Mean: 2.80 (Moderate Challenge) • Highest: Infrastructure limitations (2.84), Teaching resources (2.84) • Other: Funding constraints (2.81) | Budget, infrastructure, and resource limitations constrain implementation and expansion | Integration exists but is financially moderated, with sustainability efforts limited by funding and infrastructure capacity |
| Monitoring, Data Systems & Reporting Integrity | <ul style="list-style-type: none"> • Category Mean: 2.89 (Moderate Challenge) • Highest: Lack of reliable data (2.97), Weak monitoring systems (2.85), Poor coordination (2.87) | Activities are implemented but poorly documented, monitored, and evaluated | Monitoring systems are inconsistent, limiting data reliability, reporting integrity, and evidence-based decision-making |
| Institutional Alignment & Strategic Coherence | <ul style="list-style-type: none"> • Category Mean: 2.76 (Moderate Challenge) • Highest: SDGs not embedded in plans (2.77), Lack of unified framework (2.75) • Other: Policy fragmentation | Lack of clear direction, ownership, and standardized planning processes | SDG integration is present but fragmented, with weak coordination and absence of unified strategic alignment |
| Partnerships, Community | <ul style="list-style-type: none"> • Category Mean: 2.81 | Partnerships exist but lack direction, | Engagement is active but moderate in |

| | | | |
|---------------------------------------|--|--|--|
| Engagement & External Linkages | (Moderate Challenge) <ul style="list-style-type: none"> • Highest: Limited local collaboration (2.85), Weak SDG promotion (2.82) • Other: Weak external partnerships (2.80) | structure, and consistency | impact due to weak coordination, strategy, and sustainability of partnerships |
| Contextual & System-Level Constraints | (Moderate Challenge) <ul style="list-style-type: none"> • Category Mean: 2.89 • Highest: Limited government support (2.96), Equity gaps (2.92) • Other: Organizational and socio-political constraints | External constraints such as funding, policy, and resistance to change affect implementation | Integration is institutionally driven but externally constrained, with broader systemic factors influencing outcomes |

Table 4. Test of Difference on the Assessment of the Four Groups of Respondents on the Integration of the Sustainable Development Goals to the Quality Management System Practices

| | Variables | Mean | f- value | p- value | Decision |
|---------------------------|-------------------------|-------|----------|----------|-----------------|
| Philosophy And Objectives | Higher Admin | 3.233 | .527 | .664 | Not Significant |
| | Middle Manager | 3.293 | | | |
| | Non- teaching Personnel | 3.288 | | | |
| | Teaching Personnel | 3.382 | | | |
| Faculty | Higher Admin | 3.133 | 1.347 | .262 | Not Significant |
| | Middle Manager | 3.353 | | | |
| | Non- teaching Personnel | 3.287 | | | |
| | Teaching Personnel | 3.416 | | | |
| Instruction | Higher Admin | 3.133 | 2.447 | .066 | Not Significant |
| | Middle Manager | 3.233 | | | |
| | Non- teaching Personnel | 3.268 | | | |
| | Teaching Personnel | 3.443 | | | |
| Laboratory | Higher Admin | 3.267 | 1.358 | .258 | Not Significant |
| | Middle Manager | 3.427 | | | |
| | Non- teaching Personnel | 3.322 | | | |
| | Teaching Personnel | 3.484 | | | |
| Research | Higher Admin | 3.150 | 1.480 | .223 | Not Significant |
| | Middle Manager | 3.440 | | | |
| | Non- teaching Personnel | 3.331 | | | |
| | Teaching Personnel | 3.465 | | | |
| Library | Higher Admin | 3.250 | 2.999 | .033 | Significant |
| | Middle Manager | 3.246 | | | |
| | Non- teaching Personnel | 3.229 | | | |
| | Teaching Personnel | 3.475 | | | |

| | | | | | |
|--|-------------------------|-------|-------|------|-----------------|
| Student Services | Higher Admin | 3.433 | 1.368 | .255 | Not Significant |
| | Middle Manager | 3.493 | | | |
| | Non- teaching Personnel | 3.290 | | | |
| | Teaching Personnel | 3.429 | | | |
| Social Orientation and Community Involvement | Higher Admin | 3.250 | .536 | .659 | Not Significant |
| | Middle Manager | 3.280 | | | |
| | Non- teaching Personnel | 3.221 | | | |
| | Teaching Personnel | 3.326 | | | |
| Physical Plant and Facilities | Higher Admin | 3.183 | .320 | .811 | Not Significant |
| | Middle Manager | 3.220 | | | |
| | Non- teaching Personnel | 3.243 | | | |
| | Teaching Personnel | 3.319 | | | |
| Organization and Administration | Higher Admin | 3.260 | 1.570 | .199 | Not Significant |
| | Middle Manager | 3.220 | | | |
| | Non- teaching Personnel | 3.318 | | | |
| | Teaching Personnel | 3.474 | | | |

The results indicate a strong perceptual convergence among higher administrators, middle managers, teaching personnel, and non-teaching personnel regarding SDG integration into QMS practices, as no significant differences were found across nine of the ten PACUCOA-aligned domains ($p > .05$). This consistency suggests that sustainability initiatives are institutionally visible, shared, and coherently experienced across organizational roles, reflecting effective embedding of SDGs within governance and quality systems. Such alignment supports the view that when sustainability is integrated into institutional structures, shared standards and accountability mechanisms foster common understanding across stakeholders (Chankseliani & McCowan, 2021; Leal Filho et al., 2023; PIDS, 2023). The library domain was the only exception ($f = 2.999$, $p = .033$), with teaching personnel reporting higher integration levels, highlighting how role-based engagement influences perception. As primary users of academic resources, teaching personnel are more exposed to SDG-related library functions, leading to stronger recognition of integration. This pattern aligns with evidence that SDG visibility varies across units depending on stakeholder interaction and functional proximity (Lu et al., 2023; Alcántara-Rubio et al., 2022). Differences in documentation and reporting practices further amplify these perception gaps (De Villiers et al., 2024; Ali, 2022). SDG integration is widely recognized and institutionally coherent, but variations in the library domain underscore the impact of differential visibility and engagement. This highlights the need for clearer, system-wide articulation and consistent documentation of SDG initiatives to ensure uniform understanding and more cohesive implementation.

Table 5. Test of Relationship Between the Respondents' Assessment on the Integration of the Sustainable Development Goals to the Quality Management System Practices and the Different Pre-Identified Associated Factors

| Variables | | Quality Planning | Quality Control | Quality Assurance | Quality Improvement |
|----------------|----------|------------------|-----------------|-------------------|---------------------|
| Philosophy And | r- value | .629 | .619 | .618 | .571 |

| | | | | | |
|--|----------|-------------|-------------|-------------|-------------|
| Objectives | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Faculty | r- value | .566 | .550 | .592 | .635 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Instruction | r- value | .600 | .622 | .680 | .634 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Laboratory | r- value | .599 | .574 | .624 | .576 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Research | r- value | .532 | .512 | .634 | .592 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Library | r- value | .619 | .575 | .639 | .584 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Student Services | r- value | .556 | .533 | .606 | .581 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Social Orientation and Community Involvement | r- value | .571 | .566 | .587 | .573 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Physical Plant and Facilities | r- value | .637 | .588 | .555 | .524 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |
| Organization and Administration | r- value | .665 | .608 | .594 | .567 |
| | p- value | *.000 | *.000 | *.000 | *.000 |
| | Decision | Significant | Significant | Significant | Significant |

The results show strong, consistent positive relationships between SDG integration and the four QMS factors—Quality Planning, Control, Assurance, and Improvement—across all domains (all $p = .000$; $r \approx .512-.680$), confirming that sustainability is systemically embedded rather than incidental. The strongest associations (e.g., Instruction–Quality Assurance; Organization and Administration–Quality Planning) indicate that SDG integration becomes most visible when anchored in core governance and instructional systems, not isolated initiatives, aligning with evidence that institutional quality structures drive coherent sustainability implementation (Chankseliani & McCowan, 2021; Leal Filho et al., 2023). Crucially, the findings highlight that effective integration depends on the strength of quality systems—particularly planning coherence, monitoring, and continuous improvement. Without these, SDG efforts remain fragmented and discipline-bound; with them, institutions achieve alignment, standardization, and measurable outcomes across curriculum, research, and services (Lu et al., 2023; Alcántara-Rubio et al., 2022). The consistent links across domains also highlight the

centrality of robust monitoring and reporting systems, as weak documentation risks superficial compliance, while strong assurance mechanisms enhance accountability and institutional credibility (De Villiers et al., 2024; Ali, 2022). The data confirms that QMS factors are not peripheral but decisive enablers of SDG institutionalization, particularly in resource-constrained contexts, where structured quality governance becomes essential for sustaining and scaling sustainability initiatives (PIDS, 2023; Kuzmak, 2024; Naureen et al., 2020).



The proposed IMPACT-SDG Framework (Figure 01) is a data-driven, cyclical institutional model that operationalizes the integration of Sustainable Development Goals (SDGs) into Quality Management System (QMS) practices through the interconnected dimensions of Quality Planning, Quality Control, Quality Assurance, and Quality Improvement. Grounded in empirical findings, the framework posits that sustainable SDG integration is achieved not through isolated initiatives but through structured and system-driven quality mechanisms embedded across institutional domains. While quantitative results indicate that SDG integration is largely fully implemented across key areas—such as instruction, research, governance, and student

services—the persistence of moderate challenges in curriculum alignment, faculty capacity, monitoring systems, resources, and institutional coordination highlights that integration remains uneven and partially fragmented, necessitating a shift from functional presence to systemic coherence. The framework is strongly supported by statistical evidence demonstrating significant positive relationships ($p < .001$) between SDG integration and all four quality dimensions, confirming that sustainability outcomes are directly reinforced by the strength of institutional quality processes. Within this model, Quality Planning ensures strategic alignment and policy integration of SDGs; Quality Control standardizes implementation through defined roles, documentation, and compliance mechanisms; Quality Assurance sustains credibility through monitoring, evaluation, and reporting integrity; and Quality Improvement drives continuous innovation, scaling, and institutionalization of best practices. Structured along a PDCA (Plan–Do–Check–Act) cycle, the framework emphasizes that SDG integration is iterative, dynamic, and self-reinforcing, where each quality dimension continuously informs and strengthens the others. Positioning SDGs at the core of all institutional domains, the framework underscores that sustainability is a whole-of-institution responsibility, supported by the study’s finding of minimal perceptual differences across stakeholder groups. Ultimately, the IMPACT-SDG Framework transforms sustainability from activity-based implementation into a coherent governance model, providing a structured pathway for strengthening institutional alignment, enhancing quality systems, and advancing long-term, scalable SDG integration.

Figure 02: IMPACT-SDG (Institutional Mechanisms for Planning, Assurance, Control, and Transformation for SDGs) Framework

Table 6. General Table on the Consensus of the Expert Validators on the Framework

| Domain | SD | Description |
|-----------------------------|------|---------------------|
| Overall Framework Relevance | 0.08 | Very High Consensus |
| Quality Planning | 0.10 | Very High Consensus |
| Quality Control | 0.25 | Very High Consensus |
| Quality Assurance | 0.23 | Very High Consensus |
| Quality Improvement | 0.16 | Very High Consensus |
| General Standard Deviation | 0.16 | Very High Consensus |

The results in table 6 demonstrate exceptionally strong expert consensus on the validity and applicability of the IMPACT–SDG Framework, with all domains registering Very High Consensus as indicated by consistently low standard deviations. The Overall Framework Relevance (SD = 0.08) reflects near-unanimous agreement, confirming the model’s clarity, coherence, and strategic fit for institutional sustainability integration. Similarly, Quality Planning (SD = 0.10) underscores strong alignment on embedding SDGs within vision-setting, policy, and resource allocation, while Quality Control (SD = 0.25) and Quality Assurance (SD = 0.23) affirm consistent agreement on the framework’s operational rigor, including monitoring, documentation, and compliance systems. The Quality Improvement domain (SD = 0.16) further indicates convergence on the importance of continuous, evidence-based institutional development. Notably, the overall standard deviation (SD = 0.16) confirms a high degree of homogeneity in expert judgment, demonstrating that the framework is perceived as methodologically sound, systematically structured, and contextually appropriate. Collectively, these findings provide strong empirical validation of the IMPACT–SDG Framework, reinforcing its credibility as a robust, governance-driven model for embedding SDGs within Quality Management Systems in higher education.

Table 7. Summary Matrix for the Five-Year Strategic Plan (2026–2030)

| General Objective | Key Performance Indicator | Major Outcome After 5 Years |
|--|--|--|
| Quality Planning: Institutional Alignment and Mainstreaming | <ul style="list-style-type: none"> • VMGO aligned with at least 5 SDGs • ≥ 6 SDGs adopted • SDG policies approved • SDG budget integrated in AOP | SDGs embedded in institutional vision, policies, and resource allocation systems |
| Quality Control: Operational Standardization and Accountability | <ul style="list-style-type: none"> • $\geq 80\%$ SDG-integrated curricula • 100% SDG focal persons • $\geq 90\%$ reporting compliance • annual SDG utilization reports | SDG integration standardized across academic and administrative operations with clear accountability |
| Quality Assurance: Monitoring, | <ul style="list-style-type: none"> • Functional SDG monitoring and evaluation | Established evidence-based monitoring system with |



| | | |
|---|--|---|
| Transparency, and Validation | <p>system</p> <ul style="list-style-type: none"> • annual SDG reports; stakeholder feedback integration • SDGs aligned with ISO/PACUCOA audits | transparent and validated SDG reporting |
| Quality Improvement: Innovation and Sustainability Maturity | <ul style="list-style-type: none"> • ≥ 2 SDG management review actions annually • ≥ 3 enhanced curricula • $\geq 70\%$ trained faculty • ≥ 3 institutionalized best practices | Continuous improvement culture achieved with sustained innovation and institutionalized SDG practices |

The Five-Year Strategic Plan (2026–2030) as seen in table 7 aims to institutionalize the integration of Sustainable Development Goals (SDGs) within the Quality Management System (QMS) of the institution. It focuses on aligning the institution's vision, policies, and resources with SDGs (Quality Planning), standardizing implementation across academic and administrative operations (Quality Control), establishing strong monitoring and reporting systems (Quality Assurance), and promoting continuous improvement through innovation and capacity-building (Quality Improvement). After five years, the plan envisions that SDGs will be fully embedded in governance, curriculum, operations, and partnerships, resulting in a coherent, measurable, and sustainable institutional system aligned with global standards.

CONCLUSION

This study examined the integration of Sustainable Development Goals (SDGs) within the Quality Management System (QMS) practices of MCNP and ISAP for AY 2025–2026 and found that while SDG integration is evident across governance, academic, operational, and support domains, it remains partially institutionalized and unevenly structured. Results indicate a shared institutional perception among stakeholder groups, with no significant differences observed, while significant relationships between SDG integration and quality management dimensions confirm that planning, control, assurance, and improvement are critical drivers of sustainability institutionalization. Qualitative findings highlight key enablers—leadership commitment, policy coherence, monitoring systems, resource allocation, and faculty capacity—alongside persistent challenges in curriculum alignment, documentation, technology, and institutional coordination. In response, the IMPACT–SDG Framework was developed and validated with very high expert consensus ($SD = 0.16$), affirming its clarity and applicability, and was operationalized through a Five-Year Strategic Plan (2026–2030) designed to embed sustainability through structured planning, standardized implementation, robust assurance mechanisms, and continuous quality improvement.



RECOMMENDATIONS

In this note, to strengthen the institutionalization of sustainability, the study puts forward key strategic recommendations grounded in its empirical findings. It advocates for the formal adoption of the IMPACT–SDG Framework and the implementation of the Five-Year Strategic Plan (2026–2030) to systematically embed SDG integration within the QMS. Central actions include aligning VMGO and institutional policies with priority SDGs, establishing a robust monitoring and evaluation system, and integrating sustainability into curriculum and faculty development. The study further highlights the need to enhance documentation, reporting, and quality control mechanisms, ensure sustained resource allocation, and invest in technological systems to support data-driven decision-making. Strengthening alignment with accreditation and ISO processes, expanding partnerships and internationalization efforts, and promoting longitudinal and comparative research are likewise emphasized to advance institutional coherence, global competitiveness, and long-term sustainability integration.

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