International Journal of Arts and Social Science **www.ijassjournal.com**
ISSN: 2581-7922
Volume 6 Issue 2, February 2023.

Building the research knowledge management framework of the South Luzon Cluster of the St. Paul of Chartres Education Ministry (Philippines)

Brian Bantugan, Jeetendra Vaswani, Joseph Ogelasco, Bea Vilanueva, and Amelia Butial
(St. Paul University)

Abstract:This paper sought to investigate the research knowledge management involving selected faculty in the South Luzon cluster of the St. Paul Congregation Education Ministry to create an Integral Research Knowledge Management (KM) Framework that can help guide the integration and synergy of research development programs unique to each cluster-member-school. Through a six-part, 58-item researcher-developed online survey, through Google Forms (covering demographics, quantitative and qualitative research approaches, research methods, conceptual tools, and research skills), of teachers who voluntarily participated at St. Paul University Manila and three of the four member schools of the North Luzon Cluster during the academic year 2018-2019, it was found that most schools learn about research but not enough to adequately engage in knowledge construction, more so, knowledge integration-related activities. The research knowledge of basic education teachers gravitated more toward quantitative methodology while SPU Manila shows an orientation toward qualitative methods. After the use of descriptive statistics, involving analysis across data sets, and the analysis vis-à-vis McElroy's KM Cycle Model and the Integral Human Development Framework of the Catholic Church's Social Teachings a Research KM Framework for the South Luzon Cluster of the SPCEM is presented.

KeyWords*: Research Knowledge, Knowledge Management, Research Knowledge Management Framework, Integral Human Development, Catholic Education, St. Paul Congregation Education Ministry*

I. Introduction

"The Church has the second largest aid network in the world" (Catholic Agency for Overseas Development, 2021, para. 1). This is a fact that could make a huge difference in global emergency response and human development programs. However, it is "overlooked by governments and international agencies such as the UN" (para. 2). In the Philippines alone, Catholic education has informed Filipinos about development work for at least 400 years; hence, it is a network that should not be overlooked. Catholic schools, while giving access to knowledge that brings material security, are mandated by faith to create and use knowledge "to serve and be responsible for others" (*Ex Corde Ecclesiae* # 56, in CBCP Online, 2012, para. 11). Catholic higher education plays an even more important role in the flow of development knowledge in that it is tasked by the government to engage in research. The Commission on Higher Education (CHED) (2016) pointed out that "… the knowledge society or knowledge economy characterizes the university not just as a generator of knowledge, an educator of young minds and a transmitter of culture but also as a major agent of economic growth, a Research and Development laboratory and a mechanism through which the nation builds its human capital to enable it to actively participate in the global economy" (para. 1). The CHED added that universities have always influenced

the "architecture" or the "dimensions of and approaches to research, innovation, and extension" (para. 2). Paulinian education should, therefore, ensure that it takes an active part in this knowledge circulation mechanism and research quality management through institutional and program accreditation processes (Arrién, 1998).

However, research in universities has always been a challenging area in the Philippines. In response, since 2007 CHED started pushing for stronger research in HEIs through the National Higher Education Research Agenda initiated in 1996 and other structural changes to advance research in the 1,605 public and private HEIs, including Catholic ones (Salazar-Clemeña& Almonte-Acosta, 2007). There has been a "substantial increase in budgets of the Department of Science and Technology (DOST) and the Commission on Higher Education (CHED) for health research" (The Philippine Star, 2019). However, the same could not be said for the social sciences and the humanities due to the government's overemphasis on science and technology, at the expense of the social sciences and humanities research, despite their importance in the development of transformative leaders (Chao, 2018). Given this, the CHED expects private HEIs to address institutional research funding needs using a percentage of their annual income. Regardless of the budget allocation, the CHED mandates that for HEIs to be given an autonomous status they must have -

> at least 50 full-time faculty members or at least 30% of full-time faculty, whichever is higher must have actively engaged in research or creative work in the last five years and at least 10% of full-time faculty has patents or publications in refereed journals. Of these, at least 5% of full-time faculty has publications in internationally indexed journals and/or books published in reputable academic presses in the last five (5) years. (Quitora&Abuso, 2021, p. 2)

An autonomous status enables HEIs to create new courses/programs at the undergraduate and graduate levels in areas of expertise without the approval of CHED (2016).

St. Paul University (SPU) Manila, granted autonomous status by the CHED in 2001 (St. Paul University Manila, n.d.), was given a new responsibility by the St. Paul of Chartres Education Ministry (SPCEM) to take care of some more proximate Paulinian schools through a "cluster" system to help them become better schools. These schools include St. Paul College Makati, St. Paul College Paranaque, St. Paul College Island Park, and St. Paul College Balayan. Given that research is more a domain of St. Paul University Manila as a HEI than the said basic education schools, it is expected that it should take the lead in advancing the latter's research competencies. As such, this study investigates the state of the research knowledge within this cluster to help develop a framework for further advancing it to serve institutional and national priorities.

II. Review of Literature

Research in Catholic Universities. Rizzi (2019) wrote that often Catholic higher education is defined more by what they are not supposed to do than by what they can do. On the one hand, they "should not invite speakers or employ faculty who openly disagree with Church teaching, believing that Catholic institutions should never provide a forum for opinions and ideas contrary to Catholic ideals" (para 1.). On the other hand, more cosmopolitan Catholic universities "should not interfere with the academic freedom of their faculty or the personal lives of their students, many of whom may not adhere to Catholic beliefs" (p. 1). Given this, Rizzi believes that it is more important to not "oversimplify", be "divisive", and "negative"; hence, they should highlight "the many attractive qualities of a Catholic intellectual tradition that has animated Church-related universities for centuries: a commitment to the holistic personal formation, interdisciplinary inquiry, and service-oriented learning outcomes" (p. 1-2).

To this, the words of John Henry Newman, author of the *Idea of the University* in 1852, are made relevant in that he posited that the modern university should go against "compartmentalization of knowledge, urging universities to do away with specialized academic departments and develop true 'renaissance men' who

could integrate elements of natural philosophy and theology into a meaningful whole" (Rizzi, 2019, p. 3). Concerning research, 13th century Dominican theologian St. Thomas Aquinas touched on the scientific method by highlighting "the nature of inquiry and how humanity could uncover truths about the natural and spiritual worlds" (p. 3), consequently influencing the Catholic traditional education to be more capable of widening "the life of the mind from all angles, fusing diverse subject areas and schools of thought into a single, inter-disciplinary understanding of the world" (p. 3). Similarly, the *Ratio Studiorum 1* of the Jesuits completed in 1599, valued the humanities above all; thus, it remains the standard for Catholic university education because of its reputation in the US. With all these in mind, it can be surmised that, if anything, Catholic universities can fully claim a legacy in the development and continued pursuit of humanistic scholarship and research.

The Humanities and Human Development. In the context of increasing global conflict and confusion, the humanities are seen as a way to help bring about a better future. Nussbaum (2002) wrote that "the humanities confront issues of great political significance" (p. 39). Ellison (in Nussbaum) expressed that those who pursue the humanities "seek out the common pleasures and visions, the terrors and cruelties" and hope that they "would help dissolve the barriers of hatred and ignorance which are the source of… (human) pain and danger" (p. 39). In contrast, Nussbaum declared that most people tend to "avoid the challenge that the humanities pose… (as) they live unreflective lives, lives that are often cramped and narrowed by the pursuit of gain or bare security, lives in which the imagination of human suffering is frequently allowed to lapse" (p. 39) mired in the reductionist economic thought that reduced the notion of development to the transactional and market-driven gross domestic product. Nussbaum suggested:

> .. if we want only one reason why the humanities are essential to public life in this era of rapid globalization, a sufficient reason is that the humanities keep our eyes on the human meaning of the public policy and on a rich human and ethical set of ends for human action, while economic science too easily narrows its vision, lending itself as a tool to the forces that already are committed to the all-out pursuit of profit" (p. 39-40).

Of critical importance in the humanities are the growth and development of gender and minority studies that now substantially inform development work. Greater inclusion as a result of these fields help challenge "the methodologies that produced the exclusions" (p. 43). In literature, it meant understanding "the economy of the household". In history, it required developing new methods appropriate for studying women's contexts. In philosophy, it meant "challenging the justice of distributions of resources and opportunities within the family". Women's studies questioned old content and methodological ideologies. Nussbaum argued that the humanities, ultimately, not only help affirm minority identities but also cultivate an understanding of pluralistic and inclusive citizenship. Agreeing on a theory of justice that is a theory for all human beings is foundational in all these scholarly pursuits acknowledging the dignity of every human being. It should not be surprising, then, that it is the humanities that fuel the advancement of genuine development work beyond the paradigm of Western materialist modernization. As such, Nussbaum declared:

> … a public policy made without the influence of the humanities is likely to be a cramped and crude policy. The cultivation of the imagination that comes with the study of literature and the cultivation of the ethical sensibility that comes with the study of philosophy and religion are essential for citizens and policymakers in a world increasingly united and driven forward by the profit motive. The capacity to look at a single life with understanding and love is not automatic, and can also be lost. We need to think clearly about this danger and try as best we can to prevent it, through strong support for the future of these disciplines. (p. 48)

Unfortunately, however, the state of scholarship in the humanities has been pushed down by "near-term economic, not long-term scholarship" goals that have become systemic (McGann, 2004). One expects that only universities that put a premium on these disciplines are the ones to champion said scholarship pursuits despite

systemic lack of support. As such, SPU Manila should do no less even if it is challenged at all fronts, given that it draws much of its strength, identity, and inspiration from the commitments and original spirit and intent of Catholic higher education.

Higher education in the Philippines and integral human development (IHD). The Commission on Higher Education (CHED) (2016) pointed out that "… the knowledge society or knowledge economy characterizes the university not just as a generator of knowledge, an educator of young minds and a transmitter of culture but also as a major agent of economic growth, a research and development laboratory and a mechanism through which the nation builds its human capital to enable it to actively participate in the global economy" (para. 1). Hence, the IHD is relevant to HEIs, Philippine education, and Paulinian schools because it focuses on holistic growth of the individual which is aligned with their present objectives. Since the framework is focused on the growth of the individual, it allows each student to unleash his/her/their full potential to be a truly human person. It opens various opportunities for them to improve not only their talents and skills but also their mental capacities in relation to societal needs. Thus, while IHD underscores a system where the different potentials of students are honed, it also promotes the kind of growth that is not detached from society.

In the case of SPU Manila, the framework conforms with the vision of the institution that it is dedicated to the formation of competent leaders and responsible citizens of their communities, country, and the world. It encourages the focus on education that allows oneself to grow by learning ideas that will widen his/her/their view not only about him/her/them but of society in general. Thus, in turn, the individual will have more awareness of the current situations that humanity is facing at present. It will encourage him/her/them to ask and formulate solutions to the problems to help society. Thus, it promotes empathy and charity that the university values. Since IHD highly regards one's humanity in all its domains, it encourages one's development that is in harmony with one's morals, dignity, and integrity.

Higher education research and development. Al-Youbi, Zahed, Nahas, and Hegazy (2021) wrote that universities "have become the source of power in the knowledge-based economy of the century, as they represent an integral part of the production chain of innovations and skills and transferring them to business and society" (para. 23). Creativity, a domain of the humanities, mediates innovation, defined as the "intended incorporation and application of creative ideas in a business or a system of businesses, including processes, products, and new procedures in business leading to creating something of value that may be accepted and marketed in society" (para. 11). As a "permanent resource for innovation" (para. 12), the university's first responsibility, then, is to ensure the continued nurturing of the creative spirit in students. As such, the concern for innovation and its economic rewards is secondary. In the end-product theory, "the chain starts with creativity as a new applicable idea and then ends in the form of a product, a business, or some output" (p. 13). Knowledge, defined in Knowledge Management as information made actionable, or "information in action, information focused on results" (Garfield, 2015, para. 2), positions research in universities as the means to put creativity into action in the guise of innovation based on new data or evidence. Basic education, hence, must provide the space for every person's creative development. This situates SPU Manila and its cluster members in a 'continuum of creative formation process' where basic education schools ignite the spark of creativity among its students and the university pushes the possibilities of creativity in the different disciplines through continuous innovation challenges.

A recent report declared that the Philippines was ranked 51 in 2021 in the Global Innovation Index (GII), moving up 49 steps up the ladder (In.Corp, 2022). The GII measures 80 indicators that cover the "political environment, education, infrastructure, and knowledge creation of each economy" (World Intellectual Property Organization, 2022). Given that, the university is directly and immediately implicated in two of the four areas – education and knowledge creation. Research is the key activity in the process of knowledge creation. In the 2015 Global Creativity Index (GCI), meanwhile, the Philippines ranked 52 out of 139 (Martin Prosperity Institute, 2015). The GCI ranking was based on evaluations of technology, talent, tolerance, and 'creativity,

competitiveness, and prosperity'. Creativity training in basic education is deemed to shape talent and creativity; training in the humanities in basic and university education links immediately with tolerance; and technology arises from the application of creativity in innovation work expected in the university setting. Growth in the knowledge that leads to competitiveness and prosperity, must, therefore, start with basic education, and be followed through with a university education. Catholic university education, thus, depends largely on the work of basic education schools, and would not be able to live up to expectations of contributing significantly to development if it has no way of helping creatively challenged basic education institutions develop creative young people.

Research knowledge studies in the Philippines. Narbarte and Balila (2018) found that in a specific university south of Manila, faculty research involvement has improved for the last five years, mostly described as taking part in validation panels, thesis supervision, mentoring researchers, enriching research competencies, and research presentations due to internal and external motivations and initiatives spearheaded by the research center following the National Higher Education Research Agenda (NHERA-2) goals. Their paper resonates with this study in that both cover research engagement. However, this study goes beyond just looking into a university's research engagement; it puts engagement in a larger context or in relation to proximate basic education schools run by the same congregation.

Meanwhile, Quitoras and Abuso (2021) looked into three selected HEIs in Metro Manila, particularly on their research best practices, and revealed that research programs that incorporate learning from other institutions and institutional incentives, among others, play a role in motivating faculty members to engage more in research. Their study highlighted the value of doing research as a community and strategically putting in place structures of support for researchers. For this study, the intent was to surface research engagement in both basic and higher education institutions to identify opportunities for strategic collaboration that can lead to the operational framework that aligns and synergizes their research initiatives with goals distinct to Catholic education. Hence, it underscores singularity in objectives and actions not found in the findings of Quitoras and Abuso.

Bantugan, Anonuevo, and Maligaya (2022) investigated research knowledge and engagement of faculty members in two selected state-funded local colleges and found that most teachers were more oriented toward conventional quantitative approaches, methods, and analytical techniques but were still wanting assistance in aligning such competencies and engagement attrition from knowing to leading in research projects. The same findings were found in the yet-to-be-published paper by Bantugan, Esco, Gaan, and Navarro (2023) which focused on faculty members in two selected nursing programs in state-funded universities in North and South Luzon. Their findings suggested that while local colleges and state universities are provided and assured by the Philippines government with some level of funding (which is not true for private HEIs), they still struggle with the research engagement of their faculty members. Hence, research challenges are shown to be multi-determined and are not resolved merely by financial support.

Similar findings were found in a business and information technology program of a college receiving no such public funding support (Bantugan, Manguerra-Mahusay, Manalansan, Lopez, &Faylona, 2023) but was founded and is administered by a religious congregation known for its top-ranking educational ministry. This suggests that there are challenges in the research engagement of faculty members. Unique to this last study, analyzed through Connectivity Theory, is the realization that whatever gaps were found must be a result of knowledge networks built and sustained within a discipline and by an institution. Challenged to widen the scope of their competencies to more fully embody the interdisciplinarity and integration ideal in Catholic HEIs, it was found fitting to widen their knowledge networks and seek greater comfort in dealing with unfamiliar disciplines in organizations beyond their established ones that practice more qualitative and ground-breaking research practices and initiatives.

St. Paul of Chartres Education Ministry, University System, and Institutional Clusters. The St. Paul of Chartres religious congregation originating from France established SPU Manila in 2012 (then named St. Paul Institution). The SPC sisters are involved in three key apostolates, namely, pastoral, health, and education. SPU Manila's educational Ministry has evolved to be known as the SPCEM, composed of basic education and tertiary schools in the Philippines. The tertiary schools form the St. Paul University System (SPUS), of which St. Paul University Philippines (SPUP) is the largest. The St. Paul University System, "a network of Paulinian education institutions bound by its commitment to form Christ-centered, integrated and competent persons in the service of the church and society" (St. Paul University Philippines, 2020, para. 1), was the first university system recognized by the CHED. Aside from SPUP, the SPUS is composed of SPU Ilocos Sur, SPU Quezon City, SPU Manila, SPU Dumaguete, SPU Iloilo, and SPU Surigao. Around 2019, the idea of forming area clusters was recommended by Sr. Maria Evangeline Anastacio, SPC, President of SPU Manila, to further improve the management of the SPCEM given the dwindling number of women entering the congregation, in particular, and religious life, in general. Not long after, Sr. Helen Malubay. SPC of St. Paul University Dumaguete revealed in a personal communication that she was tasked to bring together all the research coordinators from the SPUS. Having done so, led to a SPCEM-wide survey that produced this paper. This paper, however, covers only the cluster that puts together SPU Manila (lead institution) with more proximate SPC basic education schools, namely SPC Makati, SPC Paranaque, SPC Island Park, and SPC Balayan. This paper was intended to inform the said cluster to make better decisions on research in its constituent schools.

III. Study Framework

Knowledge Management Theory. "Knowledge is the principal force that determines and drives the ability to act intelligently," according to Grey (1996, p. 48).Grey (1996, in Dalkir, 2005) defined knowledge management (KM) as "a collaborative ad integrated approach to the creation, capture, organization, access, and use of an enterprise's intellectual assets" (p. 5). Two types of knowledge, according to accessibility, are tacit and explicit knowledge, added Dalkir. Tacit knowledge is characterized as the result of adaptability, expertise, collaboration, and coaching experienced face-to-face. Explicit knowledge, meanwhile, is a result of the ability to disseminate, replicate, access, and utilize knowledge within an enterprise for teaching or training, organizing, and systematically achieving goals through documentation processes. Research knowledge, then, has explicit and tacit aspects, and research KM, hence, is the practice of KM in the context of research.

The Zack KM Cycle (Meyer and Zack, 1996) involves five processes, namely, acquisition, refinement, storage and retrieval, distribution, and presentation of knowledge. The McElroy KM Cycle, however, emphasizes knowledge integration, more than the distinct processes of the Zack KM. As such, integration in KM means "the process by which an organization introduces new knowledge claims to its operating environment and retires old ones" (p. 38) which involves broadcasting, searching, teaching, and sharing knowledge, which are all appropriate in the context of educational institutions. Dalkir clarified:

> The validation of knowledge is a step that clearly distinguishes knowledge management from document management… The (McElroy) KM cycle focuses on processes to identify knowledge content that is of value to the organization and its employees.

The McElroy KM Cycle model, shown below, was used for this study. The data generated helped construct the knowledge production process that shapes organizational knowledge, which is expected to be characteristic of Catholic educational institutions (particularly knowledge towards integral human development discussed below). Such organizational knowledge is described in this paper in terms of knowledge integration and its sub-components, where emergent.

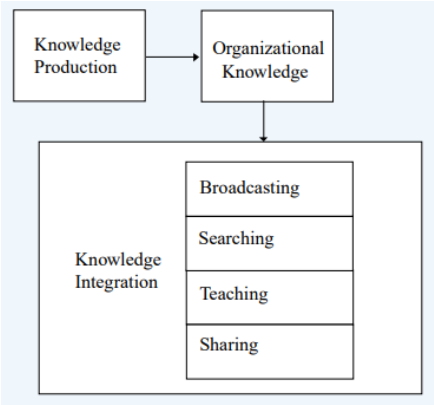

Figure 1. Knowledge integration processes in the McElroy KM Cycle (in Dalkir, 2005)

This value for institutional integration requires a consideration of the IHD for which Catholic education gears all of its efforts. Understanding IHD means having the capacity to capture the complexity of the human condition, which directs research toward a more qualitative research orientation. According to Gergen, Josselson, and Freeman (2015), "researchers of any ilk cannot truly grapple with human behavior and attitudes without an understanding of contexts, constructs, and the human condition" (para. 1). Thus, the organizational research knowledge in Catholic schools must be able to delve into contexts, constructs, and the human condition that only qualitative research can better account for compared to quantitative research. This said, this study must seek to analyze the data with respect to the school's capacity to facilitate the flow of qualitative research knowledge within the Catholic educational institution.

Integral Human Development (IHD) Framework. Human development is defined as "expanding the richness of human life, rather than simply the richness of the economy in which human beings live." (Human Development Reports, para. 1). It is also "the process of enlarging people's choices," said choices allowing them to "lead a long and healthy life, to be educated, to enjoy a decent standard of living," as well as "political freedom, other guaranteed human rights and various ingredients of self-respect," (Human Development Report 1997, p.15.) Enlarging people's choices and improving their well-being is about "the real freedom of the ordinary people have to decide who to be, what to do and how to live as a human person" (Kibin, 2023). Amartya Sen's pioneering works have greatly inspired the human development approach in welfare economics, social choice, happiness, agency and value, poverty and famine, and development economics (Sen, 1989). This human development is relevant to the goal of Catholic Social Teaching which takes the "holistic or integral approach to development framework" (Social Spirituality, para. 1).

The IHD Framework arose from the Catholic social teachings that "embrace(s) complexity" (University of Notre Dame, 2023, para. 2) in that it asserts that "(e)very human being is complex, with multiple identities that shape our experiences in countless ways" (para. 1). Used in development work, it proposes a cross-disciplinary approach that considered the whole person when solving problems. IHD was first introduced in Pope Paul VI's encyclical *PopularumProgresio* (The Development of Peoples) (Keleher, 2018). *PopulorumProgresio* explains how truly authentic human development must be integral. "Development cannot be limited to mere economic growth. To be authentic, it must be complete: integral, that is, it has to promote the good of every person and of the whole person" (Pope Paul VI, 1967, no.14). IHD has at least two ways to be more human. The first way is it must be about "the development of the whole person, not just the monetary or narrowly understood economic development, but also social, political, creative, spiritual, etc." (Keheler, 2017). The second way of development is that "it requires the development of every person" (p. 30).

This is particularly relevant in that it contextualizes research knowledge in the pursuit of the development of the total person. In the words of Goulet (1995, in Keheler, 2018), "Societies are more human, or more developed, not when men and women 'have more' but when they are enabled to 'be more.' The main criterion of development is not increased production or material well-being but qualitative human enrichment" (1995, p. 6–7). "Having more" suggests a quantitative view of development while "being more" takes on the qualitative perspective. Hence, IHD is fully aligned with the idea of organizational knowledge that values, creates, and uses knowledge towards the betterment of the quality of the lives of people. The IHD, therefore, contextualizes the use of the McElroy KM Cycle model as an analytical tool.

IV. Statement of the Problem

This paper sought to investigate the research knowledge management involving selected faculty in the South Luzon cluster of the SPCEM to create an Integral Research Knowledge Management Framework that can help guide the integration and synergy of research development programs unique to each cluster member school.

V. Methodology

This quantitative study conducted in 2019 involved the use of a six-part, 58-item researcher-developed online survey through Google Forms (covering demographics, quantitative and qualitative research approaches, research methods, conceptual tools, and research skills) at selected sectors of the South Luzon Cluster of the SPCEM involving teachers who volunteered to participate. The sample included 17 teachers from SPU Manila (the majority of the full-time faculty) and 60 (the majority from three out of the four schools) from the other cluster schools. The data were analyzed via descriptive statistics, involving analysis across data sets. The results were interpreted vis-à-vis the McElroy KM Cycle model and the Integral Human Development Framework of the Catholic Church's Social Teachings.

VI. Results

Research Approaches

Tables 1 and 2 below show the results of the survey on the respondents' familiarity with quantitative and qualitative research approaches, respectively.

Quantitative Research Approaches. As expected in educational institutions, SPU Manila shows the highest frequency of claims to knowledge in polling and testing (Refer to Table 1). These approaches are done inside or outside the context of a formal research project; hence, all teachers are familiar with both. The other remaining quantitative research approaches, while not as highly known, were familiar to more than 80 percent of the samples in the university, which speaks positively about the institution's capacity to use all the quantitative approaches. However, testing and experiments were found more known by the respondents from the basic education schools of the cluster, followed closely by polling among more than 80 percent of the group. The other remaining quantitative approaches were known less by the basic education teachers, especially as compared to the familiarity with them in SPU Manila. Nevertheless, more than half of the latter set of respondents were familiar with all of the said approaches. Together, SPU Manila is positioned higher in that it can claim to be more familiar with quantitative research approaches overall. Hence, it is in a position to guide the latter set of respondents towards greater familiarity with said approaches.

Table 1
Self-reported knowledge of quantitative research approaches

Cluster Sectors	Polling		Testing (%)		Data Mining (%)		Meta-Analysis (%)		Experiment (%)		Quasi-Experiment (%)		Multiple/ Case Study (%)	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
SPU Manila	100	1.50	100	1.50	83	6	88	5	94	3.33	94	3.33	94	3.33
Sub- Cluster Basic Education Schools	83	3.0	92	1.50	70	4.0	47	7.0	92	1.50	67	5.0	53	6.00

Qualitative Research Approaches. Consistent with the results found in earlier studies by Bantugan and associates (Bantugan, Anonuevo, &Maligaya, 2022; Bantugan, Manguerra-Mahusay, Manalansan, Lopez, &Faylona, 2022; Bantugan, Esco, Gaan, & Navarro, 2022), the respondents in the basic education group were found to be less familiar with qualitative than quantitative research approaches, in general. Table 2 shows that both the respondents of the sub-cluster are less familiar with qualitative research approaches compared to the respondents of SPU Manila. The data in SPU Manila indicate that the respondents' familiarity with the qualitative research approaches is more uniformly spread across phenomenology, Grounded Theory, narrative inquiry, ethnography, and multiple/single Case Study; their familiarity with data mining and meta-analysis is mostly coming from their use in quantitative research. Nevertheless, familiarity is still at a high of at least 83% (for data mining). Meanwhile, for the basic education respondents, except for the multiple/single case study approach at 85 percent, the remaining qualitative approaches are at most, at par with data mining in SPU Manila, which is ranked the lowest. Meta-analysis, Grounded Theory, phenomenology, and ethnography are particularly problematic among basic education teachers in the study. This positions SPU Manila as capable of guiding the basic education sub-cluster teachers in said weak areas.

Table 2
Self-reported knowledge of qualitative research approaches

Cluster Sectors	Phenome-nology		Grounded Theory		Narrative Inquiry		Ethnogra-phy		Multiple/ Single Case Study		Polling		Data Mining		Meta Analysis	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
SPU Manila	94	2.20	94	2.20	94	2.20	94	2.20	94	2.20	100	1.00	83	4.00	88	3.00
Sub-Cluster Basic Education Schools	53	6.00	50	7.00	78	3.00	58	5.00	85	1.00	83	2.00	70	4.00	47	8.00

Research Methods

Data in Tables 3 and 4 show the results under research methods in the survey.

Information Gathering Methods. Data (refer to Table 3) indicate that both SPU Manila and the basic education sub-cluster have the same research methods as most familiar to their teachers (survey, interview, FGD, and journaling). However, it is only in the former that all four are known by the majority (more than 50% of the samples). In the latter, it is only the survey that is most known by more than half of the respondents. This means that SPU Manila is in a position to help further expand the research understanding of the interview, FGD, and journaling among the sub-cluster's teachers. The data, while showing only the top six information-gathering methods, also show that there is also room to grow in the rest of the methods included in the survey for SPU Manila. That said, there should be growth sessions where both the university and the basic education schools should learn together as participants.

Table 3
Selected research methods reported as known by the respondents in SPU Manila and the basic education sub-cluster

Information Gathering Methods	St. Paul University Manila		Basic Education Sub-Cluster	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Survey	17	100	60	100
Interview	16	94	55	92
FGD	16	94	39	65
Journaling	10	59	31	52
Visual Documentation	8	47	28	47
Diary Writing	7	41	21	35

Table 4
Selected analytical techniques reported as known by the respondents in SPU Manila and the basic education sub-cluster

Analytical and Data Processing Methods	St. Paul University Manila		Basic Education Sub-Cluster	
	Frequency (n)	Percentage (%)	Frequency (n)	Percentage (%)
Descriptive Statistics	13	76	53	88
Graphic Representation	6	35	26	43
Thematic Analysis	12	71	16	27
Transcription	9	53	15	26
Content Analysis	9	53	20	33
SWOT Analysis	8	47	15	26
Inferential Statistics	6	35	22	37

Data Analysis and Processing Methods. Table 4 reveals that SPU Manila is stronger than the schools in the sub-cluster in the area of data analysis and processing and relative to information-gathering methods as well. While the numbers show that the sub-cluster respondents have a higher number under descriptive statistics, one could attribute it to the smaller number of participants in SPU Manila compared to the sub-cluster. The same can be said for graphic representation. Nevertheless, SPU Manila is the leader in data analysis and processing, particularly in thematic analysis, transcription, and content analysis, which are the most common ways of generating data, in general. This means that SPU Manila should have a role to play in making the teachers in the sub-cluster schools improve.

Research Writing Process

Table 5 below shows differences in the writing ability of the respondents in the areas of introduction and methodology.

Proposal Writing: Introduction. Data in Table 5 show that SPU Manila is ahead of the sub-cluster schools in terms of writing the background, although both fall under the "quite knowledgeable" category. SPU Manila arrived at its highest rating in formulating objectives and research questions and constructing the study framework while the sub-clusterschools rate highest in the literature review. As literature review is more of a primary task compared to formulating research objectives and questions and constructing study frameworks, SPU Manila is in a position to assist the sub-cluster schools in achieving the latter more effectively given its strength in those areas. However, it should be noted that SPU Manila's scores are lower in the literature review (lowest in the background section) compared to formulating research objectives and questions and constructing study frameworks, pointing out that it must improve itself in doing a literature review to do better in the latter two areas. The NK interpretations for the sub-cluster schools reveal areas that need to be and can be addressed by SPU Manila.

Proposal Writing: Methodology. Data in Table 5 indicate that methodology-wise, both SPU Manila and the sub-cluster schools are highly rated for quantitative research design (3.0 vs. 2.6, respectively, both QK) and lowly rated for inferential statistics (2.6 vs. 2.3, respectively). Since SPU Manila is still within the QK range in inferential statistics, it can assist in elevating knowledge of the sub-cluster schools in the said area. Mixed method design was also rated highest under quantitative methodology in SPU Manila; hence, this is one area the sub-cluster schools can learn from. The sub-cluster schools received an NK interpretation in six of eight areas under quantitative methodology, indicating that it is an area that needs improvement and assistance from SPU Manila.

For qualitative methodology, SPU Manila still has the highest rating in research design, which is higher than its rating in quantitative design. This means that the university may perform better in qualitative methodologies than quantitative ones, which is the priority in IHD. It scores lowest in the use of online technologies (2.7) revealing a need to improve in the said area, ahead of the sub-cluster schools (2.4) to be of help. The use of online applications for research purposes must, therefore, be a priority for the university to get even further ahead in qualitative methodologies. Meanwhile, the sub-cluster schools rated more poorly in qualitative methodology (2.4 or NK) when compared to quantitative methodology (2.5 or NK), although not by much, when examined relative to SPU Manila ratings (2.8 - 3.0).`

Research Engagement

Figure 2 shows the percentage distribution across different activities related to research in SPU Manila and the sub-cluster schools. Data reveal that there is attrition between knowing about research and leading a team of researchers. If knowledge were defined as information used to act on something, data reveal that such knowledge in the university is below 100 percent since 53 percent can do research as a result of having learned

about research. The same goes for the sub-cluster schools; however, instead of having half or more of the respondents in their group conducting research, only about a third does so. This means that SPU Manila is ahead of the sub-cluster school in terms of achieving knowledge in research as defined in this paper. The figure also shows that the top activities that the respondents are engaged in at the university and in the sub-cluster schools are learning about research (100% vs. 92%, respectively), conducting research (53% vs. 37%), and sitting in a review panel (41% vs. 13%). Thus, conducting research must be further encouraged, given that there is a high self-report rating on familiarity with research. This means that instead of conducting more webinars to further engage teachers in research, a program intensifying the conduct of research in the university and the sub-cluster schools must be the priority.

The high research familiarity self-report suggests that the teachers in both the university and the sub-cluster schools are under-utilized or under-engaged. This also means that the structures involving teachers do not maximize their engagement in research beyond conducting research, such as publishing (18% vs. 0%, respectively), presenting at conferences (35% vs. 10%, respectively), mentoring (28% vs. 8%), giving talks on research (18% vs. 2%), and leading a research team (6% vs. 2%). In general, the figures reveal that for both the university and the sub-cluster schools, the research knowledge management process has bottlenecks and that the conversion from tacit to explicit research knowledge, and the flow from knowledge creation to knowledge use must be better facilitated.

Table 5
self-reported level of knowledgeability on domains and dimensions of research proposal writing

Domain	Dimension	Mean (SPU Manila)	Qualitative Interpretation	Mean (Sub-Cluster Schools)	Qualitative Interpretation
Background		3.1	QK	2.5	NK
	Formulating objectives and research questions	3.2	QK	2.5	NK
	Literature Review	3.0	QK	2.6	QK
	Constructing the Study Framework	3.2	QK	2.4	NK
Quantitative Methodology		2.8	QK	2.5	NK
	Design	3.0	QK	2.6	QK
	Mixed Method	3.0	QK	2.4	NK
	Instrument Development	2.9	QK	2.5	NK
	Descriptive Statistics	2.7	QK	2.4	NK
	Inferential Statistics	2.6	QK	2.3	NK
	Visual Representation	2.9	QK	2.6	QK
	Use of Online Applications	2.7	QK	2.4	NK
Qualitative Methodology		3.0	QK	2.4	NK
	Design	3.2	QK	2.6	QK
	Mixed Method	3.0	QK	2.4	NK
	Instrument Development	3.1	QK	2.4	NK
	Narrative Analysis	3.1	QK	2.4	NK
	Use of Online Applications	2.7	QK	2.4	NK

Legend: 3.26 - 4.00 - Very knowledgeable (VK); 2.51 - 3.25 - Quite knowledgeable (QK); 1.76 - 2.50 - Not so knowledgeable (NK); 1-00 - 1.75 - Without knowledge (WK)

VII. Discussion

KM Integration

Given the data above, this paper discusses their implications for research knowledge management in the South Luzon Cluster of the SPCEM.

The qualitative organizational research knowledge. The data above show that the current research knowledge of the South Luzon Cluster, led by SPU Manila is already oriented towards qualitative research (refer to Table 5). SPU Manila is more knowledgeable in qualitative compared to quantitativemethodology (3.0 vs. 2.8 respectively). It is positioned as capable, then, to elevate qualitative research in the sub-cluster schools since it is ahead in the said area (3.0 or quite knowledgeable vs. 2.4 or not so knowledgeable) than the latter. Its 100 percent familiarity with popular quantitative social science approaches (refer to Table 1 - polling and testing), quantitative information gathering method (refer to Table 3 - survey), and quantitative analysis and data processing method (refer to Table 4 - descriptive statistics), ensure that data construction that draws evidence mostly from qualitative information, is aptly supported by quantitative research knowledge. However, its qualitative information gathering and analytical and data processing methods are at the most basic level given that many other methods are yet to be learned, and, therefore, must be expanded to include newer and more innovative ones. This suggests that for SPU Manila to fully reach its full potential as a helping organization in research knowledge management and development in the South Luzon Cluster of the SPCEM, it must improve its teachers' familiarity with a wider range of methods (those known by less than 50% of the faculty). Only by widening their methodological repertoire can they find out how to be more creative in methodological design, that is, involving the combination of a variety of qualitative and quantitative methods that can better capture the nuances in the complexity they will be investigating. Regardless, the university is already in a position to share what its teachers claim to know. In areas where the sub-cluster schools are more familiar (refer to Table 4 - descriptive statistics), it can seek to partner with them for learning purposes. The organizational research knowledge is already properly oriented towards the pursuit of IHD through its high potential to engage in qualitative research.

Organizational research knowledge management integration framework. However, with regards to research engagement as a mode of knowledge production, SPU Manila's organizational research knowledge is kept at being aware or familiar with research, in general, and some particular areas of strength that do not translate that much to conducting research. Only those who conduct research can technically translate their research knowledge to other engagements such as publication (18%), conference presentations (35%), and leading a team (6%) (refer to Figure 2). Those who have yet to conduct research may engage in mentoring, panel reviews, and giving talks, which may prove lacking in quality in that they have no research experience that can bring about a deeper understanding of research that should be shared in the organization. If any, research knowledge sharing becomes more theoretical than practical for teachers not conducting research.

Research knowledge integration in the academe, according to the McElroy KM Cycle model, involves actions like publishing and conference presentations (broadcasting), doing research (searching), giving talks (teaching), and sharing (mentoring, participating in technical review panels, and leading a research team). Based on the data, however, the state of research knowledge management integration tends towards searching and is wanting in other areas. The CHED requires 30 percent of full-time faculty or 50, whichever is higher, to be involved in research. Figure 2, indicates that there is engagement in many forms occurring in SPU Manila which follows the mandate. However, for a smaller university like SPU Manila, the mandate is 50 teachers or 100 percent (if less than 50), which puts undue pressure on SPU Manila in an already uneven playing field and renders the CHED mandate more demanding of smaller HEIs than bigger ones (with more government-provided resources and budgets like state universities and colleges).

Given that SPU Manila relies mostly on enrollment fees and enrollment has been dwindling in recent years, there are not enough financial resources to achieve 100 percent research knowledge searching and sharing, especially because teaching overloads guarantee more pay. This means that research knowledge integration is understandably heavy on teaching, which does not require practical knowledge for the teacher to be accomplished, often at the expense of searching, broadcasting, and sharing. This is exactly what is happening in Figure 2. More problematic is that sub-cluster schools with more limited research familiarity and experience are less likely to have a wider range of research engagements because of teacher attrition favoring migration to public schools that constantly diminish the impact of institutional training in research conducted by Catholic basic education schools.

SPCEM South Luzon Cluster research knowledge management framework. This brings SPU Manila to several challenges pertinent to leading the South Luzon cluster of the SPCEM. Given that the government is not likely to provide the financial resources to make research knowledge management more conveniently achievable, SPU Manila may be guided by the following framework based on the data as proposed by the researchers.

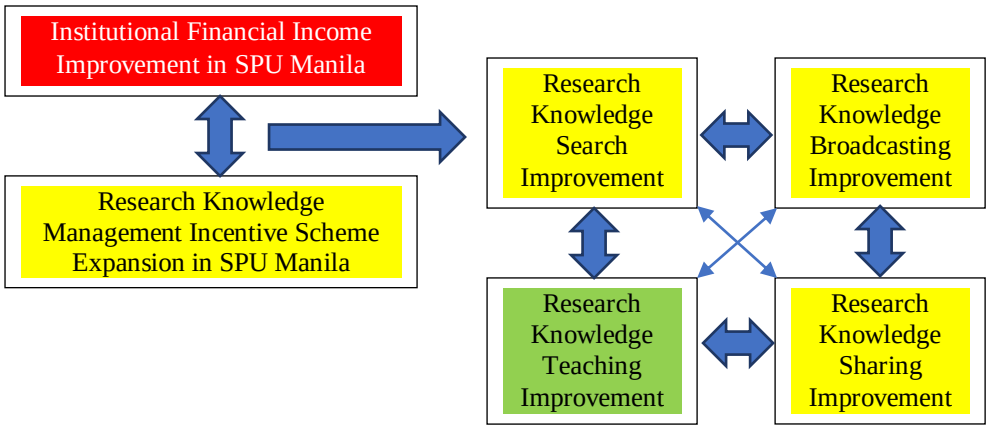

Figure 3.
Research Knowledge Management Framework for the South Luzon Cluster of the SPCEM

Research knowledge teaching improvement. The box (Research Knowledge Teaching Improvement) is colored green to indicate that there are enough intellectual resources to initiate the research knowledge assistance program for the sub-cluster schools, particularly in the area of qualitative research mandated by the IHD Framework. This does not in any way imply that SPU Manila has to expand its research repertoire as indicated in the data. This green section is also supported by the education received by the teachers outside of the Paulinian schools where they teach. Hence, there are a variety of sources that help the cluster in this regard. This section of the framework has a dialectical relationship with research knowledge search improvement in that improved knowledge teaching can improve the conduct of research and vice versa. If any, the university, consistent with the mandate of the Department of Education and the CHED in the Philippines, must encourage its teachers to engage in graduate studies or certification sessions related to research. Meanwhile, the sub-cluster schools must encourage their teachers to undergo graduate education where research is considered a foundational learning area.

Research knowledge search improvement. This section in yellow, not only has a dialectical relationship with the former but also with the two other remaining proximate sections in Figure 3. This means that improved conduct of research will improve research knowledge broadcasting (as the likelihood for acceptance in conferences and publications is increased) and research knowledge sharing (as those who learn

from the actual conduct of research can mentor and review better) and vice versa, respectively. However, only a little above half of teachers in SPU Manila conduct research and this means that factors negatively affecting it such as the diminishing institutional financial income and the limited research knowledge management incentive scheme must be addressed (colored red to indicate a persistent problem beyond the capacity of individual teachers to address, and yellow to indicate a state that works below optimal level given the present provisions). This observation comes from the researchers' personal experience and knowledge of the two areas. These two problematic areas are concerns that must be addressed by the top management and must not further burden teachers who are likely overloaded with teaching and other administrative tasks. In SPU Manila, teachers multitask and are given administrative assignments above their teaching loads, which further makes it impossible for them to conduct research if they were given more tasks like marketing that help improve the two areas mentioned.

Research knowledge broadcasting and sharing improvement. This section largely depends on the conduct of research by teachers. Without research production, there is nothing to broadcast to other institutions and the larger public. This means that this section also heavily relies on those previously mentioned problematic areas concerning top management. The heavier burden, then, must be on the shoulders of top management, especially since the green box is already being addressed by national policy and accreditation requirements and only need to be implemented by the concerned schools. Improving knowledge sharing in the form of mentoring, teaching panel membership, and leading research teams depends on improving the conduct of research, as well, which leads back to the problematicfinancials of SPU Manila.

Institutional financial income and research incentive scheme. The issue of diminishing enrollment in colleges and universities has been a persistent concern, especially for private schools. With the pandemic and the new free higher education law, the financial challenge for the said schools has further worsened. However, in recent years, enrollment in graduate programs, especially among international students and other overseas-based clients has improved. The increasing migration of undergraduate students to state universities and colleges, thus, frees private HEIs like SPU Manila to focus its attention on graduate student enrollment which is likely to intensify more advanced research productivity through student-faculty collaborations. Given the requirement that graduate students should publish before graduation, there is the imperative to engage teachers and graduate students on pre-masteral thesis and dissertation research work which improves research productivity and the other four sections discussed above. The immediate solution, then, is to promote graduate program enrollments and simultaneously allocate the resulting income to expand the incentive schemes in academic programs to increase research knowledge search activities that necessarily affect the other sections of the research knowledge management flow.

References

[1.] Arrién, J. (1998). *Higher education in the XXI century: View of Latin America and the Caribbean*. UNESCO.

[2.] Bantugan, B., Anonuevo, R., &Maligaya, D. (2023). A Systems Approach to Investigating Research Engagement in Two Selected Local Higher Education Institutions in the National Capital Region. *International Journal of Arts and Social Science, 5*(11), 1-16.

[3.] Bantugan, B., Esco, J. Gaan, C., & Navarro, D. M. (2023). Research knowledge transfer in the nursing education colleges of two selected state universities in Luzon, Philippines. [Unpublished manuscript].

[4.] Bantugan, B., Manguerra-Mahusay, S. C., Manalansan, A. M., Lopez, N-J. Faylona, F. (2023). Research engagement and knowledge networks of the School of Management and Information Technology of the De La Salle-College of St. Benilde (Philippines). *International Journal of Arts and Social Science, 6*(2), 1-15.

[5.] Catholic Agency for Overseas Development. (2021, February). The distinctive role of the Catholic Church in development and humanitarian response. Retrieved from file:///C:/Users/brian/Downloads/The%20distinctive%20role%20of%20the%20Catholic%20Church%20in%20development%20and%20humanitarian%20response%20-%207%20ways%20the%20Church%20makes%20a%20difference%20(February%202021).pdf.

[6.] CBCP Online. (2012). 400 years of Catholic education in the Philippines. Retrieved from https://cbcponline.net/a-pastoral-letter-of-the-cbcp-on-the-occasion-of-the-400-years-of-catholic-education-in-the-philippines/.

[7.] Chao, R. Jr. (2018, November 16). Social science and humanities vital for change-makers. Retrieved from https://www.universityworldnews.com/post.php?story=20181106151855347.

[8.] Commission on Higher Education. (2016). CHED Memorandum Order No. 19 Series of 2016. Retrieved from http://www.usl.edu.ph/public/downloads/CMO-19-series-of-2016-Benefits-and-Responsibilities-of-Autonomous-and-Deregulated-Private-Higher-Education-Institutions.pdf.

[9.] Commission on Higher Education. (2016). CHED Memorandum Order No. 52 Series of 2016. Retrieved from http://archive.ovcrd.upd.edu.ph/wp-content/uploads/2016/10/CMO-52-s.-2016.pdf.

[10.] Dalkir, K. (2005). *Knowledge Management in Theory and Practice*. Elsevier.

[11.] Garfield, S. (2015. April 14). Knowledge and knowledge management defined. Retrieved from https://www.linkedin.com/pulse/knowledge-management-defined-stan-garfield/.

[12.] Gergen, K. J., Josselson, R., & Freeman, M. (2015). The promises of qualitative inquiry. *American Psychologist*, *70*(1), 1-9. Retrieved from https://researchdesignreview.com/2015/01/30/contexts-constructs-the-human-condition-grounding-quantitative-with-qualitative-research/.

[13.] Heinrich, G., Leege, D. and Miller, C. (2009) *A User's Guide to Integral Human Development (IHD): Practical Guidance for CRS Staff and Partners*. Catholic Relief Services.

[14.] In.Corp. (2022, December 19). Can innovation in the Philippines catch up to its counterparts? Retrieved from https://www.incorp.asia/blogs/innovation-in-the-philippines-catch-up/#:~:text=In%20this%20regard%2C%20is%20the,2014%20to%2051st%20in%202021.

[15.] Keleher, L. (2018). *Integral Human Development: Development of every person and the whole person*. Routledge Handbooks Online.

[16.] Keleher, L. (2017) Toward an Integral Human Development Ethics. *Veritas: Revista de Filosofía y Teología*, 37, 19–34.

[17.] Keheler, L. (2017). Toward an Integral Human Development Ethics. Retrieved from https://www.redalyc.org/journal/2911/291152007002/html/.

[18.] Kibin. (2023). An Analysis of Different Theories of Human Development. http://www.kibin.com/essay-examples/an-analysis-of-different-theories-of-human-development-lr2OXLg2.

[19.] Martin Prosperity Institute. (2015, July 8). The Global Creativity Index 2015. Retrieved from http://www-2.rotman.utoronto.ca/mpi/content/the-global-creativity-index-2015/.

[20.] McGann, J. (2004). A Note on the State of Humanities Scholarship. *Critical Inquiry*, 30, 409-413.

[21.] Meyer, M., and Zack, M. (1996). The design and implementation of information products. *Sloan Management Review, 37*(3), 43–59.

[22.] Narbarte, M. P. &Balila, J. S. (2018). Research Involvement, Motivation, and University Initiatives as Agents for Enhancing Research Culture and Quality. *Catalyst*, 17, 68-78.

[23.] Nussbaum, M. C. (2002). Humanities and human development. *The Journal of Aesthetic Education, 36*(3), 39-39. https://doi.org/10.2307/3333596.

[24.] Paul VI (1967. March 16). Encyclical Letter: *PopolorumProgressio*. Vatican City. Retrieved from https://www.vatican.va/content/paul-vi/en/encyclicals/documents/hf_p-vi_enc_26031967_populorum.html.

[25.] The Philippine Star. (2019, July 28). Strengthening research in the Philippines. Retrieved from https://www.philstar.com/business/science-and-environment/2019/07/28/1938834/strengthening-research-philippines.

[26.] Quitoras, M. C. L. &Abuso, J. E. (2021). Best Practices of Higher Education Institutions (HEIs) for the Development of Research Culture in the Philippines. *Pedagogical Research, 6*(1), em0087. https://doi.org/10.29333/pr/9355.

[27.] Rizzi, M. (2019). Defining Catholic Higher Education in Positive, Not Negative, Terms. *Journal of Catholic Education, 22* (2). http://dx.doi.org/https://doi.org/10.15365/joce.2202012019.

[28.] Salazar-Clemeña, R. M. &Almonte-Acosta, S. A. (2007). *Developing research culture in Philippine higher education institutions: perspectives of university faculty*. UNESCO.

[29.] Sen, A. (1989). Development as Capability Expansion. *Journal of Development Planning.* In S. Fukuda-Parr & A. K. Shiva Kumar (eds.). (2003). *Readings in Human Development*. Oxford University Press.

[30.] Social Spirituality. (n.d.) Integral Human Development. Retrieved from https://social-spirituality.net/integral-human-development/.

[31.] St. Paul University Manila. (n.d.). History of St. Paul's Manila. Retrieved from https://stpauluniversitymanila.wordpress.com/about-us/.

[32.] St. Paul University Philippines. (2020). St. Paul University System. Retrieved from https://spup.edu.ph/st-paul-university-system/.

[33.] The University of Notre Dame. (2023). What is Integral Human Development? Retrieved from https://keough.nd.edu/integral-human-development/#:~:text=While%20the%20term%20%E2%80%9Cintegral%20human,interacting%20with%2C%20and%20understanding%20others.

[34.] World Intellectual Property Organization. (2022). Global Innovation Index (GII). Retrieved from https://www.wipo.int/global_innovation_index/en/.

[35.] United Nations Human Development Reports. (n.d) What is Human Development? Retrieved from https://hdr.undp.org/about/human-development.

[36.] United Nations Development Programme (1997). *Human Development Report 1997*. Oxford University Press.