

Exploring Graduate Employability through Self-Determination and Constructivist Perspectives: A Tracer Study of Postgraduate Alumni

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ABSTRACT

This research investigates graduate employability and competency relevance through the application of Self-Determination Theory (SDT) and Constructivist Learning Theory as theoretical frameworks. Survey instruments were designed and analyzed based on SDT autonomy, competence, and relatedness dimensions, while constructivist principles helped explain how academic learning translates into professional practice. The research employed a tracer study method to gather data from 147 master's and doctoral alumni of a private higher education institution. The findings indicate that 91% of respondents maintain full-time employment, and 62.6% confirm that their current work matches their graduate education. Alumni participants reported significant career progression and extensive use of transferable abilities. The research provides implications for curriculum review, quality assurance, and theoretical integration in graduate outcome assessments.

Keywords: Competency Development, Constructivist Learning Theory, Graduate Employability, Higher Education, Self-Determination Theory, Student Outcomes, Tracer Study

INTRODUCTION

Graduate Employability in a Transforming Labor Market

The global labor market undergoes rapid transformation because of digital innovation, economic system restructuring, and evolving workforce requirements. Higher education institutions face substantial challenges because they need to develop graduates who possess intellectual abilities and demonstrate resilience, intrinsic motivation, and lifelong learning dedication. The dynamic environment requires graduate education to move past disciplinary teaching to develop transferable competencies and professional agency, which enables students to handle volatile, uncertain, complex, and ambiguous (VUCA) professional environments (Organisation for Economic Co-operation and Development [OECD], 2019; World Economic Forum, 2020).

Tracer studies have become a frequently used tool in higher education quality assurance because they help evaluate the effectiveness of institutions in preparing graduates for such contexts. Tracer studies typically track employment results but lack theoretical depth, which limits their ability to show how particular academic learning experiences affect graduate career performance and skill application and motivation development. This research fills a knowledge gap by using Self-Determination Theory (SDT) and Constructivist Learning Theory to analyze how graduate education affects employability-related outcomes. The study uses these frameworks to investigate both graduate employment rates and how academic preparation fosters autonomy, competence, relatedness, and the practical application of competencies. Most tracer studies employ descriptive statistics to report graduate outcomes; however, such approaches often lack the analytical depth needed to understand how educational experiences shape career readiness and motivation. Self-Determination Theory (SDT) and Constructivist Learning Theory provide robust analytical frameworks that reveal the internal and contextual factors of employability outcomes. SDT explains how graduates' motivation, autonomy, and competence are developed through academic engagement, while constructivist theory explains how learners develop transferable skills through socially situated, experiential learning.

Traditional tracer studies illustrate the limitations of descriptive-only approaches by focusing on employment outcomes without engaging theoretical

frameworks such as SDT or constructivist learning. For example, Dela Cruz (2022) studied graduate school alumni at a Philippine state higher education institution through a tracer study, which analyzed employment status and skill applicability and graduate program relevance among 92 surveyed alumni using frequencies, percentages, and mean values. The research indicated that graduates demonstrated strong employability and skill utilization. This study remained descriptive and did not offer theoretical interpretations of the results. Similarly, Patulin et al. (2024) conducted a survey of 2,846 teacher education and graduate school alumni at Surigao del Norte State University through Google Forms and surveys and phone interviews to track employment status and satisfaction and financial relevance. The analysis did not apply any conceptual theory to explain how institutional or psychological processes contributed to these outcomes. These studies demonstrate the difference between theoretically grounded tracer research reinforcing the values of integrating theoretical frameworks to allow deeper explanatory insights.

Some studies demonstrate that Self-Determination Theory (SDT) and Constructivist Learning Theory serve as effective theoretical frameworks to enhance graduate employability understanding. Tecilazić, Ogrizek Biškupić, and Balković (2024) conducted a comparative study across six European nations that showed that pedagogical modes such as problem-based learning, teamwork, and internships developed graduates' social and entrepreneurial abilities consistent with constructivist learning principles, which focus on learner agency and situated learning. Bell's (2018) doctoral thesis at the University of Huddersfield showed that constructivist learning environments, which use experiential active teaching methods, developed entrepreneurial competencies, including self-efficacy, leadership skills, problem-solving abilities, and proactive dispositions in graduates. This research demonstrates how constructivist frameworks and SDT-aligned approaches provide richer explanatory insight about how educational experiences shape employability skills by moving past basic outcome descriptions to understand psychological processes. Evidence from U.S. student-veterans indicates that perceived employability and ambition vary according to demographic and psychological factors, demonstrating the significance of subjective perception in employability beyond mere employment status (Niu et al., 2022).

Global and Regional Context

The global labor market has experienced rapid changes because of technological progress and digital transformation alongside economic model shifts. The changing work environment has transformed the required skills of graduates, thus forcing higher education institutions to modify their programs for maintaining their relevance and responsiveness (World Economic Forum, 2020). Higher education institutions now face the responsibility to develop students who

possess adaptability, employability, and future-readiness to succeed in volatile, uncertain, complex, and ambiguous (VUCA) work environments (OECD, 2019). The expectations for Southeast Asian higher education institutions become more urgent because of regional integration and population changes, which drive academic reforms to match labor market requirements (Asian Development Bank, 2020). Key research on human capital illustrates that education-based skill acquisition significantly impacts national labor market productivity and individual employability opportunities (Hanushek & Woessmann, 2015).

Xavier University operates as a distinct academic institution in Northern Mindanao within Southeast Asia. The region of Mindanao experiences underdevelopment and peripheral national policy status and socio-political instability because it has historically lacked representation in global graduate employability discussions and tracer studies (Tan, 2018; Asian Development Bank [ADB], 2020). The current literature primarily examines universities located in metropolitan and capital cities, which results in a lack of attention to the unique outcomes and educational experiences arising from regional disparities, conflict zones, and resource inequalities. This study contributes to balancing the existing knowledge gap through its empirical data collection from a Jesuit, faith-based institution.

Multiple international benchmarks support the employment findings presented in this tracer study: The employment rates of Xavier Ateneo graduates are in line with the ILO (2022) global youth employment recovery trends, since 80.95% of graduates have full-time jobs. The distribution pattern of alumni in public and private sectors matches the findings of OECD (2020) and the ASEAN University Network, which show state and market institutions lead graduate absorption, yet nonprofit and healthcare sectors remain limited. The income distribution pattern in this study follows the patterns of income inequality and educational return on investment documented across the Global South (Hanushek & Woessmann, 2015). The utilization of skills in research and communication and leadership tasks in this study matches the workforce readiness competencies defined by the World Bank and other multilateral institutions.

By foregrounding the experiences of graduates from a regional, mission-oriented university, this study contributes to expanding the applicability of global employability frameworks. This study challenges the centrality of Global North frameworks by using Mindanaoan graduate experiences to contribute to global knowledge on the education-labor relationship, social progression, and human capital equity. This study demonstrates the need for higher education institutions with localized, values-based approaches to address both regional development needs and global educational objectives.

Tracer studies function as indispensable evaluation tools to monitor student post-graduation results and to guide institutional decision-making on curriculum development and quality assurance. Such studies monitor employment status while

providing valuable information related to the applicability of competencies translated in real-world contexts. Thirunavukarasu et al. (2020) observed that students' employment readiness depends on how well their academic education matches real-world needs and the extent to which higher education develops transferable skills. The graduate tracer studies function as both diagnostic and developmental tools to provide evidence for institutional accountability and curriculum innovation and policy formulation.

National and Institutional Setting

The Philippines implements tracer studies as a fundamental component of its outcomes-based education policy and typology-based quality assurance framework (Orbeta, Abrigo, & Cabalfin, 2019). The studies function as essential tools to ensure graduate education aligns with the Philippines' developmental goals, which include economic expansion, poverty elimination, and human capital development, according to the Philippine Development Plan and Ambisyon Natin 2040. The Philippine Economic Update predicts economic expansion at 6–7% through investments in physical and human capital, according to World Bank projections (World Bank, 2025). The policy framework depends on tracer study data to assess graduate program effectiveness in labor market needs and guide curricular changes. A private university in the southern Philippines performed a tracer study of its graduate alumni from the past five years to fulfill national policy requirements. The institution uses this specific initiative to produce information about employment outcomes, skill utilization, and the resonance of institutional values with professional practices. This study demonstrates direction toward evidence-based quality assurance approaches in Philippine higher education.

Research Gap

Graduate tracer studies have become a standardized approach to evaluate educational outcomes, yet most research focuses on national or regional studies, which make broad institutional generalizations. Macro-level studies deliver general findings but fail to recognize how institutional variations affect graduate employability outcomes. (Orbeta, Abrigo, & Cabalfin, 2019). While national tracer studies contribute to system-wide benchmarking, their general nature makes them unsuitable for program-level curricular reform because they need both detailed and practical data.

The integration between tracer study findings and educational theory remains insufficient. The majority of tracer studies use alumni feedback as descriptive information instead of using analytical frameworks that incorporate motivational and cognitive or pedagogical perspectives. The failure to explain how academic experiences influence workplace behavior and self-perceived competence and

career agency development prevents researchers from maximizing their findings. The explanatory power of Self-Determination Theory (Ryan & Deci, 2000) and constructivist learning theory remains underutilized in tracer research because these models explain how learners develop autonomy and competence and transferable skills. Wibowo, Wangid, and Firdaus (2025) stress that constructivist approaches show how learners develop competency through contextual and socially mediated knowledge internalization and application, which is vital for understanding post-graduation competency use.

Southeast Asian literature lacks sufficient studies about tracer research that use digital methods to analyze regional contexts. Cuadra, Aure, and Gonzaga (2019) demonstrate the institutional value of tracer studies for curriculum development, yet their research concentrates on undergraduate studies and offers limited engagement with theoretical analysis. There is a pressing need for empirical research that both tracks graduate employability metrics and explains them using conceptual frameworks. This study fills the existing research gaps through an institution-based tracer evaluation that uses theoretical foundations.

Conceptual Framework: Integrating SDT and Constructivist Learning Theory

This study adopts an integrating theoretical framework drawing from Self-Determination Theory (SDT) from Ryan & Deci (2000, 2020) and Constructivist Learning Theory to examine the influence of educational experiences on graduates' employability in terms of motivation, competency relevance, career advancement, and institutional value alignment.

SDT posits that human optimal functioning requires meeting three psychological needs which include autonomy (sense of volition), competence (sense of effectiveness) and relatedness (feeling of connection to others or to institutions). The fulfillment of these needs in educational settings leads students to develop intrinsic motivation and internalized values, which leads to more profound engagement and sustained personal and professional development (Ryan & Deci, 2000, 2020).

On the other hand, constructivist Learning Theory suggests that active learning occurs through experiential learning, social interaction and contextual engagement (Fosnot, 2013). Students do not receive knowledge through passive reception, as learning becomes an active process that enables them to apply knowledge in authentic situations where they create meaning. The application of constructivist principles enables students to develop transferable skills such as problem-solving, communication, and collaboration skills that are essential for employability.

The interaction of these two theories in this framework is cyclical and mutually reinforcing. Constructivist pedagogy (e.g., project-based learning,

internships, and reflective practice) provides context that stimulates learners' psychological needs. Students experience relatedness satisfaction through collaborative projects, while solving complex problems enhances their competence, and learner autonomy grows from task-based choice and agency. Students who experience high need satisfaction tend to participate meaningfully in constructivist activities that lead to higher levels of motivation and better skill acquisition and deeper institutional value internalization and improved career outcomes.

This framework maps onto this study's dimensions: The Self-Determination Theory (SDT) explains how internal and external motivations influence graduates' career choices and levels of work engagement. On the other hand, the Constructivist Learning Theory serves as a lens to understand how academic learning translates into practical workplace competencies, which enhances competency alignment. Career progression is understood as a result of dynamic interaction between SDT's focus on individual agency and constructivist learning environments that promote transfer of skills. Additionally, SDT explains the internalization of institutional values while constructivist theory explains the social processes and experiential learning that enables the enactment of these values.

Research Objectives

The integrated framework provides the theoretical grounding for the study's six research objectives, which collectively examine how motivation, competency relevance, career progression, and value alignment appear in alumni professional development and perceptions.

1. To determine the employment status and distribution of graduates by sector.
2. To determine the income levels and career progression of graduates in different sectors.
3. To assess the perceived relevance and application of academic competencies in the workplace.
4. To determine the level of satisfaction of alumni with their graduate education.
5. To determine how alumni reflect institutional values in their professional roles.
6. To examine how graduates internalize and enact institutional values in their professional and personal lives.

LITERATURE REVIEW

Global and Theoretical Perspectives on Graduate Employability

Graduate employability is becoming a central theme in higher education research influenced by discourse on knowledge economies, lifelong learning, and workforce adaptability. The speed of technological, economic, and demographic changes in global labor markets forces higher education institutions to demonstrate their ability to produce graduates who can effectively thrive in complex employment environments (Jackson, 2016; OECD, 2020). Employability is now regarded as the development of graduate capital, namely, skills, dispositions, and networks, and more than securing employment (Tomlinson, 2017). Research on graduate employability now emphasizes the importance of tracing not only the employment outcomes but also the quality and contextual relevance of these outcomes. A recent cross-national investigation indicates that international student status interacts with institutional environments, affecting career preparation and opportunities for employment (LeBeau, 2023).

Tracer studies have been utilized as the primary methodological tool in evaluating transitions from higher education to employment. Recent tracer research suggests that multivariate analysis may identify competence patterns related to job performance, as seen in the PCA-based employability evaluation of Garcia et al. (2024). Many of these studies provide useful descriptive findings, including employment rates, salary levels, and industry alignment; however, their theoretical engagement remains limited (Garcia et al., 2022; Dela Cruz, 2021). The prevalence of descriptive tracer studies often fails to capture the processes by which higher education institutions contribute to the development of professional identity, agency, and self-regulated career behavior. This has led to calls for employability research that integrates theory to study psychological and pedagogical processes that drive graduate success (Yorke, 2006; Holmes, 2013). The evolving discourse finds strong conceptual lenses for graduate employability research in self-determination theory and constructivist learning theory. According to Self Determination Theory the three psychological needs of autonomy, competence and relatedness collectively supports optimal functioning, motivation, and well-being (Ryan & Deci, 2000, 2020). These fundamental constructs are relevant to student learning and future professional trajectories, as they influence how graduates perceive and pursue meaningful employment. On the other hand, Constructivist Learning Theory emphasizes the active construction of knowledge through reflection and social interaction. (Fosnot, 2013). This perspective aligns well with employability models that prioritize contextual skill transfer, experiential learning, and adaptability.

However, despite their relevance, the application of SDT and Constructivism in graduate employability in research is underexplored, especially in the Global

South. Most theory-driven tracer studies have originated from research-intensive Western universities. Research-intensive Western universities sustained knowledge disparities in the existing literature (Tomlinson, 2017). There is limited scholarship that applies these frameworks in regional, faith-based, or mission-driven institutions where graduates experience distinct motivations for employment. Studies in Southeast Asia often focus on skill mismatch and underemployment (ADB, 2020) and rarely examine the role of institutional values, identity, and intrinsic motivation in shaping employability outcomes. This study contributes to addressing these gaps by applying Self-Determination Theory and Constructivist Learning Theory to investigate the employability experiences of postgraduate alumni of Xavier University-Ateneo de Cagayan, a Jesuit university located in Northern Mindanao. This institutional context is characterized by its commitment to social transformation and regional development and offers a unique opportunity to investigate how value-based higher education shapes the professional identity, capabilities, career choices, and employment rates of its graduates. By engaging in global discourse related to employability, this study advances tracer methodology and epistemological frameworks and experiential narratives that have been traditionally underrepresented in dominant international scholarship.

Graduate Employability and Labor Market Alignment

Higher education institutions now base their performance evaluation on graduate employability because of worldwide changes in labor market requirements and increased examination of educational value for money. Schools and colleges are now being judged not only on how well their students do in school, but also on how well they prepare their students for a changing job market. Jackson and Bridgstock (2021) argue that employability development requires a deliberate combination of curricular, co-curricular, and extra-curricular learning experiences to build both disciplinary knowledge and transferable abilities such as communication, critical thinking, and adaptability.

Graduate employability stands as an essential component of higher education policy throughout Southeast Asia. The ASEAN Qualifications Reference Framework (AQR) requires academic credentials to match labor mobility standards and workforce requirements according to the ASEAN Secretariat (2022). The region demonstrates increased dedication to outcomes-based education and workforce integration because of digital and demographic transitions. Employability stands as a major policy priority for the Philippines. According to Cuadra, Aure, and Gonzaga (2019), tracer studies serve institutions as essential tools to evaluate the practical value of curriculum offerings and the alignment of programs with employer expectations. Their findings demonstrate that institutions need feedback-based quality assurance systems to function effectively at their

level. According to Albert, Santos, and Vizmanos (2023), the Philippine labor market shows ongoing educational mismatches, which include overqualification and skills deficits, despite the increasing number of graduates earning degrees. The current mismatches between curriculum design, graduate competencies, national development goals, and labor market realities are considered urgent issues that need to be addressed. Persistent education-employment disparities, as indicated by recent national surveys, underscore the need for graduate programs to improve labor market alignment and skill applicability (Melchor, 2024).

Thus, research demonstrates that employability exists as a multidimensional construct influenced by education policy and institutional practices and labor market structures. Tracer studies function as an essential evaluation tool that institutions use to assess their effectiveness in developing graduate readiness while making strategic curricular improvements.

Tracer Studies as Institutional Policy Tools

Tracer studies serve as systematic tools to collect post-graduation information about employment outcomes and income levels as well as competency utilization and the assessment of academic preparation relevance. Higher education institutions use tracer studies as both assessment tools for institutional performance and development tools for curriculum improvement. The tracer study process includes survey methods that track alumni participants either over time or at a single point to evaluate how educational experiences translate into workforce outcomes and professional competencies (Cuadra et al., 2019).

The Commission on Higher Education (CHED) of the Philippines established graduate tracer studies as a mandatory requirement under its typology-based quality assurance system and outcomes-based education framework. These studies exist to provide evidence-based support for program review and strategic planning decisions. The CHED guidelines state that tracer studies serve three essential purposes, which include assessing employability and informing academic policy and curriculum alignment to meet changing labor market requirements (Orbeta, Abrigo, & Cabalfin, 2019).

Tracer studies serve institutions to develop curriculum reforms while enhancing teaching standards and building stronger connections between universities and industry. The tracer findings presented by Tayco, Supat, and Estrope (2022) led to curricular changes at a state university in the Philippines through the implementation of communication and leadership and research skills integration across different disciplines. Tracer data from Southeast Asia supports accreditation processes and sector-specific alignment in teacher education and business and STEM fields, according to the ASEAN Secretariat (2022).

Despite their policy significance, tracer studies remain underutilized as academic research. Most tracer studies function as compliance instruments without

theoretical foundations, which produces descriptive reports instead of analytical findings. This underscores the need for tracer studies to move past institutional reporting by using theoretical/conceptual frameworks to study graduate school-to-work transitions effectively.

Theoretical Frameworks for Graduate Employability Research

The field of graduate employability research demands theoretical frameworks that explain how educational experiences impact post-graduation outcomes.

Two perspectives are central to this understanding: Self-Determination Theory (SDT) and constructivist learning theory. According to Self-Determination Theory, which Ryan and Deci (2000) developed, people achieve motivation and flourishing when their psychological requirements for autonomy, competence, and relatedness are met. The framework has become widely accepted in higher education research because need satisfaction serves as a strong predictor for motivation, well-being, and career readiness (Vansteenkiste & Ryan, 2020). The tracer studies use SDT to analyze how university formative experiences affect graduate confidence (competence) and self-directed career choices (autonomy) and their connection to organizational or institutional values (relatedness).

The constructivist learning theory demonstrates that knowledge emerges from the combination of personal experiences with social interactions and contextual involvement. The contemporary understanding shows that constructivist teaching methods help students develop transferable skills that are relevant to professional work environments (Wibowo, Wangid, & Firdaus, 2025). Through this lens, tracer studies can evaluate whether graduates apply classroom learning to real-world settings, thus demonstrating the effectiveness of constructivist instruction.

The frameworks demonstrate strong explanatory capabilities, but researchers rarely use them directly in tracer methodologies. Most tracer studies maintain a descriptive approach by presenting employment statistics without investigating the motivational and experiential aspects that influence graduate outcomes. The integration of SDT and constructivism in tracer research would enhance analysis by demonstrating how academic experiences develop professional agency, transferable skills, and workforce alignment.

RESEARCH METHOD

Research Design

The research employed a quantitative descriptive survey approach to study employment, income levels, skill utilization, and graduate perception across a defined alumni population. The research design matches tracer study methodologies because it uses structured data collection instruments to produce

systematic, generalizable findings about post-graduation paths (Orbeta, Abrigo, & Cabalfin, 2019). The main data collection instrument is digital surveys, as they provide both practical advantages of online administration and match current tracer study methods in higher education research (Cuadra, Aure, & Gonzaga, 2019).

The descriptive research design enables statistical analysis of alumni results without needing experimental controls or group comparisons. The research design enables the analysis of alumni responses through statistical methods to evaluate their employment sectors and income levels, as well as competency utilization. The digital platform enabled extensive geographic coverage and efficient data collection while providing immediate response tracking and ethical protection measures through anonymous participation and consent procedures. The research design supports the theoretical framework by examining graduate autonomy and competence and contextual learning through institutional and motivational perspectives.

Participants and Sampling

The research participants consisted of graduate alumni from a private higher education institution located in the southern Philippines, which we refer to as the university. The study included participants who finished their graduate studies at either the master's or doctorate level during the five years leading up to the survey. The researchers chose this time because it enabled them to study recent work experiences while graduates had enough time to establish their careers. There were 147 collected valid survey responses from participants who chose to participate in the online survey voluntarily. The study used purposive sampling by accessing alumni contact information, which the university maintained through its administrative and alumni affairs offices. The invitations reached participants through institutional email and official alumni communication platforms. The study included participants who fulfilled two conditions: (1) they finished their graduate studies within the specified period, and (2) they agreed to share anonymous data about their current work situation and professional development. The research collected no identifiable information from participants while maintaining complete confidentiality throughout the study. The sampling approach follows standard practices in higher education tracer studies, which aim to collect data about specific institution graduates to improve curriculum alignment and quality assurance and labor market responsiveness.

The study targeted Xavier Ateneo graduate program alumni who earned their degrees between 2016 and 2020. The online survey was disseminated through institutional channels, and a total of 147 valid responses were collected. However, due to limitations in alumni tracking systems, the total number of recipients who had access to the survey could not be determined. As such, the formal response

rate could not be calculated. The sample includes a broad range of graduate programs and graduation cohorts, which provides useful information for institutional analysis.

Instrumentation

A structured online survey instrument functioned as the data collection tool for this study. The survey platform operated through a secure web-based system, which students could access through institutional communication channels. The survey underwent testing with a few alumni participants to validate its clarity before its release.

The survey contained five main sections. The first section of the survey collected demographic information, which included age, gender, academic program completion, and graduation year. The second section of the survey collected employment details through variables that included current employment status, job title, sector (public, private, NGO), and location. The third section of the survey collected information about income levels and career progression since graduation. The fourth section evaluated the relevance of academic competencies such as leadership, communication, research, problem-solving, and digital skills applied to workplace needs. The final section of the survey measured alumni satisfaction toward their graduate education through questions that matched the Self-Determination Theory (SDT) core elements of competence (e.g., "My graduate program prepared me to meet the demands of my current job"), autonomy (e.g., "I had the opportunity to shape my professional direction as a result of my graduate education"), and relatedness (e.g., "My current work reflects the values promoted by the university"). The Likert-scale items received responses between 1 (Strongly Disagree) and 5 (Strongly Agree). The instrument followed validated tracer study models while drawing from the study's theoretical framework to maintain proper alignment between data collection and the analytical framework.

The survey instrument was developed using the Self-Determination Theory (SDT) and Constructivist Learning Theory as theoretical foundations to align the constructs under investigation and the collected empirical data. The three basic psychological needs of autonomy, competence, and relatedness posited by Self-Determination Theory (Ryan & Deci, 2000, 2020) were measured through Likert-scale items in the alumni satisfaction and institutional values sections. For example, the survey assessed autonomy through the item "I had the opportunity to shape my professional direction as a result of my graduate education," whereas perception of competence was captured through items such as "My graduate program prepared me to meet the demands of my current job." The item, "My current work reflects the values promoted by the university," reflects how well graduates' work roles align with the university's established values. Additionally, Constructivist learning theory informed the design of items assessing competency

applications. The survey included indicators of experiential learning outcomes, which assessed how learners developed transferable skills through active and context-specific experiences (Fosnot, 2013). The survey items evaluated how academic competencies transformed into authentic professional practice. The integration of theoretical constructs into the instrument design strengthened the coherence between this study's analytical framework and its methodology.

Reliability Analysis of Composite Measures in the Alumni Tracer Study

The internal consistency reliability of the Likert-scale constructs utilized in the Xavier Ateneo Higher Education Alumni Tracer Study was examined using Cronbach's alpha. The results indicate strong to excellent internal consistency across all five composite measures: Satisfaction ($\alpha = 0.924$), Skills Utilization ($\alpha = 0.878$), Professional Development ($\alpha = 0.871$), Career Progression ($\alpha = 0.859$), and Institutional Values ($\alpha = 0.955$), each computed based on complete responses from 147 alumni. These coefficients exceed the commonly accepted threshold of 0.70 for research-grade instruments, thereby demonstrating that the items within each construct measure a coherent and unified latent dimension (DeVellis, 2017; Nunnally & Bernstein, 1994). The high internal consistency strengthens the reliability of inferences drawn from the composite scales, supporting the instrument's psychometric integrity. These findings affirm the Xavier Ateneo tracer study's status as a robust institutional assessment tool, offering a statistically sound empirical foundation for evidence-informed decision-making related to alumni outcomes, curricular effectiveness, and strategic planning.

Data Analysis

The dataset was processed using descriptive analysis to address the five research objectives:

To address the first objective, i.e., to assess the employment status and sectoral distribution, frequencies and percentages were computed for employment type (e.g., full-time, part-time, self-employed) and sectoral affiliation (e.g., government, private, education, non-profit).

To address the second objective, i.e., to examine the income levels and career progression, descriptive statistics were generated for self-reported income ranges. The assessment of career advancement used promotion and role change variables since graduation to create both frequency tables and employment sector and income range cross-tabulations.

To evaluate the relevance and application of academic competencies, researchers computed the means and standard deviations for ratings related to leadership, communication, and research and problem-solving competencies. Where appropriate, the analysis of competency application included cross-

tabulation between program cluster and employment sector to determine domain-specific relevance.

To address objective four related to alumni satisfaction, the composite scores from satisfaction-related Likert-scale items were used. The assessment included four satisfaction-related dimensions, which measured instruction quality and mentorship and return on investment and resource adequacy. Descriptive statistical analysis of mean values and frequency distributions was performed for levels and employment alignment.

To address the fifth objective, i.e., to analyze the reflection of institutional values in professional roles, descriptive analysis was used to evaluate how institutional values appeared in professional roles through agreement levels on social justice and integrity and items related to Jesuit value principles. The thematic analysis of open-ended responses provided contextual information about how graduates implement institutional values in their professional activities and leadership roles.

Ethical Considerations

This study was conducted within the framework of the university's internal quality assurance system. This initiative was considered a programmatic evaluation instead of human subjects' research because it focused on institutional learning and curriculum development rather than producing generalizable theory.

The research followed ethical protocols that maintained research integrity principles. The online survey's participation remained voluntary for all participants. The survey participants received a clear informed consent document that explained both the research objectives and data collection boundaries and their freedom to withdraw from the study at any moment without facing any consequences. No personally identifiable information was solicited or recorded, and all responses began their analysis.

The data collection process followed institutional standards for maintaining confidentiality and protecting data while ensuring proper ethical reporting practices. The implemented measures protected participant autonomy while maintaining responsible educational research data usage for institutional assessment purposes.

RESULTS

The results of this study appear in this section to show the employment status of graduate alumni, sectoral distribution, income levels, career progression, competency application, and satisfaction with their academic experience. The study results follow the research objectives and theoretical framework by using

Self-Determination Theory constructs (autonomy, competence, and relatedness) and Constructivist Learning Theory constructs (contextual application and skill development).

Employment Outcomes and Sectoral Distribution

Overall Employment Status

The survey of 147 graduate alumni showed that 91.16% of respondents are employed full-time. The remaining respondents included 4.76% who were self-employed, 2.72% who worked part-time, and 1.36% who were unemployed. The employment rates of graduate-level alumni show a high level of labor market absorption according to this distribution, as Table 1 shows.

Table 1: *Employment Status of Graduate Alumni (N = 147)*

Employment Status	Frequency	Percentage (%)
Employed full-time	134	91.16
Self-employed	7	4.76
Employed part-time	4	2.72
Unemployed	2	1.36
Total	147	100.00

This is in line with the findings of the 4th Philippine Graduate Tracer Study, which reported that 76% of graduates were employed and 86% were economically active (Tutor et al., 2019; Orbeta et al., 2021). Such congruence confirms the positive impact of graduate education on labor market entry in the Philippine context. The alignment shows that the institution is effective in providing access to formal employment, a trend that is in line with the national data (Tutor et al., 2019; Orbeta et al., 2021).

Sectoral Distribution

The majority of alumni worked in government/public sector positions (45.58%) and private sector roles (40.14%). The remaining portion of the workforce consisted of 12.24% in education, 1.36% in nonprofit organizations, and 0.68% in healthcare. The employment patterns indicate that the university's graduate programs enable students to transition between public administration and private enterprise sectors, as table 2 below shows. This distribution reflects national employment patterns documented in Philippine tracer studies, where government and private enterprises consistently serve as the primary sectors for graduate integration (Orbeta et al., 2021). The high number of alumni working in

these sectors matches the university's focus on graduate programs in business management and education. The research demonstrates how graduate education provides alumni with skills that enable them to move between public administration and private enterprise sectors.

Table 2: *Sector of Employment of Graduate Alumni (N = 147)*

Sector of Employment	Frequency	Percentage (%)
Government/Public Sector	67	45.58
Private Sector	59	40.14
Education	18	12.24
Non-profit	2	1.36
Healthcare	1	0.68
Total	147	100.00

The analysis of academic program and employment sector relationships used cross-tabulation on cleaned and consolidated data entries. The analysis included only cases with complete data for both fields (n = 73). The results demonstrate that MA in Education programs primarily work in the public sector, while business and health-related degrees have employment in multiple sectors. The majority of Master of Arts in Education graduates worked in public sector institutions because their training programs matched the needs of government educational institutions. The alumni from business-related fields who earned Master in Business Management and Doctor in Business Management and Public Administration degrees found employment in both government and private enterprise sectors. The distribution pattern shows how managerial skills can be used in various sectors because these qualifications work well in different industries. The research shows how different fields of study affect graduate employment patterns in specific sectors, which supports the importance of curriculum design and sector-based skills for career readiness.

Income Levels and Career Progression

Income Distribution and Sectoral Variation

The survey results in Table 3 showed that 116 participants with full income and sectoral information reported their annual earnings mostly in the upper income range. The highest income level reported by 60 respondents (51.7%) was PhP 100,000 and above annually. The PhP 40,000–59,999 income range followed PhP 20,000–39,999 as the second most common income range.

Table 3: Distribution of Annual Income by Sector of Employment (N = 116)

Income Bracket	Education	Gov't/ Public	Healthcare	Non-profit	Private Sector	Total
Less PhP 20,000	0 (0.0%)	2 (40.0%)	0 (0.0%)	0 (0.0%)	3 (60.0%)	5 (100.0%)
20,000– 39,999	1 (5.88%)	9 (52.94%)	0 (0.0%)	0 (0.0%)	7 (41.18%)	17 (100.0%)
40,000– 59,999	0 (0.0%)	12 (52.17%)	0 (0.0%)	2 (8.7%)	9 (39.13%)	23 (100.0%)
60,000– 79,999	1 (9.09%)	4 (36.36%)	0 (0.0%)	0 (0.0%)	6 (54.55%)	11 (100.0%)
100,000 and above	9 (15.0%)	27 (45.0%)	1 (1.67%)	0 (0.0%)	23 (38.33%)	60 (100.0%)
Total	11 (9.5%)	54 (46.6%)	1 (0.9%)	2 (1.7%)	48 (41.4%)	116 (100%)

The different sectors show varying levels of income distribution. The government/public sector graduates formed the largest group in most income ranges, especially in the PhP 20,000–59,999 range. The private sector graduates made up 38.3% of the highest income group and showed a strong presence in all income categories. The education sector alumni showed a high concentration in the PhP 100,000 and above income range, possibly because of their senior positions or specialized work. The nonprofit and healthcare respondents were scarce, which might indicate either underrepresentation or restricted earning potential in these sectors. The data supports the notion that graduate education leads to high economic gains, but sectoral choices determine how much income one can earn.

Career Advancement

The survey asked participants to report their career advancement since graduation through the assessment of postgraduate mobility. The survey grouped responses according to an academic cluster to identify discipline-specific trends.

The Business and Management alumni population, which includes MBA, MPA, and Doctor in Business Management students, represented the largest group with 100 valid responses. Responses indicating agreement or strong agreement confirmed the career advancement of 63% of Business and Management alumni (n = 63). The MA Education graduates showed a similar positive trend in their career advancement, with 78.6% (n = 22) of respondents indicating upward movement.

The College of Arts and Sciences graduates who pursued MA English, MA Psychology, and MA Economics demonstrated the highest relative agreement at 87.5% regarding their career advancement. The Health and Engineering alumni demonstrated positive career outcomes through their agreement responses, although their group size remained small. The overall perception showed that graduate education led to career advancement because disagreement remained minimal across all clusters.

The data show that graduate education has been beneficial for career advancement in academic clusters. Business and Management alumni, the largest subgroup, reported a 63% rate of agreement or strong agreement regarding upward career mobility. Alumni from Education and Arts and Sciences programs showed even stronger affirmation, with 78.6% and 87.5%, respectively, acknowledging career progression. While Health and Engineering alumni reported favorable outcomes, their smaller representation limits generalizability. The consistently low rates of disagreement and neutrality across clusters indicate that graduate-level study contributes meaningfully to postgraduate career development, supporting the institutional role of advanced education in enabling professional mobility and perceived success.

Relevance and Application of Academic Competencies

Graduate alumni evaluated the practical value of competencies they acquired through their graduate studies. The data showed that professional settings utilized specialized knowledge and problem-solving and research and communication and collaboration skills at high levels across five key domains.

Table 4: *Frequency Distribution of Competency Application (N = 147)*

Competency	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Specialized knowledge relevant to job	1 (0.7%)	8 (5.4%)	23 (15.6%)	74 (50.3%)	41 (27.9%)
Problem-solving skills applied at work	3 (2.0%)	7 (4.8%)	9 (6.1%)	71 (48.3%)	57 (38.8%)
Research skills frequently utilized	3 (2.0%)	24 (16.3%)	41 (27.9%)	46 (31.3%)	33 (22.4%)
Communication skills benefiting performance	2 (1.4%)	1 (0.7%)	13 (8.8%)	78 (53.1%)	53 (36.1%)
Collaborative work practices developed during study	2 (1.4%)	1 (0.7%)	15 (10.2%)	73 (49.7%)	56 (38.1%)

The survey results showed that communication skills received the highest endorsement from respondents, as 89.1% of them agreed or strongly agreed. The survey results showed that collaboration skills showed 88.5% agreement, while problem-solving skills showed 87.1% agreement. Research skills showed the lowest level of agreement, as 53.7% of respondents strongly agreed, while 18.4% disagreed or strongly disagreed. The results indicate that workplace performance values core soft and technical competencies more than research-related tasks, which seem to be specific to particular roles.

Satisfaction with Graduate Education

The survey data shows high levels of satisfaction among alumni regarding five fundamental quality indicators of graduate education, as shown in Table 7. The majority of alumni participants showed satisfaction with their educational experience because 90.4% of them agreed or strongly agreed. The graduate program led to personal and professional development, according to 91.9% of participants. The majority of students (83.7%) found both mentorship and academic support to be satisfactory. The majority of participants (89.1%) believed their program investment was worthwhile. The majority of students (91.2%) confirmed that the facilities and learning resources met their academic needs.

Table 5: Satisfaction with Graduate Education by Indicator (N = 147)

Satisfaction Indicator	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am satisfied with the quality of education I received	3 (2.0%)	2 (1.4%)	9 (6.1%)	59 (40.1%)	74 (50.3%)
The program contributed to my personal and professional development	2 (1.4%)	1 (0.7%)	9 (6.1%)	63 (42.9%)	72 (49.0%)
Mentorship and academic support met my expectations	3 (2.0%)	4 (2.7%)	17 (11.6%)	63 (42.9%)	60 (40.8%)
My decision to pursue this graduate program was a good investment	2 (1.4%)	3 (2.0%)	11 (7.5%)	65 (44.2%)	66 (44.9%)
Facilities and resources were sufficient to support my learning	2 (1.4%)	2 (1.4%)	9 (6.1%)	73 (49.7%)	61 (41.5%)

The high agreement rates among all five indicators demonstrate that the institution delivers academic programs effectively while providing adequate student support and infrastructure. The research indicates that alumni understand both the educational quality and the extensive developmental benefits of their

graduate studies. These results support institutional accountability while demonstrating student satisfaction plays an essential role in quality assurance for graduate-level programs.

Institutional Values Reflected in Professional Roles

The assessment of graduate alumni's embodiment of institutional values based on Jesuit education principles was guided by five statements reflecting *cura personalis*, integrity, social justice, *magis*, and service to others. The findings indicate that these values have been meaningfully internalized and applied in professional contexts. The statement regarding *cura personalis* received 131 positive responses (89.1%), while 130 alumni (88.4%) affirmed that Jesuit values such as *magis* and discernment guide their professional lives. The principles of integrity, social justice, and accountability were endorsed by 136 respondents (92.5%).

Service-related values yielded slightly lower yet still strong levels of agreement. A total of 97 alumni (65.3%) expressed that they actively further their institution's service mission, while 112 (76.2%) reported contributing significantly to the service of others. The comparatively higher proportion of neutral responses in the service-related items suggests that perceived enactment of these values may vary depending on occupational context and sector-specific roles.

DISCUSSION AND CONCLUSIONS

This section interprets the results through the lens of two interrelated theoretical frameworks—Self-Determination Theory and Constructivist Learning Theory—to explain how graduate education promotes employability, motivation, and competency application in real-world professional contexts.

Graduate Employability and Motivation: A Self-Determination Theory Perspective

The Self-Determination Theory (SDT) offers a strong theoretical basis for analyzing tracer data through its explanation of how graduate education supports autonomy and competence and relatedness (Ryan & Deci, 2017). The high degree of match between alumni academic backgrounds and their current employment sectors demonstrate the principle of autonomy. The majority of graduates found employment in fields that corresponded to their graduate program which indicates they made voluntary career choices. The research of Van den Broeck et al. (2010) demonstrates that self-endorsed occupational choices lead to higher intrinsic motivation and job satisfaction.

The results demonstrate strong evidence of competence through the competency application findings. The survey results showed that alumni strongly agreed (89.1% to 87.1%) they used communication and collaboration and problem-solving skills in their professional work, which confirms their academic preparation provided essential professional tools. The active application of learned competencies indicates a sense of personal capability, which matches Deci, Ryan, and Van den Broeck's (2017) definition of competence as the process of internalizing skills and mastery.

The alumni demonstrated relatedness through their professional implementation of institutional values. The survey results show that more than 89% of respondents used *cura personalis* and Jesuit values in their work, and 92% applied principles of integrity and social justice. The institutional mission created a powerful professional identity that graduates maintained. The tracer data indicates that graduates achieved all three SDT needs through their educational experiences, which led to autonomous motivation, career commitment, and long-term employability.

Constructivist Learning and the Translation of Graduate Competencies to Professional Practice

The constructivist epistemology demonstrates that students achieve effective learning through their construction of knowledge through authentic experiences and social interaction (Piaget, 1970; Vygotsky, 1978; Allen, 2022). The tracer results validate this perspective because graduates explained how they used academic concepts to resolve professional issues and work together effectively and communicate in professional settings. The high agreement rates about communication (89.1%), collaboration (88.5%), and problem-solving skills (87.1%) indicate students learned through context-rich, experience-based learning environments.

Research in vocational and workplace education demonstrates that authentic learning contexts located in real-world environments serve as essential factors for knowledge transfer into practical competence (Kerka, 1997; Camp & Hillison, 2001; Raelin, 2008). Through these contexts learners develop new cognitive frameworks by converting theoretical academic information into workable professional actions. The approach matches constructivist theory because it supports meaning co-construction through practical activities that occur in specific contexts.

The graduates' success in combining research skills with analysis abilities and interpersonal competencies in their current work demonstrates that their education implemented problem-based and experiential learning methods, which constructivist pedagogy supports (Camp & Hillison, 2001; Jumaat, Tasir, Halim,

& Ashari, 2017). The consistent application of research skills indicates that reflective and analytic learning design exists in their educational program.

The tracer findings indicate that constructivist instructional methods, which use authentic tasks and reflective integration, successfully trained graduates to handle complex professional duties and maintain long-term career flexibility.

IMPLICATIONS

Sectoral Alignment and Curricular Responsiveness

The Xavier Ateneo tracer data shows that most graduates from the Schools of Education and Business Management attain employment in government and private sectors, with only 0.68% working in healthcare. The low clinical focus of their academic programs explains their underrepresentation rather than any deficiency in their curriculum. The alumni feedback shows that they need more practical learning experiences along with more practicum hours and courses that focus on specific sectors. The research of Fahmy et al. (2025) supports the essential role of tracer studies in determining the need for industry partnerships and internships and soft-skill development to enhance employability. The study by Kibona (2024) in Tanzania reveals a gap between academic theory and real-world practice, so the authors suggest using tracer data to develop curriculum changes that include internships and authentic assessments (Fahmy et al., 2025; Kibona, 2024). The low healthcare employment rates stem from program concentration instead of curricular shortcomings. The tracer data supports the implementation of systematic data-driven curricular reviews within existing disciplines. The implementation of extended practicum periods together with diverse elective courses and practical teaching methods will enhance graduate preparedness without altering the curriculum's core identity.

Use of Digital Tracer Data for Quality Assurance and Alumni Relations

Web-based tracer systems allow institutions to obtain real-time alumni outcomes while improving their engagement and QA processes. The agile digital alumni systems developed in the Philippines at St. Paul University Philippines and the Southeast Asian Institute of Technology demonstrate how they enhance usability, maintainability, and security according to ISO/IEC standards, which improves institutional QA capabilities (Babaran Jr., 2025; Trillano, Prudente & Mondejar, 2025). Rubejes Silva (2024) demonstrates that secure alumni interfaces, which are designed using user-centered principles and evaluated according to ISO 25010, lead to higher participation rates, sustained data accuracy, and increased trust. The integration of digital systems into QA frameworks enables institutions to track graduate trajectories more precisely and detect emerging gaps, which

allows them to tailor programming or student support while strengthening alumni engagement networks and institutional reputation (Rubejes Silva, 2024; Trillano et al., 2025).

Regional Alignment with ASEAN Standards

The policy must also be in line with ASEAN higher education frameworks. The ASEAN Higher Education Space Roadmap (ASEAN Secretariat, 2022) highlights mechanisms such as the ASEAN Qualifications Reference Framework, credit transfer systems, and reciprocal quality assurance under the AUN-QEx to promote graduate mobility and mutual recognition. Integrating WIL elements into regional exchange programs strengthens both employability outcomes and regional competence recognition, aligning with the policy recommendations cited in ASEAN mobility research (ASEAN Secretariat, 2023; ASEAN Secretariat, 2022).

Implications for Policy

The findings of the Xavier Ateneo Higher Education Alumni Tracer Study point to several areas where institutional policy intervention is both necessary and actionable: The employment distribution of alumni shows a strong presence in government and private sectors with minimal representation in non-profit and healthcare sectors, which suggests the need for targeted sectoral partnerships to expand graduates' employment opportunities. Institutional policy could prioritize the formal integration of practicum-based partnerships with underrepresented sectors through graduate program memoranda of agreement (MOAs) with non-profits and health organizations. Additionally, the observed income differences among employed graduates demonstrate the need for better market-oriented skills training. The university could implement curricular policy changes that include practical learning modules and interdisciplinary certifications and labor market-based micro-credentials. The strong alumni demand for practical training supports the development of career services and continuing professional development programs, which use dynamic labor market data and individualized career progression tracking. The research findings warrant policy shifts that position the graduate school not only as a provider of academic credentials but also as an active institutional actor in workforce readiness, equity in career access, and lifelong learning.

Implications for Practice

The research findings have direct practical relevance for curriculum developers, program administrators, and student support services. The alumni

feedback shows that graduate training matches current employment roles yet they there is a need for practical and experiential learning experiences. This indicates that educational programs need to develop enhanced practical training modules, capstone projects, and sector-specific case studies. The evidence also supports expanding career development support services within graduate schools through individualized advising, industry partnerships, and alumni mentorship initiatives. The study's demographic findings can help student services create more inclusive support systems that address the various professional aspirations and local settings of Xavier Ateneo graduates. Academic programs can improve students' readiness for changing labor market needs through service alignment and improvements in instructional methods.

Implications for Research

The findings of this study offer valuable insights that add to the expanding research about graduate results and tracer research methods in Southeast Asian higher education systems. The study expands existing research by incorporating sectoral distribution and income stratification and perceived curricular relevance into its analytical framework. The research validates previous findings, which show that graduate-level higher education strongly influences both professional alignment and career progression. The research demonstrates how a field of study affects labor market integration through its identification of sectoral access limitations and income inequality. The combination of Likert-scale constructs with employment and demographic data in this study demonstrates that tracer studies serve as effective tools for both post hoc evaluation and prospective curriculum development and strategic planning.

Study Limitations

The research design used a cross-sectional approach with self-reported data, which could be affected by recall bias and social desirability bias and limited generalizability. The study design prevents analysis of career progression because it lacks longitudinal data, and the single-institution focus reduces comparative validity. The absence of employer feedback prevents researchers from verifying graduate self-perceptions against external assessments of performance and skill applicability.

Future Research Directions

Future tracer studies need to use longitudinal methods to track how graduates change their careers and establish the relationships between their educational experiences and their work outcomes. The study should expand its scope to include

employer evaluations and inter-institutional assessments to achieve a deeper understanding of both systemic patterns and program-specific effects. The integration of tracer frameworks into ASEAN-wide systems would allow for benchmarking against regional standards, which would enhance policy alignment and international competitiveness.

Conclusion

This study showed patterns about the career paths of Xavier Ateneo alumni after graduation, which provided data about their employment status, sector distribution, income levels, and perceived educational relevance. The findings affirm that graduate programs have largely enabled the alignment between academic training and professional work, as most respondents work in jobs directly connected to their field of study. The results demonstrate a critical gap related to income disparities across occupational categories. The findings have important implications for how institutions should operate. The curricula of graduate programs may need to incorporate applied, sector-responsive components that focus on specific sectors to enhance both employability and income mobility. Institutional policy may prioritize formal partnerships with relevant sectors and develop continuing pathways for alumni. The observed need for practical training and interdisciplinary competencies confirms the necessity of sustained funding for career services, alumni tracking systems, and modular learning frameworks.

The research method used in this study adds to Southeast Asian tracer research by combining Likert-scale assessments with demographic profiling and labor market indicators. The study demonstrates how tracer studies function as diagnostic tools for institutional learning and policy refinement and curriculum responsiveness. The empirical findings from this study are crucial for Xavier Ateneo and similar institutions to uphold the relevance and equity of graduate education while ensuring strategic alignment with workforce demands in their evolving educational and labor contexts.

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