Demographic Profile and Academic Performance in Core Accounting Information System Courses: A Comparative Analysis of Laguna University and City College of Calamba Students

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A B S T R A C T

The study aimed to investigate whether demographic factors—such as age, gender, average monthly household income, and household size—are significantly related to the academic performance of 4th-year BSAIS students in core accounting information systems courses at Laguna University and City College of Calamba. It also compared the academic performance of students from these institutions to test for significant differences in their mean GPAs in AIS courses. To explore the relationship between demographic factors and academic performance, the study employed a descriptive correlational method.

The analysis reveals that students at City College of Calamba (CCC) perform better than those at Laguna University (LU) in AIS courses. Statistically significant differences in performance are found across all three courses (AIS 1, AIS 2, and AIS 3), suggesting an academic advantage for CCC students. This could be attributed to factors like teaching methods, resources, or student preparation, though further research is needed to explore the causes. Meanwhile the Demographic factors, including age, income, and household size, show weak or negligible correlations with academic performance in AIS courses at both LU and CCC. While gender shows a moderate negative relationship in some courses, with female students generally outperforming male students, overall, demographics appear to have limited influence on academic success. This suggests that factors like individual abilities, study habits, and institutional support may play a more significant role in determining performance.

Keywords: Demographic Factors, Academic Performance, BSAIS, Accounting Information System Courses; Comparative Analysis

1. Introduction

Students often face significant challenges in their personal lives that can impact their academic performance. These challenges may include issues related to family, social relationships, emotional well-being, and spiritual struggles. Importantly, the study highlights that these challenges can affect students' ability to learn effectively, despite teachers' efforts to enhance academic achievement through various instructional strategies according to Dagdag, Cuizon, Bete (2019).

The relationship between demographic profiles and academic performance in core Accounting Information system courses is an area of significant interest and importance in education and research. Understanding how factors such as age, gender, ethnicity, socioeconomic status, and educational background influence students' success in these courses can provide valuable insights for educators, policymakers, and researchers.

Demographic characteristics, such as gender, level of study, and specialization, significantly influence students' academic performance, as demonstrated by various empirical studies (Ortega-Maldonado et al., 2018; Brubacher & Silinda, 2019). These characteristics include attributes, such as age, gender, ethnicity, and income, which describe individuals or groups. In this study, the demographic factors considered were age, gender, average monthly household income, and household size. Age is how old one is; Gender refers to the biological differences between males and females; Average monthly household income means the typical total monthly income of all family members; and household size is simply the number of members in the family.

Academic performance is a crucial indicator of student achievement in university education, influencing both current and future opportunities and reflecting students' inherent productivity and capabilities (Hanushek, 2020; Sothan, 2019).

This study examined the demographic profile and academic performance of students in core Accounting Information system courses of the students at Laguna University and City College of Calamba: A Comparative Analysis was conducted to determine the significant relationship between demographic profile and academic performance in core AIS courses. This study specifically targets the core Accounting Information System (AIS) courses, meaning that it exclusively examines the academic performance of students in these particular courses. Other courses outside the realm of AIS are not included or

analyzed within the scope of this study. However, it's important to acknowledge that the findings may not be generalizable to students' performance in other courses outside the AIS domain

2. Theoretical Background

Hirsch's Core Curriculum theory (2024) suggests that a knowledge-based program fosters academic excellence, fairness, and improved literacy by teaching a foundation of essential, enduring knowledge. This approach enables children, no matter their background, to progressively build on their existing knowledge throughout their schooling years.

Elger's (2021) Theory of Academic Performance (ToP) highlights six key concepts that provide a framework for understanding and improving performance. This approach aims to produce valuable outcomes. A performer can be an individual or a team working collaboratively. Improving performance is seen as a journey, with the performance level reflecting the position in that journey. The current performance level is influenced by six interrelated factors: context, knowledge, skills, identity, personal factors, and fixed factors. To effectively improve performance, three principles are emphasized: cultivating the right mindset, engaging in a stimulating environment, and practicing reflection

3. Research Objectives

The study aims to determine the significant relationship between the demographic profile and academic performance of the students in core accounting information system courses at laguna university and city college of calamba. It specifically sought to answer the following questions: (1) What is the demographic profile of the respondents in terms of age, gender, average monthly household income and household size; (2) What is the mean GPA of the respondents in Laguna University and City College of Calamba in AIS courses 1-3; (3) What is the significant difference between the academic performance in AIS courses of the students in LU and CCC; and (4) What is the significant relationship between the demographic profile and the academic performance in AIS courses of the students in LU and CCC.

4. Data and Methods

The study employed a descriptive correlational method in exploring the relationship of demographic profile and academic performance of the students in AIS courses. A total of Seventy-eight (78) respondents composed of Thirty-nine (39) students each for Laguna University and City College of Calamba, which were determined through simple random sampling and were surveyed via gform. The data gathered was treated using statistical tools such as t-test and pearson r correlation.

5. Results

Table 1 shows the summary of frequency and percentage results on the Demographic Profile for the Laguna University

Table 1 - Summary of Frequency and Percentage Results

Demographic Profile	Category	Frequency	Percentage (%)
Age	18 Below	0	0.00
	19-21	11	28.21
	22-25	27	69.23
	26 Above	1	2.56
Gender	Male	7	17.95
	Female	32	82.05
Average Monthly Household Income	Less than P9,520 (1)	6	15.38
	P9,521-19,040 (2)	14	35.90
	P19,041-P38,080 (3)	12	30.77
	P38,081-P66,640 (4)	5	12.82
	P66,641-P114,240 (5)	2	5.13
	P114,241-P190,400 (6)	0	0.00
	More than P190,400 (7)	0	0.00

Household Size	1-3 Members (Small) (1)	7	17.95
	4-6 Members (Medium) (2)	30	76.92
	>10 Members (Large) (3)	2	5.13

The demographic profile of Laguna University reveals that most respondents are college-aged, primarily between 22-25 years old (69.23%), with a significant gender imbalance favoring females (82.05%). Regarding household income, 35.90% earn between P9,521-P19,040, while 30.77% fall within the P19,041-P38,080 range, indicating that most come from lower to middle-income households. The typical household size is 4-6 members (76.92%), with fewer from smaller (1-3 members) or larger households (more than 10 members). Overall, the student population is characterized as young, predominantly female, and from economically modest, medium-sized families.

Table 2 shows the summary of frequency and percentage results on the Demographic Profile for the City College of Calamba

Table 2 – Summary of Frequency and Percentage Results

Demographic Profile	Category	Frequency	Percentage (%)
Age	18 Below	0	0.00
	19-21	15	38.46
	22-25	23	58.97
	26 Above	1	2.56
Gender	Male	9	23.08
	Female	30	76.92
Average Monthly Household Income	Less than P9,520 (1)	10	25.64
	P9,521-19,040 (2)	17	43.59
	P19,041-P38,080 (3)	11	28.21
	P38,081-P66,640 (4)	1	2.56
	P66,641-P114,240 (5)	0	0.00
	P114,241-P190,400 (6)	0	0.00
	More than P190,400 (7)	0	0.00
Household Size	1-3 Members (Small) (1)	2	5.13
	4-6 Members (Medium) (2)	30	76.92
	>10 Members (Large) (3)	7	17.95

The Demographic profile of City College of Calamba (CCC) reveals several key characteristics about its student population

Age Distribution: The majority of students at CCC are aged between 22 to 25 years, making up 58.97% of the population. This is followed by 38.46% of students in the 19-21 age range. Only a small fraction, 2.56%, are 26 years or older, and there are no respondents under 18, indicating that the college primarily serves young adults typical of university-level education.

Gender Distribution: A significant majority of the respondents are female, representing 78.92%, while males account for 23.08%. This shows a notable female representation in the student body, although the disparity is less pronounced than at Laguna University, where 82.05% of students are female.

According to Nietzel (2024), Women have outnumbered men among college students for decades, but the gap continues to widen. By 2021, that difference had grown to about 3.1 million more women than men in college.

Monthly Household Income: In terms of financial background, 43.59% of students come from households earning between P9,521 and P19,040 per month, followed by 28.21% in the P19,041 to P38,080 range. Additionally, 25.54% earn less than P8,520, highlighting the presence of lower-income households. Higher income categories show minimal representation, with no respondents in the highest brackets.

This aligns with findings by Wilborg Ø. and Grätz M. (2022), who note that most studies on educational mobility assume a consistent relationship between parental financial status and children's academic achievement. Additionally, data from the observational checklist indicated a positive relationship between family income and students' academic achievement, Gobena's (2018)

Household size: Most students, 76.92%, come from medium-sized households with 4 to 6 members. A smaller portion, 5.13%, come from small households consisting of 1 to 3 members, while 17.95% belong to larger households with more than 10 members.

Overall Socioeconomic Status: The findings indicate that CCC serves a student population predominantly made up of young adults from lower to middle-income families. The household size distribution aligns with that of Laguna University, where a similar trend is observed, showing that both institutions cater to students from economically diverse backgrounds.

In conclusion, both CCC and Laguna University share similarities in age distribution, with a larger female student population and a focus on lower to middle-income households. However, CCC has a slightly higher proportion of students from lower-income families, and both institutions reflect comparable trends in household size. The key differences lie in the degree of gender representation and household income distribution.

Table 3 shows the summary of mean results on the Mean GPA of Laguna University for AIS Courses

Table 3 - Summary of the Mean Results

AIS Course	Mean GPA	Verbal Interpretation
AIS 1	1.70	Very Good
AIS 2	1.74	Very Good
AIS 3	1.69	Very Good

Legend: 1.00 - 1.25 Outstanding, 1.26 - 1.75 Very Good, 1.76 - 2.00 Good, 2.01 - 2.50 Satisfactory, 2.51 and above Needs Improvement

The GPA scores of students in core Accounting Information System (AIS) courses at Laguna University (LU) show strong academic performance across AIS 1, AIS 2, and AIS 3. The mean GPA for AIS 1 is 1.70 (SD = 0.28), for AIS 2 it is 1.74 (SD = 0.30), and for AIS 3 it is 1.69 (SD = 0.25). These GPAs are classified as "Very Good" according to the grading scale, indicating that students consistently excel in these courses. The small differences in GPA across the courses suggest ongoing high achievement and mastery of the course content among LU students.

A 2018 study from the International Journal of Higher Education examines how active learning and classroom assessment techniques (CAT) improve academic performance in accounting courses. The study reveals that students showed significant improvement when instructors used active learning methods like case studies and collaborative problem-solving in AIS courses. These strategies helped students engage more deeply with the material, enhancing skill development and content retention, which in turn contributed to higher GPAs.

Table 4 shows the summary of mean results on the Mean GPA of City College of Calamba for AIS Courses

Table 4 - Summary of the Mean Results

AIS Course	Mean GPA	Verbal Interpretation
AIS 1	1.18	Outstanding
AIS 2	1.30	Very Good
AIS 3	1.24	Outstanding

Legend: 1.00 - 1.25 Outstanding, 1.26 - 1.75 Very Good, 1.76 - 2.00 Good, 2.01 - 2.50 Satisfactory, 2.51 and above Needs Improvement

The mean GPA scores of students in AIS courses at the City College of Calamba (CCC) reflect exceptional academic performance. AIS 1 and AIS 3 are classified as "Outstanding," with mean GPAs of 1.18 (SD = 0.28) and 1.24 (SD = 0.23), respectively. AIS 2, with a mean GPA of 1.30 (SD = 0.24), is categorized as "Very Good." These results suggest that CCC students excel in AIS courses, with most achieving high GPAs that demonstrate strong academic competence. The relatively low standard deviations indicate a consistent level of achievement among students.

Tomas et al. (2019) highlights the importance of structured, interactive learning activities in accounting education, noting that students perform better when actively engaged with practical applications of course concepts. This approach aligns with the strong academic performance seen in AIS courses at the City College of Calamba, suggesting that high student engagement and application-based teaching methods may contribute to these positive outcomes.

 A comparative analysis of mean GPA levels in AIS courses at Laguna University (LU) and City College of Calamba (CCC) reveals notable differences in academic performance. While both institutions show high achievement, CCC students generally outperform their LU peers. CCC students scored in the "Outstanding" range for AIS 1 (1.18) and AIS 3 (1.24), while LU students received a "Very Good" rating with mean GPAs ranging from 1.69 to 1.74 across all three courses. Despite both groups performing well, CCC students demonstrate slightly stronger academic excellence, especially in AIS 1 and AIS 3. The low standard deviations at both schools indicate consistent achievement, with CCC's higher GPAs reflecting a marginally better overall performance in AIS courses.

According to Amasuomo (2018) the significant difference in academic performance between two groups can be attributed to variations in their academic backgrounds, specifically their entry qualifications and the types of schools they attended. The study highlights that educational outcomes are strongly

influenced by the kind of school a student comes from, with schools having an independent impact on a student's overall academic achievement and educational attainment.

Table 5 shows the summary of t-test results on the Significant Difference between the Academic Performance in AIS Courses of the students in LU and CCC

Table 5 - Summary of T-test Results

Criteria		Mean Score	t-value	Crit-Value	Interpretation
AIS 1	Laguna University	1.70	7.5292		Significant
	City College of Calamba	1.18			
AIS 2	Laguna University	1.74	6.1938	1.6860	Significant
	City College of Calamba	1.30			
AIS 3	Laguna University	1.69	7.9073		Significant
	City College of Calamba	1.24			

Table 5 highlights significant differences in academic performance between students at Laguna University (LU) and City College of Calamba (CCC) in core AIS courses. The data shows that CCC students generally achieved higher GPAs in AIS 1, AIS 2, and AIS 3 compared to LU students. In AIS 1, CCC students had a mean GPA of 1.18, significantly higher than LU's 1.70, with a t-value of 7.5292, exceeding the critical value of 1.6860. Similar significant differences were found in AIS 2 and AIS 3, where CCC students had GPAs of 1.30 and 1.24, respectively, compared to LU's 1.74 and 1.69. The t-values for both courses (6.1938 and 7.9073) further support the statistically significant differences. Overall, CCC students consistently performed at a higher academic level than LU students in all three AIS courses.

The comparative analysis reveals a statistically significant difference in academic performance between students at Laguna University (LU) and City College of Calamba (CCC) in AIS courses. CCC students consistently outperform LU students across all three courses (AIS 1, AIS 2, and AIS 3), with significant differences at the 0.05 level. CCC students' GPAs fall within the "Outstanding" or upper "Very Good" range, while LU students score within the "Very Good" range. The t-values for each course (7.5292 for AIS 1, 6.1938 for AIS 2, and 7.9073 for AIS 3) confirm these significant differences. This consistent pattern suggests that CCC students may benefit from factors such as instructional methods, study resources, or other institutional advantages that contribute to their higher academic performance in AIS coursework.

Table 6 shows the summary of pearson correlation coefficient results on the significant relationship between the demographic profile and the academic performance in AIS courses of the students in LU

Table 6 - Summary of Pearson Correlation Coefficient Results

DEMOGRAPHIC PROFILE	AIS COURSES	R-VALUE	VERBAL INTERPRETATION
AGE	AIS 1	-0.0024	No significant relationship
	AIS 2	0.167442	Weak positive relationship
	AIS 3	0.088305	Weak positive relationship
GENDER	AIS 1	-0.32617	Moderate negative relationship
	AIS 2	-0.35426	Moderate negative relationship
	AIS 3	-0.50933	Strong negative relationship
AVERAGE MONTHLY HOUSEHOLD INCOME	AIS 1	0.098292	Weak positive relationship
	AIS 2	0.261461	Moderate positive relationship
	AIS 3	-0.16808	Weak negative relationship
HOUSEHOLD SIZE	AIS 1	-0.05101	No significant relationship
	AIS 2	-0.2437	Weak negative relationship
	AIS 3	0.10235	Weak positive relationship

Legend: 0.0 to 0.1 or -0.1 to 0.0 No significant relationship, 0.1 to 0.3 or -0.1 to -0.3 Weak relationship, 0.3 to 0.5 or -0.3 to -0.5 Moderate relationship, 0.5 to 0.7 or -0.5 to -0.7 Strong relationship, 0.7 to 1.0 or -0.7 to -1.0 Very strong relationship

Table 6 highlights the relationships between demographic factors age, gender, monthly income, and household size and academic performance in AIS courses at Laguna University. The findings indicate that most of these factors have weak or moderate correlations with academic performance, suggesting limited influence overall.

In AIS 1, both age and household size show negligible relationships with performance, as their correlation values are near zero. Gender, however, has a moderate negative correlation, indicating that female students may outperform male students. Monthly income shows a weak positive correlation, suggesting that students from higher-income households might perform slightly better, though the impact is minimal.

For AIS 2, age shows a weak positive relationship, implying that older students may have a slight edge in performance. Gender again shows a moderate negative correlation, reinforcing the pattern of better performance by female students. Monthly income exhibits a moderate positive correlation, indicating a more noticeable link between income and performance. Conversely, household size has a weak negative relationship, suggesting that students from smaller households may perform slightly better.

In AIS 3, age maintains a weak positive correlation, reflecting a minimal connection to performance. Gender, however, displays a strong negative correlation, the most significant among all factors, emphasizing its substantial influence on academic performance in this course, again favoring female students. Monthly income shows a weak negative relationship, while household size has a weak positive correlation, both indicating minimal impact.

Research by Ismail et al. (2018) and others supports the idea that demographic characteristics like gender, age, and socioeconomic status can influence academic outcomes. Consistent with this, the findings in Table 7 suggest that gender is the most impactful factor affecting academic performance in AIS courses at Laguna University, while age, income, and household size have weaker or negligible effects.

Table 7 shows the summary of pearson correlation coefficient results on the significant relationship between the demographic profile and the academic performance in AIS courses of the students in CCC

Table 7 - Summary of Pearson Correlation Coefficient Results

DEMOGRAPHIC PROFILE	AIS COURSES	R-VALUE	VERBAL INTERPRETATION
	AIS 1	-0.17223	Weak negative relationship
AGE	AIS 2	-0.00642	No significant relationship
	AIS 3	0.086266	Weak positive relationship
	AIS 1	-0.08449	No significant relationship
GENDER	AIS 2	-0.32484	Moderate negative relationship
	AIS 3	-0.28002	Moderate negative relationship
	AIS 1	-0.0335	No significant relationship
AVERAGE MONTHLY HOUSEHOLD INCOME	AIS 2	-0.12047	Weak negative relationship
	AIS 3	-0.06729	No significant relationship
	AIS 1	0.37034	Moderate positive relationship
HOUSEHOLD SIZE	AIS 2	0.05589	No significant relationship
	AIS 3	0.128188	Weak positive relationship

Legend: 0.0 to 0.1 or -0.1 to 0.0 No significant relationship, 0.1 to 0.3 or -0.1 to -0.3 Weak relationship, 0.3 to 0.5 or -0.3 to -0.5 Moderate relationship, 0.5 to 0.7 or -0.5 to -0.7 Strong relationship, 0.7 to 1.0 or -0.7 to -1.0 Very strong relationship

The analysis of demographic factors (age, gender, monthly income, household size) and academic performance in AIS courses at City College of Calamba (CCC) revealed generally weak or negligible correlations.

AIS 1: Age showed a weak negative correlation (-0.17223), suggesting younger students slightly outperform older ones. Gender (-0.08449) and monthly income (-0.0335) had negligible correlations. Household size showed a moderate positive relationship (0.37034), indicating that students from larger households performed better.

AIS 2: Age (-0.00642) and household size (0.05589) showed negligible correlations. Gender had a moderate negative correlation (-0.32484), suggesting better performance by female students. Monthly income showed a weak negative correlation (-0.12047), with lower-income students performing slightly better.

AIS 3: Age showed a weak positive correlation (0.086266), while household size had a weak positive correlation (0.128188). Gender maintained a moderate negative correlation (-0.28002), favoring female students, while monthly income (-0.06729) showed no significant relationship

6. Conclusions

Upon thorough examination and analysis of the research findings, the following conclusions have been drawn:

1. City College of Calamba students consistently perform better in AIS Courses. This suggests that CCC students have an academic advantage in AIS courses, potentially due to differences in teaching methods, resources, or student preparation, although further research would be needed to identify the underlying causes of this difference.

2. The relationship between demographic factors (age, gender, average monthly household income and household size) and academic performance in AIS courses shows limited influence on student outcomes in both Laguna University and City College of Calamba. The lack of significant relations between demographic factors and academic performance in AIS courses suggests that academic success in these courses is likely influenced by factors other than the students' demographics, such as their individual abilities, study habits or institutional support.

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