

Students' Awareness of BSIT Major Specializations and Its Influence on Program Choice and Shifting Intention

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ABSTRACT

This study determined the level of awareness of first-year Bachelor of Science in Information Technology (BSIT) students regarding the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) major specializations and examined its relationship with students' chosen specialization and intention to shift. A quantitative descriptive-correlational design was employed involving 62 first-year BSIT students selected through convenience sampling. Data were analyzed using descriptive statistics, the Chi-Square Test of Independence, and Spearman Rank Correlation. The findings revealed a high level of awareness of both NDM ($M = 3.53$) and WMAD ($M = 3.69$). Moreover, 83.87% of the respondents had no intention to shift. Inferential analysis showed no significant relationship between students' awareness and their chosen specialization ($\chi^2 = 3.282, p = .350$) and intention to shift ($\rho = -0.064, p = .620$). The findings suggest that specialization choice and shifting intention are influenced by factors beyond awareness alone.

INTRODUCTION

The rapid advancement of digital technologies has significantly transformed the Information Technology (IT) profession, creating a growing demand for graduates with specialized competencies in areas such as network infrastructure, cybersecurity, software engineering, and web and mobile application development. In response, higher education institutions have redesigned Bachelor of Science in Information Technology (BSIT) curricula by offering specialized tracks that align students' competencies with evolving industry requirements. These specializations enable students to acquire focused technical skills while preparing them for distinct career pathways and improving their employability in the digital workforce (Dela Cruz & Dela Cruz, 2020; Aquino et al., 2024; Basabe et al., 2023). Consequently, selecting an appropriate BSIT major specialization has become an important academic decision that influences students' learning experiences, professional competence, and future career opportunities.

Despite the availability of specialized BSIT programs, many students make specialization decisions without fully understanding the objectives, curriculum, required competencies, and career prospects associated with each track. Previous studies indicate that students' academic decisions are frequently influenced by personal interests, peer recommendations, family expectations, perceived job opportunities, and institutional factors rather than comprehensive knowledge of available specializations (Pelobello, 2025; Gicana et al., n.d.; Acuna, 2025). As a result, students may develop unrealistic expectations about their chosen specialization, leading to dissatisfaction, reduced academic engagement, or intentions to shift to another major after enrollment. Such situations may negatively affect academic progression and institutional program planning (Sarona-Pedro & Villanueva, 2025; Abenales et al., n.d.).

Several studies have examined factors influencing course selection, graduate employability, and curriculum development in Information Technology and related disciplines (Balmes, 2021; Acera et al., 2022; Rivera et al., 2025). Likewise, tracer studies have emphasized the importance of aligning academic programs with industry needs to improve graduate outcomes (Basabe et al., 2023; Relloso & Aure, 2024). However, limited research has specifically investigated how students' awareness of available BSIT major specializations influences both their program choice and their intention to shift between specializations while still in the early stages of their academic journey. Existing studies primarily focus on external determinants of course selection or post-graduation outcomes rather than students' level of awareness regarding specialization options before and after enrollment.

Improving students' awareness of BSIT specializations may help institutions strengthen academic advising, orientation programs, and career guidance initiatives that support informed decision-making. Providing students with accurate information regarding specialization curricula, technical competencies, career opportunities, and industry demands can facilitate better alignment between students' interests and their selected academic pathways. Increased awareness may also contribute to lower shifting intentions, improved

student satisfaction, stronger academic commitment, and more efficient program management within higher education institutions (Sarona-Pedro & Villanueva, 2025; Pelobello, 2025). Thus, examining students' awareness offers valuable evidence for enhancing institutional strategies that promote informed specialization selection.

Therefore, this study aims to determine the level of awareness of first-year BSIT students regarding the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) major specializations and to examine its influence on students' program choice and shifting intention. Specifically, the study seeks to assess students' awareness of each specialization, determine their intention to shift to another BSIT major specialization, and establish whether significant relationships exist between awareness, chosen specialization, and shifting intention. The findings are expected to provide empirical evidence that can guide curriculum planners, academic advisers, and university administrators in strengthening specialization orientation programs and supporting evidence-based academic decision-making within BSIT programs.

LITERATURE REVIEW

Students' Awareness of Academic Programs and BSIT Major Specializations

Students' awareness of academic programs plays a fundamental role in making informed educational decisions. Awareness encompasses students' understanding of a program's curriculum, learning outcomes, required competencies, and corresponding career opportunities. According to Gicana et al. (n.d.), senior high school students who possess greater knowledge of available academic programs demonstrate more confidence in selecting degree programs that align with their interests and long-term career goals. Similarly, Acuna (2025) emphasized that awareness enables students to establish realistic expectations regarding academic requirements, thereby reducing uncertainty during the transition to higher education.

Moreover, awareness has become increasingly important in Information Technology education because computing disciplines continue to diversify into specialized career pathways. Dela Cruz and Dela Cruz (2020) explained that Information Technology education has evolved beyond general computer literacy to include specialized competencies designed to address national and global workforce demands. Consequently, higher education institutions have introduced specialized tracks that allow students to develop expertise in particular domains such as networking, systems administration, software development, and web technologies. This specialization requires students to possess sufficient knowledge before selecting their academic pathway.

Furthermore, universities continuously redesign their curricula to respond to technological innovation and labor market requirements. Balmes (2021), in a feasibility study on specialized Information Technology programs, reported that offering specialized tracks improves curriculum relevance and better prepares graduates for industry-specific careers. Likewise, Acera et al. (2022) found that the successful implementation of specialized computing

programs depends not only on institutional readiness but also on students' understanding of the objectives, competencies, and employment opportunities associated with each specialization. Thus, adequate awareness contributes to more informed specialization decisions.

In addition, graduate tracer studies consistently demonstrate that specialization influences employability and professional development. Basabe et al. (2023) revealed that graduates whose academic preparation closely matched industry needs experienced better employment outcomes and smoother career transitions. Similarly, Rivera et al. (2025) concluded that curriculum alignment with labor market demands significantly contributes to graduate success and provides valuable feedback for curriculum enhancement. These findings suggest that students who understand the strengths and career prospects of each BSIT specialization are more likely to select programs that correspond to their competencies and professional aspirations.

Overall, previous literature highlights awareness as a critical component of effective academic decision-making. Although numerous studies have investigated curriculum development, graduate employability, and program feasibility in Information Technology education (Aquino et al., 2024; Relloso & Aure, 2024), relatively few have specifically examined students' awareness of BSIT major specializations during their first year in college. This indicates the need for further investigation into how awareness affects specialization decisions before students become fully immersed in their academic programs.

Program Choice and Students' Intention to Shift Academic Specializations

Choosing an academic specialization is influenced by multiple interrelated factors that extend beyond students' personal interests. Pelobello (2025) found that students commonly consider perceived career opportunities, family influence, institutional reputation, academic preparedness, and anticipated employment prospects when selecting degree programs. Likewise, Gicana et al. (n.d.) reported that students often rely on external advice from parents, peers, and teachers when making educational decisions, particularly when they have limited knowledge about available academic options. These findings suggest that program choice is a multidimensional decision-making process influenced by both internal and external factors.

However, when students' expectations do not align with the realities of their chosen specialization, shifting intentions may emerge. Sarona-Pedro and Villanueva (2025) observed that course shifting among college students is frequently associated with inadequate program awareness, changing career aspirations, academic difficulties, and dissatisfaction with course content. Similarly, Abenales et al. (n.d.) reported that insufficient understanding of program expectations contributes to students' decisions to transfer to other academic disciplines or specializations after enrollment. Therefore, awareness prior to specialization selection may reduce the likelihood of shifting behavior.

Additionally, academic preparedness and perceived competency influence students' confidence in remaining within their chosen specialization. Aquino et al. (2024) emphasized that graduates who develop competencies aligned with industry requirements experience stronger career readiness and

greater professional confidence. Consequently, students who recognize that their skills and interests correspond to the competencies required by a particular specialization are more likely to remain committed to their academic pathway. Conversely, limited understanding of specialization requirements may result in uncertainty and eventual intention to shift.

Furthermore, higher education institutions increasingly recognize the importance of career guidance and academic advising in minimizing unnecessary program shifting. Acera et al. (2022) recommended strengthening orientation activities that clearly communicate program objectives, specialization outcomes, and industry opportunities before students finalize their academic choices. Likewise, Balmes (2021) emphasized that effective dissemination of specialization information allows students to make realistic educational decisions while supporting institutional retention efforts. These interventions may improve both student satisfaction and program stability.

Taken together, the reviewed literature demonstrates that awareness, informed program selection, and shifting intention are closely interconnected. Existing studies have examined the determinants of program choice, curriculum relevance, employability, and course shifting independently (Pelobello, 2025; Sarona-Pedro & Villanueva, 2025; Basabe et al., 2023). Nevertheless, limited empirical evidence specifically investigates whether students' awareness of BSIT major specializations directly influences both their selected specialization and their intention to shift within the BSIT program. Addressing this gap provides an opportunity to strengthen academic advising, specialization orientation, and institutional decision-making for Information Technology education.

Research Gaps

Previous studies have extensively examined the factors influencing students' course selection, curriculum relevance, graduate employability, and course shifting across various higher education programs (Pelobello, 2025; Gicana et al., n.d.; Basabe et al., 2023; Sarona-Pedro & Villanueva, 2025). Likewise, research in Information Technology education has primarily focused on curriculum development, graduate outcomes, and the alignment of academic programs with industry demands (Balmes, 2021; Acera et al., 2022; Rivera et al., 2025). Although these studies provide valuable insights into students' academic decisions and institutional program improvement, they largely emphasize external determinants of program selection or post-graduation outcomes rather than students' awareness of available BSIT major specializations.

Furthermore, there remains limited empirical evidence investigating how first-year BSIT students' awareness of specific major specializations – particularly Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) – influences both their chosen specialization and their intention to shift to another BSIT major. Existing studies have seldom examined these variables simultaneously using a correlational approach within the context of Information Technology education. Consequently, there is a lack of evidence that can guide higher education institutions in designing effective specialization orientation programs and academic advising initiatives.

To address this gap, the present study examines the level of awareness of first-year BSIT students regarding the NDM and WMAD specializations and determines whether such awareness is significantly related to their selected BSIT major specialization and their intention to shift to another specialization. The findings are expected to provide empirical evidence that will support curriculum planners, academic advisers, and university administrators in developing evidence-based interventions that promote informed specialization choices, improve student retention, and strengthen the quality of BSIT academic programs.

METHODOLOGY

This study employed a quantitative descriptive-correlational research design to determine the level of awareness of first-year Bachelor of Science in Information Technology (BSIT) students regarding the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) major specializations and to examine its influence on their program choice and shifting intention. The study was conducted at the College of Information Technology Education, Nueva Vizcaya State University, involving 62 first-year BSIT students who were selected through convenience sampling based on their accessibility and willingness to participate during the data collection period. A researcher-developed, structured questionnaire served as the primary data collection instrument. The questionnaire consisted of three sections: respondents' chosen BSIT major specialization, students' awareness of the NDM and WMAD specializations, and their intention to shift to another BSIT major specialization. The awareness and shifting intention items were measured using a five-point Likert scale, and the instrument underwent expert validation and reliability testing prior to administration.

Before the conduct of the study, permission was obtained from the appropriate university authorities, after which the questionnaires were personally administered to the respondents. Participation was voluntary, and respondents were informed of the purpose of the study while ensuring the confidentiality and anonymity of their responses in accordance with research ethics. The collected data were encoded, tabulated, and analyzed using appropriate descriptive and inferential statistics. Frequency counts and percentages were used to describe the respondents' selected BSIT major specialization, while weighted mean and standard deviation determined the level of awareness and shifting intention. To determine the significant relationship between students' awareness and their chosen BSIT major specialization, as well as their intention to shift, the Chi-Square Test of Independence and Spearman Rank-Order Correlation (Spearman's rho) were employed at a 0.05 level of significance.

RESULTS AND DISCUSSION

Table 1. Distribution of Respondents According to Chosen BSIT Major Program

BSIT Major Program	Frequency	Percentage
Network Design and Management (NDM)	30	48.39%
Web and Mobile Application Development (WMAD)	32	51.61%
Total	62	100.00%

Table 1 shows the distribution of respondents according to their chosen BSIT major program. Results reveal that 32 respondents (51.61%) selected Web and Mobile Application Development (WMAD), while 30 respondents (48.39%) chose Network Design and Management (NDM). The nearly equal distribution suggests that students' interests are relatively balanced between software development and networking specializations. This finding is consistent with Mahadeo et al. (2020), who emphasized that students' specialization choices in computing disciplines are influenced by individual interests, perceived competencies, and future career aspirations rather than a single determining factor.

Table 2. Level of Students' Awareness of BSIT-Network Design and Management (NDM)

Indicators	Mean	Description
1. Core focus and specialization areas of NDM	3.58	High Awareness
2. Key skills and competencies developed in NDM	3.56	High Awareness
3. Jobs and career paths related to NDM	3.60	High Awareness
4. Software, tools, and technologies used in NDM	3.42	High Awareness
5. Subjects and curriculum structure of NDM	3.55	High Awareness
6. Difference between NDM and WMAD	3.64	High Awareness

Indicators	Mean	Description
7. Confidence to succeed in NDM	3.45	High Awareness
8. Information on whether NDM aligns with career goals	3.45	High Awareness
Overall Mean	3.53	High Awareness

Table 2 presents the respondents' level of awareness regarding the BSIT–Network Design and Management (NDM) specialization. The findings revealed an overall mean of 3.53, interpreted as High Awareness, indicating that first-year BSIT students generally possess a substantial understanding of the NDM program. This suggests that students are familiar with the objectives, competencies, curriculum, technologies, and career opportunities associated with the specialization, enabling them to make relatively informed decisions regarding their academic track.

Among the indicators, “I am aware of how NDM differs from the WMAD major in terms of technical focus” obtained the highest mean ($M = 3.64$), followed by “I know the types of jobs and career paths related to Network Design and Management” ($M = 3.60$) and “I understand the core focus and specialization areas of the BSIT–NDM program” ($M = 3.58$). These findings indicate that respondents have a clear understanding of the distinguishing characteristics of the NDM specialization, particularly its emphasis on networking infrastructure, systems administration, cybersecurity, and network management. The results imply that institutional orientation programs, academic seminars, and available program information effectively communicated the unique identity of the specialization.

Conversely, the indicators “I am familiar with the software, tools, and technologies used in the NDM field” ($M = 3.42$) and “I have sufficient information to decide whether NDM aligns with my career goals” ($M = 3.45$) obtained the lowest means, although both remained within the High Awareness category. This suggests that while students understand the general nature of the specialization, they are relatively less familiar with the specific industry-standard tools, networking platforms, and technical applications used by professionals. It also indicates that some students may still require additional career guidance to fully evaluate whether the NDM specialization aligns with their long-term professional aspirations.

The findings support the study of Balmes (2021), who emphasized that specialized Information Technology programs become more meaningful when students clearly understand their curriculum, competencies, and intended career pathways. Similarly, Acera et al. (2022) argued that students' awareness of specialization objectives contributes to better academic preparedness and informed decision-making. Furthermore, Dela Cruz and Dela Cruz (2020)

explained that modern Information Technology education requires students to acquire specialized competencies that correspond to industry needs, making awareness of program content an essential component of successful specialization selection. Overall, the results indicate that although students already demonstrate a high level of awareness of the NDM program, universities should continue strengthening orientation activities and industry exposure to further improve students' understanding of specialized technologies and career opportunities.

Table 3. Level of Students' Awareness of BSIT-Web and Mobile Application Development (WMAD)

Indicators	Mean	Description
1. Main objectives and specialization areas of WMAD	3.75	High Awareness
2. Skills and competencies required in WMAD	3.79	High Awareness
3. Job opportunities and career paths in WMAD	3.74	High Awareness
4. Programming languages, tools, and technologies 5. used in WMAD	3.56	High Awareness
6. Curriculum design and major subjects of WMAD	3.63	High Awareness
7. Difference between WMAD and NDM	3.65	High Awareness
8. Confidence to perform well in WMAD	3.70	High Awareness
9. Information on whether WMAD fits desired 10. IT career track	3.67	High Awareness
Overall Mean	3.69	High Awareness

Table 3 illustrates the respondents' level of awareness regarding the BSIT-Web and Mobile Application Development (WMAD) specialization. The results yielded an overall mean of 3.69, interpreted as High Awareness, indicating that students generally possess a strong understanding of the objectives, competencies, curriculum, technologies, and employment opportunities

associated with the WMAD specialization. This finding suggests that respondents have sufficient knowledge to recognize the specialization's focus on software engineering, web technologies, mobile application development, and user-centered system design.

Among the indicators, "I am aware of the essential skills and competencies required in the WMAD major" obtained the highest mean ($M = 3.79$), followed by "I understand the main objectives and specialization areas of the BSIT-WMAD program" ($M = 3.75$) and "I know the possible job opportunities and career paths in web and mobile application development" ($M = 3.74$). These findings indicate that respondents have a strong appreciation of the technical knowledge and professional competencies expected from WMAD students. Moreover, students appear to recognize the increasing demand for software developers, web developers, mobile application developers, and related computing professionals in today's technology-driven industries.

Meanwhile, the lowest-rated indicator was "I am familiar with the programming languages, tools, and technologies used in WMAD" ($M = 3.56$), although it still falls within the High Awareness category. This implies that while students understand the overall objectives and career opportunities of the specialization, they may still possess limited exposure to the actual programming frameworks, development environments, and software tools utilized in professional practice. Such findings highlight the need for additional laboratory demonstrations, programming workshops, and industry immersion activities during the early stages of the BSIT program.

The findings corroborate the work of Basabe et al. (2023), who reported that students who clearly understand the competencies required by Information Technology programs demonstrate better academic readiness and improved employability outcomes. Likewise, Rivera et al. (2025) emphasized that curriculum awareness contributes to stronger alignment between students' competencies and industry expectations. Furthermore, Aquino et al. (2024) noted that awareness of specialization competencies enhances students' confidence in pursuing careers related to their chosen discipline. Hence, the present findings suggest that students possess adequate awareness of the WMAD specialization; however, institutions may further enhance students' understanding through hands-on activities and exposure to current software development technologies.

Table 4. Students' Intention to Shift to Another BSIT Major Specialization

Response	Frequency	Percentage	Interpretation
Yes	10	16.13%	Low shifting intention
No	52	83.87%	High retention intention
Total	62	100.00%	

Table 4 presents the respondents' intention to shift to another BSIT major specialization. Out of the 62 respondents, only 10 students (16.13%) expressed an

intention to shift, while 52 students (83.87%) indicated that they had no intention of shifting. The findings demonstrate that the majority of first-year BSIT students are satisfied with their chosen specialization and intend to continue pursuing their current academic track. This reflects a generally positive level of specialization commitment among the respondents.

The relatively low percentage of students intending to shift may indicate that the specialization selection process, orientation activities, and students' personal interests were generally effective in helping students choose a specialization aligned with their preferences and career aspirations. Nevertheless, the presence of students who still intend to shift suggests that certain concerns remain unresolved. Based on the qualitative responses, the most frequently cited reasons include misalignment with personal interests or skills, difficulty of subjects, better opportunities in another specialization, and lack of awareness before enrollment. These responses suggest that students' specialization decisions continue to evolve as they become more familiar with the academic demands of their chosen field.

These findings are consistent with the study of Sarona-Pedro and Villanueva (2025), who found that students commonly shift academic programs because of changing career interests, inadequate program awareness, academic challenges, and mismatched expectations. Likewise, Abenales et al. (n.d.) identified insufficient understanding of academic programs as one of the primary contributors to students' decisions to transfer to other specializations after enrollment. Furthermore, Pelobello (2025) emphasized that informed program selection significantly improves students' academic satisfaction and commitment to their chosen discipline. Therefore, the findings suggest that while most respondents have successfully selected a specialization that aligns with their interests, continuous academic advising and career guidance remain essential to further reduce shifting intentions among first-year students.

Table 5. Summary of Students' Awareness of BSIT Major Specializations

Specialization	Overall Mean	Description
Network Design and Management (NDM)	3.53	High Awareness
Web and Mobile Application Development (WMAD)	3.69	High Awareness
Grand Mean	3.61	High Awareness

Table 5 summarizes the overall level of students' awareness regarding the two BSIT major specializations. The findings reveal that Network Design and

Management (NDM) obtained an overall mean of 3.53, while Web and Mobile Application Development (WMAD) recorded a slightly higher overall mean of 3.69. The computed grand mean of 3.61 indicates that respondents possess an overall High Awareness of both BSIT major specializations.

The results further reveal that students demonstrated slightly greater awareness of the WMAD specialization compared with the NDM specialization. This difference may be attributed to the increasing popularity of software development, web technologies, and mobile application development, which students frequently encounter through social media, online learning platforms, programming communities, and digital applications. Moreover, programming-related careers are often more visible to incoming college students, making the WMAD specialization relatively easier to understand compared with the more infrastructure-oriented NDM specialization.

Despite this slight variation, both specializations were consistently rated as having High Awareness, indicating that students generally possess sufficient knowledge regarding the curriculum, competencies, technical focus, and career opportunities offered by each major. Such findings imply that the university's orientation seminars, academic advising activities, and dissemination of program information have been effective in improving students' understanding of the available BSIT specializations. This level of awareness may contribute to more informed specialization choices and greater confidence in students' academic decisions.

The findings support Gicana et al. (n.d.), who concluded that students with greater awareness of available academic programs are more capable of making informed educational decisions. Likewise, Acera et al. (2022) emphasized that effective program orientation enhances students' readiness for specialized academic programs, while Balmes (2021) highlighted the importance of communicating specialization objectives and career pathways to improve students' academic preparedness. Overall, the results suggest that maintaining and further strengthening specialization awareness initiatives, particularly through academic seminars, career counseling, and industry engagement activities, can contribute to improved program alignment, student satisfaction, and long-term retention within the BSIT program.

Table 6. Significant Relationship Between Students' Awareness of BSIT Major Specializations and Their Chosen BSIT Major Program

Variables	Test Statistic	df	p-value	Interpretation
Students' Awareness Chosen BSIT Major Program	$\chi^2 = 3.282$	3	0.350	Not Significant

Table 6 presents the relationship between students' awareness of BSIT major specializations and their chosen BSIT major program. The Chi-Square Test of Independence yielded a computed value of $\chi^2 = 3.282$ with 3 degrees of

freedom and a p-value of 0.350. Since the computed p-value is greater than the 0.05 level of significance, the null hypothesis is not rejected. Therefore, there is no significant relationship between students' level of awareness and their chosen BSIT major specialization.

The findings indicate that although respondents generally exhibited a high level of awareness regarding both the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) specializations, this awareness did not significantly influence whether they selected NDM or WMAD during enrollment. This suggests that students' specialization choices may have been influenced by other factors such as personal interests, family expectations, peer influence, previous experiences, or perceived employment opportunities rather than awareness alone. Earlier findings in this study likewise showed that respondents rated personal and career-related factors highly when choosing their specialization.

The result partially contrasts with the findings of Gicana et al. (n.d.), who suggested that greater awareness of academic programs contributes to better educational decisions. Similarly, Pelobello (2025) reported that knowledge of program characteristics influences students' program selection. However, the present findings imply that awareness alone is insufficient to explain students' specialization choice, highlighting that specialization decisions are multifaceted and influenced by several personal, social, and institutional variables. Therefore, while awareness remains important, universities should continue strengthening career guidance and specialization counseling alongside orientation programs to assist students in selecting majors that best match their interests and competencies.

Table 7. Significant Relationship Between Students' Awareness of BSIT Major Specializations and Their Intention to Shift to Another BSIT Major Specialization

Variables	Correlation Coefficient	p-value	Interpretation
Students' Awareness Intention to Shift	$\rho = -0.064$	0.620	Not Significant

Table 7 presents the relationship between students' awareness of BSIT major specializations and their intention to shift to another specialization. The Spearman Rank Correlation analysis produced a correlation coefficient of $\rho = -0.064$ with a corresponding p-value of 0.620. Since the computed p-value is greater than the 0.05 level of significance, the null hypothesis is not rejected. Thus, there is no significant relationship between students' awareness of BSIT major specializations and their intention to shift to another specialization.

Furthermore, the computed correlation coefficient ($\rho = -0.064$) indicates a very weak negative relationship, suggesting that although students with higher awareness tended to have slightly lower intentions to shift, the relationship was

negligible and statistically insignificant. This implies that students' awareness of the curriculum, competencies, technical focus, and career opportunities of NDM and WMAD did not substantially influence their decision to remain in or leave their chosen specialization.

This finding may be explained by the descriptive results, wherein 83.87% of the respondents reported no intention to shift, regardless of their awareness level. Instead, students who expressed shifting intentions commonly cited reasons such as misalignment with personal interests or skills, perceived difficulty of subjects, better opportunities in another specialization, and insufficient awareness before enrollment. These findings are consistent with Sarona-Pedro and Villanueva (2025), who reported that students' decisions to shift programs are influenced by multiple academic and personal factors rather than a single determinant. Likewise, Abenales et al. (n.d.) emphasized that changing interests, academic adjustment, and program expectations often contribute to students' decisions to transfer. Consequently, while awareness is beneficial in helping students understand specialization options, it may not independently predict students' intention to shift once they have already entered their chosen BSIT major.

CONCLUSIONS AND RECOMMENDATIONS

This study examined the level of awareness of first-year Bachelor of Science in Information Technology (BSIT) students regarding the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) major specializations and determined its influence on their program choice and intention to shift. Based on the findings of the study, the following conclusions were drawn:

1. The respondents demonstrated a high level of awareness of both BSIT major specializations, indicating that they generally understand the objectives, curriculum, competencies, and career opportunities offered by the NDM and WMAD programs.
2. Students exhibited a slightly higher level of awareness of the Web and Mobile Application Development (WMAD) specialization than the Network Design and Management (NDM) specialization, although both specializations were consistently rated as having high awareness.
3. The majority of the respondents (83.87%) indicated no intention to shift to another BSIT major specialization, suggesting that most students were satisfied with their current specialization and intended to continue pursuing it.
4. There was no significant relationship between students' awareness of BSIT major specializations and their chosen BSIT major program. This implies that awareness alone did not determine whether students selected the NDM or WMAD specialization, as other personal, social, and career-related factors may have influenced their decision.
5. There was no significant relationship between students' awareness of BSIT major specializations and their intention to shift to another specialization. Although students generally possessed high awareness, such awareness

did not significantly affect their decision to remain in or transfer from their chosen specialization.

6. Overall, the findings suggest that while students are well-informed about the available BSIT specializations, specialization choice and shifting intention are influenced by multiple factors beyond awareness alone. Therefore, academic advising, career guidance, and specialization orientation should continue to be strengthened to support students in making informed and appropriate academic decisions.

Recommendations

Based on the findings and conclusions of the study, the following recommendations are proposed:

1. The College of Information Technology Education should continue strengthening its specialization orientation and academic seminar programs by providing more comprehensive discussions on the curriculum, technical competencies, industry certifications, and career opportunities of both the Network Design and Management (NDM) and Web and Mobile Application Development (WMAD) specializations.
2. Academic advisers and faculty members should provide continuous career counseling and mentoring to help students align their interests, skills, and long-term career goals with their chosen BSIT major specialization, thereby minimizing uncertainty and potential shifting intentions.
3. The university should develop accessible information materials, such as digital brochures, career pathway guides, interactive websites, and specialization videos, to increase students' understanding of each BSIT major before and during enrollment.
4. Since students' awareness was found not to be significantly related to their chosen BSIT major specialization and intention to shift, the university should also consider other determinants of specialization choice, including students' interests, aptitude, career aspirations, family influence, peer influence, and perceived employment opportunities, when designing intervention programs.
5. Student organizations and industry partners should collaborate in conducting specialization talks, alumni forums, and industry immersion activities that expose students to real-world applications of both NDM and WMAD, enabling them to make more informed academic and career decisions.
6. Future researchers are encouraged to investigate additional factors affecting BSIT major specialization choice and shifting intention using larger samples, multiple institutions, and mixed-methods research designs to provide a more comprehensive understanding of students' specialization decisions.
7. Higher education institutions offering BSIT programs may utilize the findings of this study as a basis for improving academic advising, specialization orientation, curriculum promotion, and student retention

initiatives to ensure that students are guided toward specializations that best match their competencies and career goals.

FURTHER STUDY

Based on the findings and limitations of the present study, the following recommendations are proposed for future researchers:

1. Conduct a similar study involving a larger sample size from multiple higher education institutions offering BSIT programs to improve the generalizability of the findings.
2. Investigate other variables that may significantly influence students' choice of BSIT major specialization, such as personal interests, self-efficacy, personality traits, parental influence, peer influence, socioeconomic status, academic performance, and perceived employability.
3. Employ a mixed-methods research design by incorporating interviews or focus group discussions to gain deeper insights into students' reasons for choosing or intending to shift their specialization.
4. Compare the awareness and specialization preferences of first-year and upper-year BSIT students to determine how awareness and career perspectives change throughout the academic program.
5. Examine the effectiveness of academic seminars, orientation programs, and career guidance interventions in improving students' awareness and specialization decision-making using experimental or quasi-experimental research designs.
6. Explore the relationship between students' awareness of BSIT major specializations and other academic outcomes such as academic performance, specialization satisfaction, learning engagement, retention, and career readiness.
7. Develop and evaluate an AI-assisted career guidance or specialization recommendation system that utilizes students' interests, competencies, academic profiles, and career aspirations to recommend the most suitable BSIT major specialization.

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