Offering Bachelor of Science in Information Systems (BSIS) in Bicol College, Daraga, Albay: A Feasibility Study

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ABSTRACT

The study aimed to determine the feasibility of offering a Bachelor of Science in Information Systems (BSIS) in Bicol College, Daraga, Albay. The Bicol College has not offered any additional ICT program since it started offering a Bachelor of Science in Computer Science in 1996. The challenging circumstance facing Bicol College is determining how to positively identify the opening of the Bachelor of Science in Information Systems program, which will enhance the school's enrollment. The study wanted to discover the respondent profile and feedback concerning the offering of a Bachelor of Science in Information Systems at Bicol College, Daraga, Albay; additionally, it sought to determine the institution's weaknesses as well as strengths in student demand, strategic management, financial aspects, and operational aspects. Objectives are the following: (1) Identify the current labor demands for BSIS graduates at the local, national, and international levels. (2) To determine the strengths and weaknesses of Bicol College opening a new program, Bachelor of Science in Information Systems (BSIS), in terms of: Program Administrator, Faculty Members with required qualifications, Library Resources, Laboratory Facilities / Equipment, and Support Services. (3) To determine the viability of the program in terms of: Enrollees' challenges and opportunities, Return on Investment (ROI), Library Resources, Budget and Financial Analysis, and Potential Impact.

Keywords- Bicol College, Bachelor of Science in Information Systems (BSIS), Program Administrator, Support Service, Return on Investment (ROI).

INTRODUCTION

Information systems could be a great option for a rapidly growing, well-paying career path that combines business-related and technological skills. Many jobs that belong within the information services umbrella are expected to experience significant near-term growth rates, according to labor market specialists. Despite the economic challenges and upswings, the technology industry is one of the sectors that flourished during the recent pandemic. It was observed that the recent pandemic forced the Philippines and other countries to develop and adapt technology-based mechanisms to move forward in the volatile, uncertain, complex, and ambiguous world. There was significant growth in private and public investment, upward consumer spending, and demand for better service driven by the Information and Communications Technology (ICT) that focuses on cyber security, software, services, enterprise applications, smart cities, telecommunications, and consumer electronics (Garousi 2019). In support, Bouchrika (2022) described that the data from 2017 to 2018 shows an exponential growth of job opportunities related to ICT, such as Computer Science, Information Technology, and Game Development across different countries and nations. This implies the vast opportunities that await aspiring graduates in ICT and its allied courses, locally and internationally.

The Bachelor of Science in Information Systems Programs includes the study of the application and effect of information technology on organizations. Graduates of the program should be able to implement an information system that considers complex technological and organizational factors affecting it. These include components, tools, techniques, strategies, methodologies, etc. Graduates can help an organization determine how information and technology-enabled business processes can be a strategic tool to achieve a competitive advantage. As a result, Information System professionals require a sound understanding of organizational principles and practices so that they can serve as an effective bridge between the technical and management/users communities within an organization. It enables them to ensure that the organization has the information and the systems it needs to support its operation (CMO.No.25, s.25, 2015). The primary job roles of a BSIS graduate are Organizational

Process Analyst, Data Analyst, Solution Specialist, System Analyst, and IS Project Management Personnel. Secondary Job roles are Application Developer, End User Trainer, Document Specialist, and Quality Assurance Specialist (CMO.No.25, s.25, 2015).

The Commission on Higher Education (CHED) in the Philippines has mandated universities and colleges to have an industry relationship. Although many institutions have adopted the principle of academe-industry partnership in the Philippines, both private and public, job mismatch remains a critical concern. According to the study of (MOYA, 2018), there are three leading causes of job-skills mismatch among the graduates: 1) weak labor-market information systems; 2) job seekers' career preference is no longer in demand; and 3) inadequate preparation in terms of education, training, and guidance. To address the job mismatch and enhance the graduates' employability, particularly in the field of Information Technology (IT), CHED has embedded on-thejob training (OJT) in the Philippines' IT curriculum. The internship aims to provide IT students with an opportunity to complement their formal learning with real industry settings, acquire soft skills, and develop professional work ethics [CMO 25, s.2015]. (Holmes, 2011) noted that collaboration between HEIs and employers is important in promoting work-based learning and producing professional skills that they need to be successful in their fields.

Bicol College has not offered any additional ICT programs since it started offering a Bachelor of Science in Computer Science in 1996. The challenging circumstance facing Bicol College is determining how to positively identify the opening of the Bachelor of Science in Information Systems program, which will enhance the school's enrollment. The study wanted to discover the respondent profile and feedback concerning the offering of a Bachelor of Science in Information Systems at Bicol College, Daraga, Albay; additionally, it sought to determine the institution's weaknesses as well as strengths in student demand, strategic management, financial aspects, and operational aspects.

Objectives of the Study

The purpose of this study is to examine the feasibility of offering a new program, Bachelor of Science in Information Systems (BSIS), in Bicol College, Daraga, Albay. Specific objectives of the study include the following: 1. Identify the current labor demands for BSIS graduates at the local, national, and international levels. 2. To determine the strengths and weaknesses of Bicol College opening a new program, Bachelor of Science in Information Systems (BSIS), in terms of: Program Administrator, Faculty Members with the required qualifications, Library Resources, Laboratory Facilities/Equipment, and Linguistic Development. 3. To determine the viability of the program in terms of: Enrollees' challenges and opportunities, Return on Investment (ROI), Library Resources, Budget and Financial Analysis, and Potential Impact. 4. Proposed financial copy of the new application program BSIS for various Senior High Schools in the Second District of Albay.

METHODOLOGY

This study was conducted in the second district of Albay. The respondents of the study were graduating students or Grade 12 students from Senior High School. Data Gathering will be accomplished using online tools such as Facebook and Messenger. Printed copies of the interview guide and questionnaires are given to the respondents once they are available for a face-to-face interview and once they are near the location area of Bicol College at Daraga, Albay. This way, the researcher collected the data rapidly, as the data were accepted in almost real-time upon completion of the online surveys or face-to-face interviews.

Research Design

The researchers used the descriptive method of research. Descriptive research can be explained as a statement of affairs as they are at present with the researchers having no control over variables. Moreover, this type of study can be characterized as simply the attempt to determine, describe, or identify what is (Ethridge, 2004). In addition to that, descriptive research is directed at casting light on current issues or problems through a process of data collection that enables them to describe the situation more completely than was possible without employing this method (Fox and Bayat, 2007).

Research Instrument

The research instrument was a survey in printed and soft copy form as the primary tool in this study. Data collection was done through a questionnaire and an interview with senior high school students. The soft copy form or the Google Form was sent using Messenger if the focal person was busy, unavailable, or far away from

Bicol College. Responses were collected on the day of the face-to-face interview, as per their vacancies, or they were sent a picture of the Interview Guide and Questionnaire via Messenger.

Data Gathering Procedures

The researcher requested a list of graduating students or grade 12 students from the principal in different senior high schools. The researcher distributed the communication letters and survey instrument personally to the Principal's Office and sent the online instrument via messenger using Google Form to distribute it to the respondents of the study.

Respondents of the Study

The primary sources of data were the graduating students or grade 12 students from the senior high school in different senior high schools in the second districts of Albay.

Sampling Technique

The study employed a stratified random sampling technique. Senior high school students from the Daraga, Albay district were first grouped according to school type (public and private) to ensure fair representation from each sector. From these groups, respondents were randomly selected to participate in the study. A total of 1,000 Grade 12 senior high school students were drawn from five (5) private schools and seven (7) public schools within the district. This sampling technique was used to ensure that the sample accurately represented the population of senior high school students in Daraga, Albay, while minimizing sampling bias and improving the reliability of the results.

Study Site

The locale of the study was in the second district in the province of Albay, which has all public and private schools offering the Senior High School program.

Data Analysis

In the context of a feasibility study, descriptive data analysis is a foundational step. Stakeholders can better grasp the present situation, market trends, operational capacities, and other fundamental features that are pertinent to a project or business proposal.

RESULT AND DISCUSSION

The Current Labor Demands For BSIS Graduates At The Local, National, And International Levels

Growing Industry Demand the IT and IS industries are rising, with a greater demand for data management, business analytics, and system administration specialists. BSIS's interdisciplinary approach integrates information technology, business, and management, making graduates more employable. Competitive Advantage: A well-structured BSIS program could be attractive to students who prefer a combination of IT and business over straight computer science. Government support, such as CHED (Commission on Higher Education), encourages IT and business-related programs, making accreditation easy. Strong job placement prospects for graduates are available in a variety of areas, including finance, healthcare, logistics, and ecommerce. Potential for Industry Partnerships: Universities can work with tech companies to provide internships, certifications, and research funds.

A. Program Administrator

The Dean of Bicol College at the College of Computer Studies can serve as Program Administrator. However, the school should hire an additional Program Chair for the Bachelor of Science in Information Systems (BSIS).

B.   Faculty Members with required qualifications

The existing composition of faculty members of the Bachelor of Science in Computer Science (BSCS) Program can also be used for the BSIS program. But more faculty members need to be hired to meet CHED's minimum faculty composition criterion.

C.   Library Resources

Bicol College recently purchased, in the year 2024, (38) volumes of core courses for the BSCS curriculum that can be used in the BSIS program. Despite that, BSIS students frequently work on technical documentation, system analysis, or group coding projects that require quiet or collaborative environments. These areas are limited in a crowded library, particularly during test or project deadlines.

D.   Laboratory Facilities / Equipment

The BSIS program can also use the three (3) computer laboratories in the College of Computer Studies, which have several vacancies. The Bicol College also purchased twenty (20) new computers dated December 2023 to comply with CHED requirements. In any case, if there are more students enrolled in the BSIS program, Bicol College needs to construct more laboratories, each of which requires one computer per student.

E. Support Services.

Bicol College's support services are steady because it already has an IT head, two (2) technical staff, and two (2) student assistants for technical support. Bicol College's facilities and resources have been updated as other programs are accredited by PACUCOA. However, it will have insufficient industry connections. Not all programs have strong ties to technology businesses or BPOs. This reduces opportunities for internships, mentorships, and job placements following graduation.

Viability Of The Bachelor Of Science In Information Systems (BSIS) In Bicol College, Daraga, Albay

A.   Enrollees challenges and opportunities

Although there are many senior high school graduates in Daraga, some students choose not to enroll in computer or IT-related programs, and some do not enroll in the BSIS program. However, the Bicol College is the only and first institution in Daraga that will be offering Bachelor of Science in Information Systems (BSIS).

Based on current student interest, local industry demand, and institutional readiness, the BSIS program at Bicol College is viable with strategic investment in faculty development and IT infrastructure.

B.   Return of Investments (ROI)

Return on Investment (ROI) analysis in your feasibility study for the BSIS program at Bicol College, Daraga, Albay, strengthens the financial justification for offering or expanding the program.

☑ **Sample Inputs:**

Indicators	**First Semester**	**Second Semester**
Revenue: Tuition x number of students	40 students x 20,000 800,000.00	32 students x 20,000 640,000.00

Program Costs:
  Faculty salaries
  Equipment & maintenance
  Marketing, admin, utilities
TOTAL COST
	400,000.00
	150,000.00
	100,000.00
	650,000.00
		300,000.00
		150.000.00
		100,000.00
		550,000.00

NET INCOME:	1,440,000.00 – 1,200,000.00 = 240,000.00/Year	

Based on tuition costs and average IT industry salaries, BSIS graduates can recover their educational investment within 1–2 years of employment. From the institutional perspective, the program yields a projected ROI of over 50% annually, making it a financially viable offering for Bicol College.

Library Resources

While Bicol College's library has a general collection of IT textbooks, many are outdated and insufficient for the specialized needs of BSIS students. There is a lack of access to peer-reviewed journals, online databases, and eBooks aligned with CHED's BSIS curriculum. The computer terminals are shared across departments, limiting student research time. To ensure program success, investment in modern IS references, subscriptions to online journals, and librarian training is highly recommended.

Budget and Financial Analysis

The financial analysis indicates that the BSIS program is viable with a break-even enrollment of approximately 45 students annually. With projected enrollment of 50 students, Bicol College expects a modest but positive net income in the first year. Initial infrastructure costs (lab, library) are recoverable within 2–3 years. The long-term ROI improves significantly as enrollment increases and the program matures. Students are also likely to benefit from a high post-graduation employment rate, making the investment in BSIS education worthwhile.

Potential Impact

The implementation of the BSIS program at Bicol College is expected to have a transformative impact. It will not only provide quality digital education to students from Albay and nearby provinces but also support the region's digital workforce needs. As more graduates enter the tech-driven economy, the college will help reduce unemployment, empower rural communities, and contribute to national digital transformation initiatives.

Research Survey

A survey was given to a random group of senior high school students in Daraga, Albay. The sample consisted of 1,000 senior high school students from the Daraga Albay district, which includes up to five (5) private schools and seven (7) public schools.
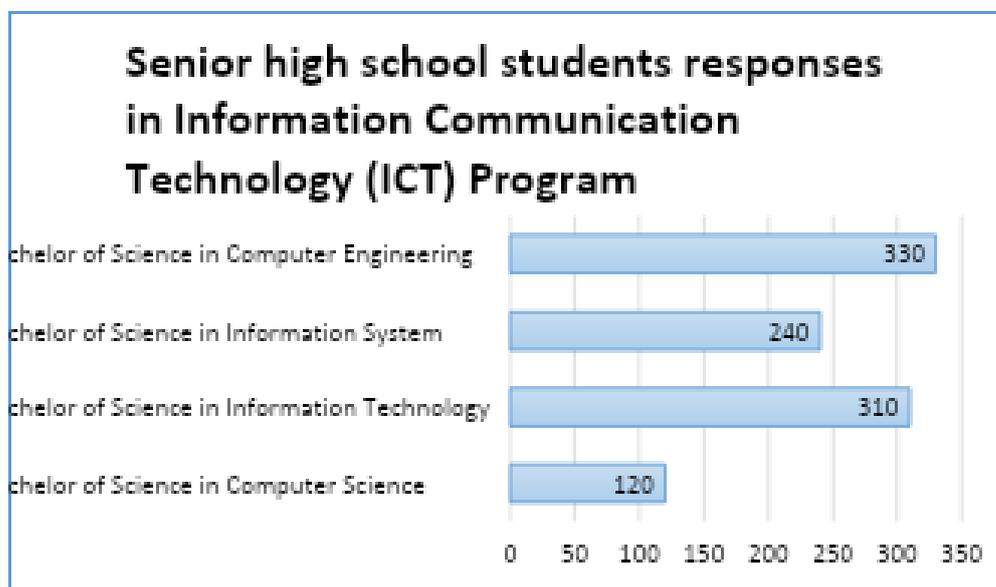

Figure 1 The final result of senior high school students' decision to get enrolled in the Information and Communication Technology (ICT) program.

Based to the figure, the Bachelor of Science in Computer Engineering (BSCpE), with a score of 330 which represents thirty three (33%) percent, and the Bachelor of Science in Information Technology (BSIT), with a score of 310 which is thirty one (31%) percent of the total responses, are the most popular programs among Senior High School students in Daraga, Albay.

With a score of 240, which is twenty-four (24%) percent, the Bachelor of Science in Information Systems (BSIS) ranks third and is an acceptable option for senior high school students. With a score of 120, which is twelve (12%) percent, the Bachelor of Computer Science is not the most popular choice for students pursuing computer programs.

5-point Likert scale with weighted mean

Table B Students from Senior High School in Daraga, Albay are most likely to choose Information Communication Technology (ICT) Programs.

Indicators (ICT Programs)	1 - Least Likely	2 - Less Likely	3 – Moderate Likely	4 – Most Likely	5 - Very Likely	Weighted Average	Interpretation
1. Bachelor of Science in Computer Science	2	2	66	14	36	3.67	MDL
2. Bachelor of Science in Information Technology	3	7	5	40	255	4.73	VL
3. Bachelor of Science in Information System	3	5	11	26	195	4.69	VL
4. Bachelor of Science in Computer Engineering	11	8	9	31	271	4.65	VL

Legend: **VL** – Very Likely (4.5 – 5.0), **MSL** – Most Likely (3.5. – 4.49), **MDL** – Moderate Likely (2.5 – 3.49), **LSL** – Less Likely (1.5 – 2.49), and **LTL** – Least Likely (0.5 – 1.49)

Based on the data gathered, the number of survey participants was determined. In Daraga, Albay, Table B shows the senior high school students who are likely to enroll in an Information and Communication Technology (ICT) program after graduation. With a weighted average of 3.67, the data indicates that senior high school students in Daraga, Albay, are moderately likely to be pursuing a Bachelor of Science in Computer Science (BSCS).

The Bachelor of Science in Information Technology (BSIT), which has a weighted average of 4.73, is the very likely option for senior high school students. With a weighted average of 4.69 for the Bachelor of Science in Information Systems (BSIS) and 4.65 for the Bachelor of Science in Computer Engineering (CpEng), these programs are very likely to be chosen by senior high school students.

The data indicate a strong interest among senior high school students in Daraga, Albay, in pursuing ICTrelated degree programs. The Bachelor of Science in Information Technology (BSIT) emerged as the most preferred option, followed closely by the Bachelor of Science in Information Systems (BSIS) and the Bachelor of Science in Computer Engineering (CpEng), all categorized as "very likely" choices. Although the Bachelor of Science in Computer Science (BSCS) received a lower weighted average, it still reflects a moderate level of interest. Overall, the findings suggest that ICT programs continue to be a popular and promising path for students in the region.
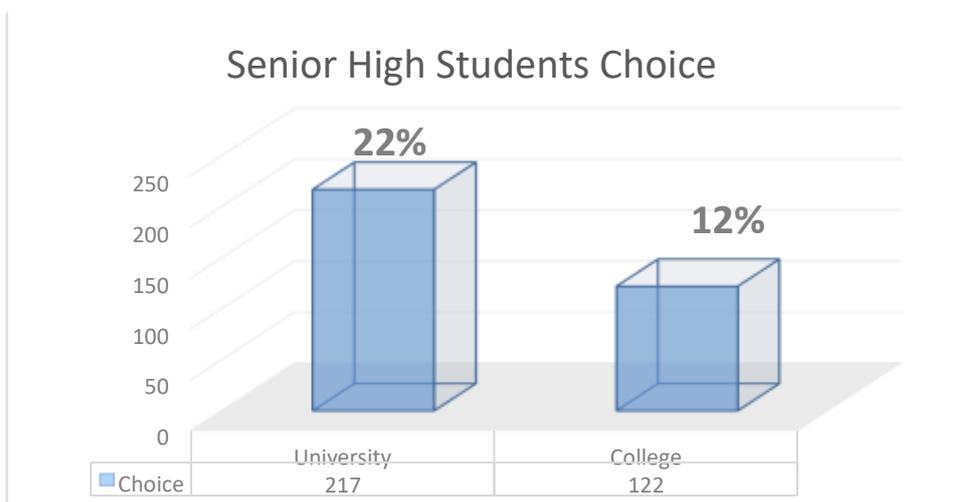

Figure 2 The final result of senior high school students' choice where to get enrolled in the Information and Communication Technology (ICT) program.

The data shows that a higher percentage of senior high school students chose to enroll in universities (22%, or 217 students) compared to colleges (12%, or 122 students) for the Information and Communication Technology (ICT) program.

One significant factor influencing this trend may be the availability of free tuition in universities. This financial incentive likely makes university education more accessible and attractive to students and their families, especially those from lower-income backgrounds. As a result, more students are choosing universities not only for the perceived higher quality or prestige of education but also due to the cost savings compared to enrolling in colleges, which may still have tuition fees or fewer financial aid options. This pattern suggests that government policies on free tuition are effectively encouraging higher education participation, particularly in indemand fields like ICT.

The Swot Analysis In Offering Bachelor Of Science In Information Systems (BSIS) In Bicol College, Daraga, Albay: A Feasibility Study Strengths Of The Program

The expansion of the IT and IS industry, together with the growing need for specialists in data management, business analytics, and system administration, is the reason why Bicol College may be able to offer a Bachelor of Science in Information Systems (BSIS) degree. By combining management, business, and IT, BSIS graduates are more marketable to employers. In order to gain a competitive edge, a well-designed BSIS program may attract students who favor a combination of business and IT. Numerous businesses, including finance, healthcare, logistics, and e-commerce, offer job placement opportunities to graduates. Technology businesses and Higher Education Institutions (HEIs) can work together to offer internships, certificates, and research funds for possible industry partnerships. When the BSIS program begins, Bicol College will be the only school in the Daraga, Albay area that offers it. Because Daraga has five (5) private schools and seven (7) public schools, a significant number of senior high school graduates come through each year. For this reason, Bicol College may be able to offer the BSIS program, giving the senior high school graduate students an additional option in the field of Information Technology programs. Also, the Commission on Higher Education (CHED) prioritizes scholarship nationwide in the field of IT programs.

Weaknesses (Challenges & Limitations)

Establishing a new program in the field of education brings challenges. Bicol College might face high initial costs for software licenses, faculty recruits, and laboratory setup. The BSIS program is less well-known than the BS in Computer Science and BS in Information Technology, which could have an impact on initial enrollment. Senior High School graduates may not be ready for IS-related courses because they lack the necessary analytical or mathematical skills. Additionally, as the BSIS program's curriculum is less complex in comparison to the computer science degree, enrollment in the Bicol College BS in Computer Science program will be impacted by its opening.

Opportunities (External Factors - Potential Growth & Benefits)

When launching a Bachelor of Science in Information Systems (BSIS) program, the goal is to recognize and comprehend the opportunities in order to support the program's relevance and use it to benefit Bicol College's academic standing, improve enrollment, and strengthen community involvement. To remain competitive, the Integration with Emerging Technologies program might incorporate training on artificial intelligence, cybersecurity, cloud computing, and business intelligence. Cooperation with Business Sectors: Research partnerships with businesses and internship programs can enhance student employability and learning outcomes of the Bicol College under the BSIS program. Companies are searching for experts who can bridge the gap between IT and business processes since there is a high need for experts in digital transformation. Faculty development and infrastructure can be supported by funding possibilities from TESDA, CHED, or commercial tech companies through Government & commercial Sector Grants. Partnering with companies like Microsoft, SAP, AWS, and Google for industry-recognized certifications can enhance graduate employability. SDG 4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all, and SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

Threats (External Factors - Risks & Challenges)

It will be more difficult to attract potential students because Bicol College faces fierce competition in the IT education market due to the number of universities and colleges, particularly in Legazpi City, that already offer

IT-related programs. Enrollment rates may be impacted by economic downturns and the affordability of tuition; as an economic aspect, some other Higher Education Institutions (HEIs) offer extremely low tuition fees.

CONCLUSION

1. The feasibility study strongly recommends the offering of the Bachelor of Science in Information Systems (BSIS) program at Bicol College. Market demand, both locally and nationally, shows a growing need for professionals skilled in information systems, data management, and business analytics. Survey data from 1,000 senior high school students in Daraga, Albay, indicate that BSIS ranks among the top three ICT-related courses, with a high level of interest reflected in both percentage scores and Likert scale ratings. The U.S. Bureau of Labor Statistics projects 17% growth (2023–2033) for computer and information systems manager roles— well above the average published by National University (NU). In addition, the IT BPO sector in the Philippines is one of the fastest-growing industries, covering software development, back-office services, animation, engineering, and high-end offshore services, as published by Wikipedia.

2. From an institutional perspective, Bicol College already has foundational resources—such as computer laboratories, qualified faculty from the existing BSCS program, and support services—to launch the BSIS program. While there are areas that require improvement, such as library modernization and industry linkage development, these are manageable with strategic investment.

3. Financial analysis further confirms the program's viability. With a projected enrollment of 50 students and a break-even point at 45 students, the program is expected to generate a positive net income and achieve a return on investment (ROI) of over 50% annually. This makes the program both educationally relevant and financially sustainable.

In general conclusion, offering the BSIS program at Bicol College is highly feasible and strategically beneficial, not only for the institution's growth but also for meeting the region's increasing demand for digital and information system professionals. With proper implementation, the program has the potential to position Bicol College as a leader in ICT education in Daraga and beyond. The BSIS program is highly marketable, especially in the tech-business centric industries and fast-growing IT / BPO sectors around the world—and particularly here in the Philippines. It leads to roles that mesh well with key industry needs, offering career flexibility and strong demand across sectors.

RECOMMENDATIONS

Based on the findings of the feasibility study, the following recommendations are proposed to ensure the successful implementation and sustainability of the Bachelor of Science in Information Systems (BSIS) program at Bicol College:

1. Appoint a qualified Program Chair and faculty, while the Dean can temporarily oversee the program, a dedicated Program Chair with expertise in Information Systems should be hired to ensure focused leadership, curriculum development, and CHED compliance.

2. Upgrade Library and Learning Resources, invest in updated IS textbooks, eBooks, peer-reviewed journals, and online database subscriptions. Provide dedicated quiet and collaborative spaces for research, documentation, and group projects. Expand Laboratory Facilities, ensure a 1:1 student-to-computer ratio by expanding the existing computer laboratory.

3. Strengthen Industry Linkages, build partnerships with local and national tech companies, BPOs, and government agencies to provide internships, mentorships, and job placement opportunities for BSIS students.

4. Conduct Targeted Marketing and Awareness Campaigns, promote the BSIS program in senior high schools within Daraga and neighboring towns to attract more enrollees, especially highlighting its combination of IT and business skills and strong career prospects.

By following these recommendations, Bicol College can successfully launch and sustain the BSIS program, ensuring it meets both educational standards and the workforce needs of the region.

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