

# The Feasibility of Offering Bachelor of Science in Entertainment and Multimedia Computing (BSEMC) using SWOT Analysis

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## ABSTRACT

*The research has been conducted to examine the feasibility of offering a Bachelor of Science in Entertainment and Multimedia Computing, one of the Commission on Higher Education (CHED) priority courses according to [1] and in keeping with the University's mission and vision. In Nueva Ecija, questionnaires were delivered to senior high school students, and interviews were performed with corporate companies. The data was analyzed using the SWOT Analysis approach to establish the course's competitiveness and cost. According to the survey findings, many graduating senior high school respondents consider BSEMC as a college course. Some of the reasons mentioned by respondents are free tuition, proximity to their home, the University's outstanding reputation, demand for the degree, and a high percentage of employability soon after graduation.*

*A questionnaire and interviews were used as the primary instruments in this study, including selected high schools in Nueva Ecija and several commercial entities. It also used SWOT analysis to determine the course's competitiveness and attractiveness. The amount of senior high school students who replied favorably to the questionnaire reveals that student-respondents are interested in enrolling in the BS in Entertainment and Multimedia Computing program. Demand for the course, the low cost of education, employment after graduation, and the University's strong reputation are all factors. The University's strength is based on its vision, purpose, goals, objectives, and CHED standards such as faculty qualifications and available facilities. Limited educational offerings and reliance on government scholarships are two internal flaws. This contributes to the industry's human resources shortage even more. As a result, offering entertainment and multimedia computing is necessary.*

**Keyword:** - *Entertainment and Multimedia Computing, SWOT Analysis*

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## 1. INTRODUCTION

The field of computing has tremendously contributed to how society is being shaped today. The emergence of different information technology solutions being implemented to various organizations has caused effective and efficient delivery of services. For instance, various information systems in different industries such as healthcare, business, and education have significantly contributed to better decision-making processes. Today, new computing fields have been introduced to cater to society's ever-growing and ever-changing needs.

The dynamic field of Entertainment and Multimedia Computing has promising areas of development and growth that can significantly impact the local and international arena. Remarkably, Digital Animation and Game Development, although relatively new areas, have significant growth in the coming years. Thus, these areas are considered one of the key market growth drivers [1].

Amidst the global pandemic, the field of game development continuously grows. Koss [2] expressed that virtual reality, augmented reality, artificial intelligence, cloud gaming, high-fidelity graphics, and the metaverse are some things to look forward to concerning game development. On the other hand, Digital Animation Technology has been integrated and applied to various areas in different industries. This field of Entertainment and Multimedia Computing continuously grows and significantly impacts the lives of many in various forms and outlets.

Entertainment and Multimedia Computing as a baccalaureate degree is relatively new in the Philippines. It was only in 2014 that the CHED had released the policy, standards, and guidelines governing the program's offering. While it is true that it may be new, higher learning institutions have immediately adopted and offered this program to cater to the growing demands among college students. However, in Region 3, only five higher learning institutions offer the program. Thus, there is a high degree of need to offer this program by other higher learning institutions in the region to reach a wider area and a more significant number of college students.

In light of the university's mission to develop new knowledge and technologies and transform human resources into productive citizenry to bring about development impact to local and international communities, the College of Information and Communications Technology proposes the offering of the Bachelor of Science in Entertainment and Multimedia Computing (BSEMC) with specialization in Digital Animation Technology. The BSEMC program is the "study and use of concepts, principles, and computing techniques in the design and development of multimedia products and solutions" [1]. Science, Entertainment, Education, Simulations, Advertising, and Business are industries where Entertainment and Multimedia Computing may be applied.

The College of Information and Communications Technology, with the goal of training and producing highly skilled professionals equipped with moral and up-to-date knowledge in the field of computing and other allied disciplines, commits to contribute to the realization of the University's vision and mission through the Bachelor of Science in Entertainment and Multimedia Computing program. This feasibility study aims to take the pulse of selected senior high school students in Nueva Ecija to offer the program.

Specifically, it aims to achieve the following objectives:

1. Describe the willingness of the respondents to take BSEMC;
2. Identify the reasons for choosing BSEMC;
3. Describe the willingness of the respondents to study in a state university;
4. Identify the reasons for choosing to study in a state university;
5. Identify the source of support for the education of the respondents; and
6. Describe the Strengths, Weaknesses, Opportunities, and Threats for the offering of BSEMC.

## **2. MATERIALS AND METHODS**

### **2.1 Research Design**

The descriptive approach was used in this study, and the main instrument for the student-respondents was a questionnaire. It also conducted unstructured interviews with interested parties in Nueva Ecija. This technique was chosen since the goal of this study is to characterize a present scenario in terms of current market trends to forecast future results.

### **2.2 Respondents**

The respondents of this study consisted of 20 senior high schools in Cabanatuan City and Nueva Ecija. This also covers schools with close proximity to the university's extension and satellite campuses. A total of 1,041 graduating students were taken as respondents. Table 1 presents the distribution of respondents per school surveyed.

**Table 1**  
*Distribution of the Respondents*

<b>Name of School</b>	<b>No. of Respondents</b>	<b>Percentage</b>
School A	36	3.5
School B	27	2.6
School C	144	13.8
School D	77	7.4
School E	109	10.5
School F	33	3.2
School G	40	3.8
School H	32	3.1
School I	53	5.1
School J	100	9.6
School K	83	8.0
School L	20	1.9
School M	24	2.3
School N	31	3.0
School O	22	2.1
School P	12	1.2
School Q	39	3.7
School R	116	11.1
School S	18	1.7
School T	25	2.4
<b>Total</b>	<b>1041</b>	<b>100.0</b>

Another group of respondents, consisting of 20 external stakeholders, was interviewed using convenient sampling to supplement the results of the senior high school respondents' survey and for validation purposes.

**Table 2**  
*Concerned Stakeholders*

<b>Concerned Stakeholders</b>	<b>No. of Respondents</b>	<b>Percentage</b>
EMC Industry Professionals	10	50
Parents	6	30
Academicians	4	20
<b>Total</b>	<b>20</b>	<b>100.00</b>

### 2.3 Data Gathering Tools

Using questionnaires, the researchers obtained the necessary data for this feasibility study with other academic members from the College of Information and Communications Technology. The researchers also performed interviews with interested stakeholders. SWOT Analysis was performed to assess this research's strengths, weaknesses, opportunities, and threats using essential files and papers from the College..

### 2.4 Preparation of the Questionnaire.

The researchers created the questionnaire used in this study after extensive research and discussion about the items that should be included. It was based on existing instruments available in the college. It was modified to suit the context of this study.

### 2.5 Validation of the Questionnaire.

The first draft of the questionnaire was evaluated by Grade 12 students from a private learning institution to see whether the respondents could answer it and if it needed to be changed or modified.

## 2.6 Administration of the Questionnaire.

The researchers utilized google form to gather data. The researchers sought endorsement from the Schools Division of Nueva Ecija in the conduct of the study.

## 2.7 Interview

Unstructured interview was also conducted by the researchers to concerned stakeholders in the EMC industry, academicians, and parents. Consultation was also conducted held via Zoom to present the proposed curriculum. The comments and suggestions were taken into consideration to improve the proposed program.

## 2.8 Statistical Treatment of the Data

For the statistical analysis of data collected from various public and private senior high schools in Nueva Ecija, the frequency of replies and the corresponding mean were employed.

## 3. RESULTS AND DISCUSSION

### 3.1 Survey Results

The statistical analysis of data collected from chosen Grade 12 students from various public and private senior high schools in Nueva Ecija is shown in the tables below.

**Table 3**  
*Willingness to Take BS in Entertainment and Multimedia Computing*

<b>Are you willing to take BSEMC?</b>	<b><i>f</i></b>	<b>%</b>
Yes	739	71.0
No	302	29.0
<b>Total</b>	<b>1041</b>	<b>100.00</b>

According to the results of a survey of senior high school students' desire to attend the Bachelor of Science in Entertainment and Multimedia Computing program, 739 out of 1041 students, or 71.0 percent of the total number of respondents, are interested in taking the BSEMC program. Furthermore, the survey questionnaires filled-up by the student respondents who answered positively were tallied for the succeeding question.

**Table 4**  
*Reasons for Choosing BS in Entertainment and Multimedia Computing*

<b>What is the reason for wanting to take BSEMC?</b>	<b><i>f</i></b>	<b>%</b>
Demand for the course	425	57.5
Employability	188	24.5
Influenced by friends	44	6.0
Non-board course	29	3.9
Influenced by family	31	4.2
Others	22	3.0
<b>Total</b>	<b>739</b>	<b>100.00</b>

From the 739 questionnaires tallied, 425 or 57.5% of the answered that they want to enroll BSEMC because of the demand for the course. This got the highest percentage score among the choices for wanting to take BSEMC. This was followed by employability which constitutes 188 or 24.5% of the respondents. The reason for wanting BSEMC as influenced by friends got 6.0% followed by the reason that the program is a non-board course with 3.9%. Wanting to take BSEMC as influenced by family members got 3.0%.

**Table 5***Willingness to study in a state university*

Are you willing to study in a state university?	<i>f</i>	%
Yes	869	83.5
No	172	16.5
<b>Total</b>	<b>1041</b>	<b>100.00</b>

Out of 1041 senior high school student-respondents, 869 or 83.5% answered that they are willing to study in a state university while 172 or 16.5% opted to other schools.

**Table 6***Reasons for Studying in a state university*

<i>What is the reason for wanting to study in a state university?</i>	Strongly Agree		Agree		Disagree		Strongly Disagree	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
Demand for the Course	269	25.8	682	65.6	80	7.7	9	.9
Distance from Home	185	17.8	539	51.8	292	28.0	25	2.4
Good Reputation	273	26.2	707	67.9	56	5.4	5	.5
Known to the Industry	257	24.7	719	69.1	56	5.4	9	.9
<b>Total</b>	<b>1041</b>	<b>100</b>	<b>1041</b>	<b>100</b>	<b>1041</b>	<b>100</b>	<b>1041</b>	<b>100</b>

In the 1041 respondents, 269 or 25.8% strongly agree that their reason for choosing to study in a state university was because of the demand for the course. Meanwhile, there were 682 or 65.6% also agree on this item. However, there were 80 or 7.7 and 9 or .9% who disagree about the item. In terms of the distance from home, 185 or 17.8% strongly agree and 539 or 51.8% agree about this reason. Meanwhile, 292 or 28% and 25 or 2.4% disagree about the reason. Choosing to study in a state university due to good reputation got 273 or 26.2% and 707 or 67.9% who strongly agree about the item. Meanwhile, there were 56 or 5.4% and 5 or .5% who disagreed. Lastly, being known to industry, 257 or 24.7% and 719 or 69.1% agreed while 56 or 5.4% and 9 or .9% disagreed.

**Table 7***Support for Education*

<i>Who will support your education?</i>	<i>f</i>	%
Parents	880	84.5
Self	69	6.6
Relatives	60	5.8
Provincial Government	13	1.2
LGUs (mayor, Brgy. Captains, etc.)	17	1.6
Others	2	.2
<b>Total</b>	<b>1041</b>	<b>100.00</b>

Table 7 shows that 84.5 percent of students, or 880 students, will rely on their parents for financial assistance during their college years. Working students will make up 6.6 percent of the responses, or 69 people, in order to pay for education. Other than their parents, 5.8 percent of student responders (60) will be supported by relatives. 30 students will request government assistance (provincial – 13%, or 1.2 percent; local governments – 17%, or 1.6 percent). Other than the options provided, 2 of the respondents (0.2 percent) answered "other."

### 3.2 SWOT Analysis

SWOT Analysis is a basic yet effective framework for examining an organization's strengths, weaknesses, opportunities, and threats, according to [3]. It organizations researchers to build on their strengths, fix their weaknesses, reduce risks, and maximize their chances of success.

### 3.2.1 Strengths

The proposed program aims to equip the students with the knowledge, skills, behavior, and right attitude to conduct Game Developments and Digital Animation projects. In particular, the Game Development specialization aims to “prepare students to be game development professionals with specialized knowledge, competencies, and values in designing, developing and producing digital games and tools, and in managing game development projects for various applications” [1]

On the other hand, the Digital Animation Technology specialization aims to “prepare students to be digital animation professionals who are equipped with both creative and technical knowledge, skills, and values, in conceptualizing, designing, and producing animation products and solutions, and in managing such projects over different technology platforms” [1].

The University is one of the premier state universities in the region and one of the SUC in the country recognized by the Commission on Higher Education through its Internationalization efforts. In terms of the management viability, the University can provide the students with the necessary knowledge, skills, and competencies relevant to the Entertainment and Multimedia Computing discipline.

The College of Information and Communication Technology, having its Level 3 status awarded by the Accrediting Agency of Chartered Colleges and Universities in the Philippines for the Information Technology program, ensures that the proposed BSEMC program will become relevant for the stakeholders and the community in general.

In terms of Market Viability, results revealed that many students are interested in taking BS EMC and enrolling at the University. Results further support the need for a BSEMC program to provide new choices and chances for students to improve their lives and contribute to building a better community in today’s modern era.

In terms of instruction, the College of Information and Communications Technology has faculty members with relevant and related Bachelor, Masters, and Doctorate degrees in Computer Science and Information Technology. As stipulated in CMO 2. S. 2014, the field of Computer Science and Information Technology are some of the allied fields/disciplines of the proposed program, making the college able to provide the necessary skills, knowledge, and competencies needed of an EMC graduate.

Table 8 shows the distribution of faculty members’ educational attainment to be handling EMC courses.

**Table 8**

*Percentage Distribution of Faculty Members’ Degree*

<b>Discipline/Field</b>	<b>Bachelor’s Degree</b>	<b>Master’s Degree</b>	<b>Doctorate Degree</b>
Entertainment and Multimedia Computing Allied Field (i.e Information Technology)	100%	100%	50%

All of the faculty members handling EMC courses are graduates of BS in Information Technology with specializations in Web Application Technology, Network Administration, and Multimedia. All of the faculty members have relevant Master’s degrees in Information Technology with a specialization in Computer Education. Lastly, 50% of the faculty members have relevant doctorate degrees essential for the EMC program.

### 3.2.2 Weaknesses

Because the College only offers one degree, the Bachelor of Science in Information Technology, which focuses primarily on creating applications and systems (software), a course focusing only on developing entertainment and multimedia outputs is required. According to studies, many of the companies in the immediate neighborhood require graduates with specializations and skills in digital animation technology.

Another limitation will be government funding, as the university offers a tuition-free education, limiting its ability to buy new technology necessary for the program.

### 3.2.3 Opportunity

In the province of Nueva Ecija, there are 43 higher learning institutions. Twenty-eight are Private Higher Education Institutions, 1 Local University, 2 State Universities, and 12 State University and Colleges Satellite [4]. From the 43 higher learning institutions in Nueva Ecija, No HEI offers a BS in Entertainment and Multimedia Computing. At the provincial level, this provides an opportunity for the College to bring closer to the students the BSEMC program.

Further, in Region 3, only five higher learning institutions offer BSEMC. One state university (Bataan Peninsula State University-Main Campus, One local university (Gordon College), and three Private HEI (Holy Angel University, Systems Plus College, and St. Benilde Center for Global Competencies, Inc.)

### 3.2.4 Threats

The course's reliance on government financing may make it difficult to get more equipment.

## 4. CONCLUSION AND RECOMMENDATIONS

Because of the demand for the course and the employability of graduates, most of the surveyed graduating Grade 12 students from different public and private institutions in Nueva Ecija are inclined to take Bachelor of Science in Entertainment and Multimedia Computing (BSEMC) as their preferred course in college, according to statistical analysis of the data gathered. Many respondents also chose the university as their university of choice since, aside from the free tuition, it has an excellent reputation. Although some students may get government and local government scholarships, most students will be sponsored financially by their parents.

According to industrial demands, there is also a demand for entertainment and multimedia computing graduates. According to the SWOT Analysis, as shown by their master's and doctoral degrees, qualified faculty members are available to manage major and general education subjects. The college's outcomes-based education is also a strength, as evidenced by AACUP's Level III, Phase 2 accreditation and the CHED's certification of its conformity with its criteria. Weaknesses were discovered to be dependent on government financing, while the potential was defined by industry demand and the certification that it is one of CHED's priority courses. The initiative will be jeopardized if the government's budget is not available.

Based from the conclusions drawn, the following are the recommendations.

1. The college is strongly encourage to offer BSEMC because a significant number of students look forward to enrolling and pursuing the program.
2. There is no higher learning institution in the province which offers BSEMC. Thus, offering the program will provide students in the province to have opportunity to pursue BSEMC program.
3. The offering of BSEMC program in the College of Information and Communications Technology contributes to the attainment of the mission and vision of the university.

## 5. REFERENCES

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