




Examining the Factors Affecting the Industrial Engineering Certification Examination Preparation

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ABSTRACT

Industrial engineers are in high demand because of their focus on operations, productivity, and waste reduction across industries. Several employers do not require industrial engineers to take certification exams because employers give more weight to qualifications than certifications. This study was conducted at Quezon City University which offers an Industrial Engineering program and aims to be the #1 local university producing employable graduates. A great deal of preparation among the 236 participants is needed to ensure success in this exam. It is essential to understand the factors that influence the preparation of candidates. This study identifies the factors influencing the Certification Examination for Industrial Engineering (CIE) preparation in terms of internal and external motivators and other factors. The findings show that limited mentorship opportunities, financial constraints, and a lack of study materials make it challenging for candidates to take certification exams. In the meanwhile, preparation is positively impacted by peer support, alumni involvement, and awareness of exam content. It is recommended that study materials be accessible to students, establishing mentorship programs and encouraging increased alumni involvement may bridge the gap between students and those who have passed the certification exam to honor the top achievers of the certification exam, a cash incentive or prize may be given. This encourages students to strive for academic achievement, which boosts their financial stability and professional success.

RESUMO

Os engenheiros industriais são muito procurados devido ao seu foco na simplificação das operações, no aumento da produtividade e na redução de desperdícios em uma ampla gama de indústrias. Vários empregadores não exigem que os engenheiros industriais façam exames de certificação porque os empregadores dão mais peso às qualificações do que às certificações. O Exame de Certificação para Engenharia Industrial (CIE) é um marco significativo para os aspirantes a engenheiros industriais, pois detêm a chave para o avanço na carreira e o reconhecimento do setor. Um exame de certificação é considerado um marco na carreira de um engenheiro. É necessária muita preparação dos participantes para garantir o sucesso neste exame. Como tal, é fundamental compreender os fatores que influenciam a preparação dos candidatos para este exame. Este estudo analisa as variáveis que influenciam a preparação para o Exame de Certificação de Engenharia Industrial (CIE), incluindo a identificação das oportunidades e dificuldades que os candidatos enfrentam na preparação para o exame em termos de motivadores internos e externos e outros fatores. As conclusões do estudo mostraram que o maior motivo para não fazer o exame de certificação foi a falta de dinheiro. O conhecimento do conteúdo do exame ajuda na preparação para a certificação e funciona como um roteiro para os diversos assuntos que devem ser abordados no teste. Com base no resultado, obter acesso a materiais de estudo de alta qualidade é uma preparação essencial para o exame de certificação. Um indivíduo que anseia por reconhecimento é motivado externamente para passar no exame de certificação. O envolvimento dos ex-alunos promove relacionamentos de apoio e conexões significativas entre estudantes e ex-alunos de diversas maneiras, incluindo o acesso a recursos de estudo.

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Introduction

The Certification Exam for Industrial Engineers has become a vital certification for industrial engineers who want to prove their expertise in their field. The certification exam aims to evaluate candidates' theoretical knowledge and practical skills. To properly prepare for the Industrial Engineering Certification Examination, one must employ a comprehensive plan combining academic knowledge and functional practice. Because they have such important abilities, industrial engineers usually have a lot of work opportunities. Despite this, some employers value an applicant's qualifications over their certificates, thus they do not require industrial engineers to take certification examinations. Certain firms, however, prefer the certification exam in highly specific companies.

There are a lot of things that greatly affect a candidate's exam preparation and have an impact on how well they perform. These factors can be broadly divided into three variables namely internal factors, external factors, and other factors which have a unique impact on candidates' preparation. In this study, the internal factors include the candidate's awareness of the exam, track records, and the perceived benefits of the certification. The external factors include study resources, mentorship, peer support, recognition, financial support, and collaboration with the industry. Conversely, industrial engineers can improve their certification exam readiness and raise their chances of success through network opportunities and alumni involvement among the graduates.

In many countries, Certification for Industrial Engineering (CIE) is regarded as a sign of proficiency and a requirement for advancing in the industry. Certified industrial engineers are in great demand as organizations place a greater emphasis on sustainability, efficiency, and process optimization on a global basis. Also, certification is valued by global corporations and international organizations as a means of guaranteeing consistent standards in their operations. However, the Certification examination for Industrial engineers is not compulsory. Nonetheless, the majority of Quezon City University graduates with a degree in industrial engineering have not yet taken their certification exam. The purpose of this study is to look at what motivates industrial engineers to take certification exam. The findings of this research can be used to design strategies that will increase candidate engagement, improve the efficacy of certification programs, and promote the advancement of professional growth in the field of industrial engineering.

This study aims to examine the perception of Industrial Engineering graduates of Quezon City University regarding their preparation to take the Certification Exam. It explicitly sought to address the following: What is the demographic profile of the respondents in terms of; 1.1 employment status; and 1.2 monthly income? What are the respondents' reasons not to pursue the certification exam? What is the respondents' decision in taking the certification

exam? What is the respondents' perception of the certification exam preparation in terms of internal motivating factors? What is the respondents' perception of the certification exam preparation in terms of external motivating factors? What is the respondents' perception of the certification exam preparation in terms of other motivating factors?

Scope and Limitations

The study is focused on identifying the factors that persuade Industrial Engineering graduates of Quezon City University in preparation for the Certified Industrial Engineering Examination. The respondents of this study are graduates of SY 2020-2021 to 2022-2023 with a Bachelor of Science in Industrial Engineering and are alumni of Quezon City University. The respondents of the study consist of 236 alumnae.

Review of Related Literature

Industrial Engineering Certification Board and its Benefits

The Industrial Engineering Certification Examination is an action initiated voluntarily by oneself. A candidate planning to take the certification exam needs to be sufficiently prepared and fully understand various factors that can impact their performance. Candidates need to manage their time effectively and address potential challenges during the examination process. Becoming a certified Industrial Engineer connotes professionalism in raising public awareness of the role of industrial engineers in society. CIE stands for Certified Industrial Engineering which serves as the label for industrial engineers in practice. The scope of a CIE's practice is regulated to employ basic techniques to optimize performance within existing systems (Iecb, 2019). Having a professional certification is regarded as a sign of proficiency and a requirement for growth in the industry. Certified industrial engineers are in high demand as industries emphasize process optimization. Multinational corporations view certification as a means of guaranteeing consistent quality and standards in their operations. This study aims to investigate the variables influencing candidates' certification exam readiness.

Internal Motivators that Persuade Industrial Engineering to Take the Board Exam

In the context of the certification exam for Industrial engineers, the variables are awareness of the exam, track record, and benefits of certification. Awareness of the exam content acts as an internal motivator that enables candidates to plan, and effectively prepare for the pursuit of certification. Exam takers can evaluate their test readiness and aptitude by knowing the topics, exam format, and extent of difficulty that will be covered. According to the study by Carator (2024), effective learning strategies like awareness significantly boost licensure performance.

Academic background or track records serve as a metric for evaluating student performance, indicating how effectively students learn from the topics provided in a specific course (Hussain & Khan, 2023). Students' academic background significantly influences their future pursuits, particularly their performance on certification exams. Students' academic preparation for the certification exam is essential and may be taken into consideration for predicting the exam's outcome. Huang (2021) found that academic background is vital to engineering discipline accomplishment. On the contrary, the majority of students think that their academic performance does not accurately reflect their intelligence in their performance in licensure exams.

Passing the certification exam for Industrial Engineers can bring big opportunities for professional growth, credibility, and personal growth that encourage to devote time and energy to prepare for the exam. One of the most fundamental qualifications for a job application is usually a professional certification (Veroya et al. (2024). Some companies demand candidates to have certification because they believe that this verifies an individual's abilities and experience, guaranteeing the quality of products as well as services they will provide. In connection to this, Ibrahim et al. (2024) conclude that building credibility is so important that most professionals dedicate much of their time to establishing and maintaining it. Passing the certification exam is an added credential that serves as an instrument that is highly useful for direct assessment of an individual's integrity.

External Motivators Affecting the Individual in Taking the Certification Exam

When someone is taking the certification exam, there are external factors that influence their perception in taking the exam. The study resources refer to a wide range of materials that are used to get ready for the certification exam like textbooks, study guides, online courses, practice exams, lecture notes, and educational websites. In addition, the teachers and curriculum have an impact on how well students perform on the licensing exam (Navarro, 2020). The range of materials used affects how well students learn and how teachers impart knowledge (Navarro, 2020). Besides, universities employ lots of approaches to get their students ready for the licensing exam. Corresponding to De Jesus and Balahadia (2020), high-quality resources during the review period are essential. With this, most universities are carrying out an internal review or an option is to go to review center sessions.

Mentorship during a board exam increases the chances of passing the examination by offering guidance to manage the difficulties of exam preparation. Mentoring programs in higher education typically result in better academic achievement as well as satisfaction for mentors and the school itself (Pacher et al., 2024). The student's classroom experiences genuinely demonstrate how the engineering professors played a crucial role in helping the

students acquire fundamental engineering competencies. Mentorship is the presence of relationships to such an extent that they help college students succeed academically.

Peer support during a board test entails others who are studying for the same exam helping, supporting, and advising one another. Peer support fosters a cooperative atmosphere where people can overcome obstacles associated with exam preparation together and raise their chances of success. These results imply that educators can improve students' readiness to undertake the licensure exam by offering review sessions and fostering peer support. Peer support takes effect when people feel gently persuaded to change their behavior to conform to that of those around them.

Recognition serves as evidence of an individual's expertise because it acts as concrete proof of the competencies they have gained in the specialized field. This certification serves as tangible proof that they have met industry standards. The result of the study by Botejara et al. (2022) concludes that the individual's desire for recognition correlates positively with external motivation. Recognition is an example of an external motivator that can strengthen a person's determination. For instance, being acknowledged for one's accomplishments encourages one to keep working toward their objectives. This enables people to prove their qualities to the fullest (Opoku, 2021). When they feel known, they employ whatever skills they have and get more confident about themselves.

Many graduates require financial assistance to cover the costs of taking the certification exam since most of them are not financially stable. There are costs involved with certification exams, and these costs change based on the testing provider. The result of the study by Quito (2023) revealed that financial constraints were cited as the main deterrent to taking the board exam. Students or newly hired professionals may find these costs prohibitive because they can be high. For study materials needed in preparing for exams, one usually has to have access to study tools such as internet resources, practice exams, review courses, and textbooks. Candidates may face significant financial burdens on these resources. Some graduates opt to get a job after graduation first (Esaga et al., 2022). Some of them choose to work after college because they must provide for their families or because their financial standings are unstable. Meanwhile, Flores (2020) found that students' financial difficulties may cause them to prepare poorly for the board exam. This research assesses the external motivators that have a significant impact on a candidate's perception in pursuit of taking and passing the certification exam.

Network Opportunities and Alumni Involvement among the graduates

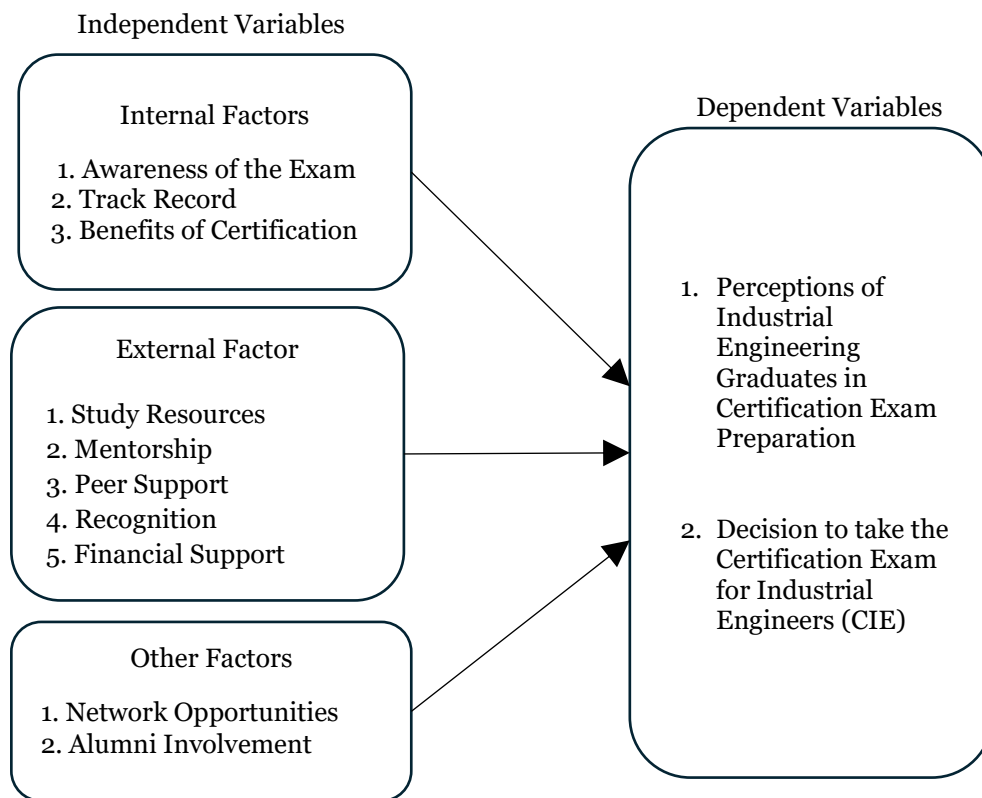
Making the most of your professional network's connections can help you advance your career and take advantage of learning opportunities. According to Akkas (2023), it is more advantageous if individuals build diverse networks with different people because it will allow

them to access new information and resources. On the other hand, alumni involvement promotes a sense of community and continuity within the university by offering input on exam techniques as well as access to tools that help students prepare, like study guides and mock exams which build a network of support that lasts beyond graduation. Through alumni organizations, a community of students with similar experiences can connect. Alumni are a valuable resource for the university, and their engagement and contributions can greatly improve the university's standing and the diversity of the student body (Obeng-Ofori & Kwarteng, 2020).

Conceptual Framework

As shown in Figure 1, this study's research framework investigates the factors that influence the motivations of industrial engineering graduates' readiness for the Certification Examination for Industrial Engineers (CIE).

Figure 1.
Research Paradigm



Internal, external, and other factors are identified as independent variables. The internal factor comprises awareness of the exam, track record, and the benefits of the certification. The external factors include study resources, mentorship, peer support, recognition, and financial support while the other motivating factors are network opportunities and alumni involvement. The perceptions of Industrial Engineering graduates

in Certification Exam (CIE) preparation and their decision to take the certification exams are identified as dependent variables. In general, candidates who have sufficiently prepared for the certification exam can review, comprehend, and feel more confident in answering the exam accurately. Passing the certification exam verifies an individual's expertise and establishes credibility, leading the way for future career options such as wage increases, promotions, and access to a higher position inside the organization.

Limitations of the Study

This study is limited in assessing the factors affecting the perception of industrial engineering graduates in certification exam preparation. The respondents of the study are the students who graduated from Quezon City University from School Year 2020–2023. A thorough examination of these factors will be implied to identify the challenges and opportunities that applicants may face when preparing for the certification exam.

Methodology

To investigate the factors influencing Industrial Engineering (IE) graduates' preparation for the Certification Exam for Industrial Engineering (CIE), this study uses a quantitative research approach. A survey was given to 236 respondents who graduated from Quezon City University (QCU) between the academic years 2020-2021 to 2022-2023.

A structured questionnaire comprising both closed-ended and open-ended questions was created to gather the graduates' perceptions of their CIE preparation. There were two sections throughout the questionnaire. The demographic profile, including employment status, monthly income, and factors that influence respondents' decision to take the certification exam is presented in the first section. The factors such as internal factors, external factors, and other factors that influence the respondents' certification exam preparation are covered in the second section. Using an online survey platform like Google Forms, the survey link was disseminated through email, university alumni mailing lists, and the official social media pages of QCU's Industrial Engineering department. To ensure that less connected alumni could participate, the survey was also advertised during career services webinars, alumni events, and faculty-student interactions.

Research Instruments

To guarantee clarity and reliability, the survey was pre-tested on a small sample of graduates before its widespread distribution. Minor changes were made to the instrument to increase its efficacy in response to feedback. The questionnaire used in the study was

constructed and validated by the industrial engineering specialist and the Research Extension Planning and Linkages Department of Quezon City University.

Table 1.

The five criteria will define the respondent's perception when preparing for certification exams.

Scale	Range	Verbal Interpretation
5	4.5 - 5.00	Strongly Agree
4	3.5 - 4.49	Agree
3	2.5 - 3.49	Neutral
2	1.5 - 2.49	Disagree
1	1.0 - 1.49	Strongly Disagree

Results and Discussions

1. Demographic Profile of Respondents

1.1 Employment Status

Graduates in industrial engineering possess distinct employment status, as Table 1 illustrates. A total of 236 respondents, or 75% of the sample, are currently employed by different companies. In contrast, 22% of the respondents, or 52 graduates are currently company owners. A small percentage, 7 respondents, do not now hold a job or just recently resign from their job, nonetheless. This implied that 75% of the Quezon City University BSIE graduates are employed in various industries, demonstrating a notably high employability rate.

Table 1.

Employment Status of Respondents

Employment Status	Frequency (f)	Percentage (%)
1. Employed	177	75%
2. Own a business	52	22%
3. No work	7	3%
	236	100%

The result of the study has significant implications for Quezon City University's (QCU) Industrial Engineering (IE) curriculum. Given the high employment rate of 75%, it is evident the program is effectively preparing graduates for the workforce and meeting the demands of the local industry. This implies that the curriculum at QCU is successfully giving students the tools they need to succeed in the workplace, boosting the school's institutional mission of being the #1 local university for employable graduates. The results provide evidence of the IE program's excellence and applicability in preparing students for a competitive labor market. While 22% of graduates own their businesses, the low unemployment rate of 3% suggests that only a small percentage of graduates are unemployed, indicating that the knowledge and skills

provided by Quezon City University's (QCU) Industrial Engineering program meet the expectations of employers and achieve its institutional mission to enhance the lives of the QCU students for nation building and as a world citizen.

2.2 Monthly Income

As shown in Table 2, most respondents belong to a monthly income bracket of ₱10,000 to ₱20,000, equivalent to 38% or 89 respondents. Respondents with earnings between ₱20,000 and ₱30,000 placed second in the rank which is equal to 28% or 65 respondents. The income categories that rank third are tied, with 2% of respondents belonging to the ₱30,001 to ₱40,000 and ₱40,001 to ₱50,000 brackets. On the other hand, only three respondents say they make ₱50,000 or more per month, and another three say they make ₱10,000 or less. Remarkably, 66 respondents decide not to reveal their monthly salary.

Table 2.
Monthly Income of Respondents

Monthly Income	Frequency (f)	Percentage (%)
1. Below 10,000	3	1%
2. 10,001 - 20,000	89	38%
3. 20,001 - 30,000	65	28%
4. 30,001- 40,000	5	2%
5. 40,001- 50,000	5	2%
6. 50,001 and above	3	1%
7. Prefer not to say	66	28%
	236	100%

The results of the monthly income distribution of industrial engineering graduates have substantial implications for understanding their financial prospects and career outcomes. Most graduates are paid entry-level salaries, which is common for recent graduates starting their careers. This indicates that access to higher-paying jobs may be limited or require further experience, professional development, or certification. Financial constraints are the main obstacle to taking the exam, according to Quito's (2023) study, with many graduates finding it difficult to pay for the review and certification exam. In addition to this, Esaga et al. (2020) also concluded that graduates opt to seek their job first before pursuing the certification exam. From a university perspective, the findings indicate that graduates of Industrial Engineering are prepared to find work; however, more efforts can be made to expand career opportunities that lead to higher-paying jobs by incorporating more complex technical instruction, leadership training, and specialist certification programs into the curriculum. In addition, enhancing collaborations with industry partners may facilitate graduates' access to higher-paying jobs in a competitive industry both domestically and abroad.

2. Respondents' reasons not to pursue the certification exam

As revealed by Table 3, the highest rank among the reasons given by respondents for not taking the certification exam is lack of money which is equal to 43%. 101 respondents agree that they chose not to pursue the certification exam due to lack of money. Time constraints come in second rank revealing that 35% or 82 respondents are experiencing a lack of time to join the review session. The third rank showed that passing the CIE exam is not needed at work, which is equal to 10%. 24 respondents claimed that they could still find a job even without the certification and their company did not require them to take the exam. This was followed by 6% or 13 respondents who revealed that they were not interested or not ready to take the certification exam due to personal reasons. The fifth rank uncovered that 3% or 8 respondents claimed they did not pursue the certification exam because they feared not meeting their parents' and others' expectations. On the contrary, the lowest rank revealed a triple tie of 1%. The results showed that only 3 respondents will take the certification exam in the future, 2 respondents have low self-confidence while 3 respondents prefer not to answer.

Table 3.
Respondents' Reason Not to Pursue the Certification Exam

Reasons	Frequency (f)	Percentage (%)
<i>1. Not interested/Not ready to take</i>	13	6%
<i>2. Time Constraints</i>	82	35%
<i>3. Lack of Money</i>	101	43%
<i>4. Will take CIE in the future</i>	3	1%
<i>5. Not Need at Work</i>	24	10%
<i>6. Fear of not Meeting Parents/Other's Expectations</i>	8	3%
<i>7. Low Self-Confidence</i>	2	1%
<i>8. Prefer not to answer</i>	3	1%
	236	100%

The study reveals that time and money constraints were the main reasons given by respondents for not taking the Certified Industrial Engineer (CIE) exam. This suggests that graduates' attempts to obtain certification are severely hampered by these issues. Graduates struggling financially might not fully review for the exam (Flores, 2020). Additionally, some of the respondents said that their present job required no certification, indicating a gap between the perceived value of certification and employer requirements. Other factors, such as a lack of interest, a fear of not meeting expectations, and low confidence, are a reflection of personal attitudes and psychological hurdles that influence their decisions. Dionisio and Unsay (2016) conclude that some graduates are experiencing fear of not meeting their parent's expectations. These results highlight the necessity of taking action to deal with these issues. Scholarships,

subsidized review programs, or flexible payment plans can increase financial convenience, while self-paced learning platforms or modular review courses can assist graduates in managing their time constraints. The institution should work with industry partners to promote the value of certification and link it with professional progression prospects to close the gap between certification and job relevance. Likewise, awareness campaigns and mentorship programs may help graduates develop confidence and understand the long-term advantages of certification. Addressing these issues will help the institution support more graduates in becoming certified, improving their chances for employment and strengthening the institution's reputation as a producer of highly qualified and competitive industrial engineers.

3. Decision of IE Graduates in Taking the Certificate Exam

Table 4 shows that the respondents were composed of two hundred thirty-six (236) graduates of Industrial Engineering. Only Three (3) respondents took the Certification Exam which is equal to one percent (1%), while those who did not take the CEI exam are equal to 233 respondents or ninety-nine percent (99%). From the data, it can be seen that only a small percentage of respondents are ready to take the certification exam for Industrial Engineering.

Table 4.
Decision of Respondents in Taking the Certificate Exam

<i>Decisions in Taking The Certification Exam</i>	Frequency (f)	Percentage (%)
<i>1. IE Graduates who have not yet taken the Certification Exam</i>	233	99%
<i>2. IE Graduate who took the CIE Exam</i>	3	1%
<i>Average Mean</i>	<i>236</i>	<i>100%</i>

The result showed that most of the graduates in Industrial Engineering (IE) have not yet taken the Certification Exam, while only a few are working toward the certification. The low participation rate suggests that there are significant hurdles preventing graduates from making certification a top priority. It raises the possibility that some are unaware of the advantages of the certification, highlighting the necessity for QCU to highlight its worth through seminars, and recognized alumni achievements. Time and money constraints were noted as one of the reasons for the low participation. Graduates who are probably now working or pursuing additional education struggle to set aside enough time for certification preparation. This raises the possibility of a mismatch between professional development opportunities and employment obligations, which would deter candidates from pursuing certifications. This

suggests that the university has a chance to promote certification uptake through the use of support mechanisms such as industry partnerships, flexible review schedules, free or low payment schemes for certification review, financial aid programs, and mentorship programs from certified professionals. Furthermore, emphasizing possible financial incentives like the cash awarded to top achievers on the certification exam may encourage graduates to strive for certification which could be a powerful incentive for participation. Likewise, adding classes or exercises that meet certification requirements can encourage graduates to prepare for the certification exam and improve their preparedness. Incorporating certification exam preparation into the curriculum can also better prepare students and encourage them to pursue certification after graduation.

4. Respondents' Perception of the Certification Exam Preparation in terms of Internal Motivating Factors

In terms of internal factors, the highest in rank is awareness of exam content gave a mean of 4.19. The respondents agreed that awareness of exam content is a major factor in their perseverance and certification exam preparation. This serves as an internal motivator because they can make decisions efficiently when they are aware of the exam topics. The second rank is benefits of certification with a mean of 4.16, and the last rank is track record or academic background which gave a mean of 4.09. Overall, the average mean for all items is 4.15 indicating that respondents agree concerning the implication of these internal factors in their certification exam preparation.

Table 5.

Respondents' Perception of the CIE Preparation in terms of Internal Motivating Factors

Internal Motivating Factors	Mean	VI
<i>1. Awareness of Exam Content</i>	<i>4.19</i>	<i>Agree</i>
<i>2. Track Record</i>	<i>4.09</i>	<i>Agree</i>
<i>3. Benefits of Certification</i>	<i>4.16</i>	<i>Agree</i>
<i>Average Mean</i>	<i>4.15</i>	<i>Agree</i>

The findings of the study on respondents' internal motivating factors for CIE exam preparation provide valuable information. The importance of understanding the exam content, track record, and benefits of certification reveals its significance in influencing students' decisions regarding pursuing certification. One of the most important factors in encouraging graduates to take the certification exam is their awareness of the content of the examination. Confidence in exam preparation is increased, and uncertainty is decreased with a firm understanding of the material. On the other hand, the graduates' track record shows that they acknowledge their past professional and academic accomplishments, which they think will help them pass the certification exam. Finally, there is a strong agreement regarding the

advantages of certification, suggesting that graduates are aware of the advantages that gaining certification offers for their future endeavors and employment. Notwithstanding, the study also reveals that a significant number of respondents decided not to apply for the certification exam, with time and monetary constraints ranking as primary obstacles. This suggests that although students are internally motivated and understand the need for certification, they are unable to proceed with taking the certification exam due to external obstacles like time and money constraints.

Universities and organizations should look for ways to give students flexible options or financial support, including review grants, or reduced exam fees, to overcome these challenges. Furthermore, providing more adaptable study plans or time-management assistance may assist students in juggling their exam preparation with other obligations, like family or employment. To make certification more accessible to students, Quezon City University can also think about expanding the curriculum to incorporate exam preparation or providing tools like study guides, refresher classes, and mock tests. This can boost the number of graduates seeking certification and, eventually, enhance their career chances. The university can take advantage of these factors by strengthening awareness, promoting the long-term advantages of certification in academic and career-oriented contexts, and utilizing alumni success stories. These programs can help graduates take the certification exam more often and support QCU's mission to produce successful, employable professionals.

5. Respondents' Perception of the Certification Exam Preparation in Terms of External Motivating Factors

As viewed in Table 6, the highest rank obtained a mean of 4.16 tied up for the study resources and recognition. Respondents agree that having the best study resources is helpful in the review process. The study materials and exam preparation are related because the quantity and quality of resources are essential in the review process. Meanwhile, next after passing the certification exam is the recognition. They are externally motivated to pass the certification exam because they are yearning for recognition. The second rank is financial support, which gave a mean of 4.13. The respondents agree that they are struggling financially and need to prioritize their jobs. Followed by mentoring and peer support as the last rank both yielded a mean of 4.09. The respondents agree that mentoring improves candidate's chances of passing by providing fundamental support to help them deal with the challenges of exam preparation. From the respondent's point of view, when taking a certification exam, peer support is indeed necessary to provide help, inspiration, and direction given by people who are preparing for the same exam in the same manner. It includes offering colleagues going through the exam preparation process encouragement, discussing study techniques, and trading

materials. The overall result unveils an average mean of 4.13 and a verbal interpretation of agree.

Table 6.

Respondents' Perception of the CIE Preparation in terms of External Motivating Factors

<i>External Motivating Factors</i>	<i>Mean</i>	<i>VI</i>
<i>1. Study Resources</i>	<i>4.16</i>	<i>Agree</i>
<i>2. Mentorship</i>	<i>4.09</i>	<i>Agree</i>
<i>3. Peer Support</i>	<i>4.09</i>	<i>Agree</i>
<i>4. Recognition</i>	<i>4.16</i>	<i>Agree</i>
<i>5. Financial Support</i>	<i>4.13</i>	<i>Agree</i>
<i>Average Mean</i>	<i>4.13</i>	<i>Agree</i>

The respondents agree that having access to high-quality study resources is essential to getting ready for the certification exam. However, the absence of complete learning guides and formal review sessions may still make some graduates feel unprepared. They also find it challenging to commit enough study hours due to time constraints. According to Navarro (2020), textbooks and educational websites are resources that affect performance candidates. Furthermore, De Jesus and Balahadia (2020) assert that high-quality resources are vital throughout the review. Graduates may view certification as optional rather than necessary for career advancement. In this result, the importance of certification should be highlighted by Quezon City University (QCU) through strategic endeavors to guarantee that students are adequately prepared before graduating, one strategy is to match the curriculum with certification requirements by including industry case studies, mock tests, and certification-aligned project. Peer support encourages collaborative learning. Despite yet, however, a lot of graduates might not have access to collaborative learning environments, peer-led study groups, or review sessions.

Students can learn more about the advantages of certification in terms of career advancement, promotions, and increases in salary by participating in awareness initiatives that include seminars, career growth, and mentorship programs with CIE-certified alumni and industry professionals. Financial constraints continue to be the primary deterrent to taking the CIE exam, and the main cause is lack of finances. Many graduates do not have access to employer sponsorships or low- or installment payment plans that cover the review expenses. Universities and industry partners can look at corporate sponsorship schemes, in which companies pay for high-achieving graduates' certification fees in return for professional commitments.

Formal reward schemes, such as prizes or university recognition for passing the certification exam, can be a powerful motivator. Recognition in the form of medals, and

certificates at university recognizes graduates' accomplishments. Students feel proud of their accomplishments when they receive this kind of recognition. Knowing that their efforts would be acknowledged can encourage them to pursue certification, creating an environment in the academic community that values excellence and aspiration.

6. Respondents' Perception of the Certification Exam Preparation in Terms of Other Motivating Factors

The perception of the candidates regarding the certification exam preparation is viewed in Table 7. Respondents agree that alumni involvement can serve as a fantastic source of motivation that provides assistance and encouragement to take the certification revealing a mean of 4.16. Alumni involvement uncovered a mean of 4. The respondents agree that involvement from alumni can offer feedback on essays, study plans, and practice tests, which can help candidates find areas for growth and improve their approaches to exam techniques. Overall, network opportunities and alumni involvement fortify the connections of current and former students.

Table 7.

Respondents' Perception of the CIE Preparation in terms of Other Motivating Factors

<i>Other Motivating Factors</i>	Mean	VI
<i>1. Network Opportunities</i>	<i>4.00</i>	<i>Agree</i>
<i>2. Alumni Involvement</i>	<i>3.90</i>	<i>Agree</i>
<i>Average Mean</i>	<i>3.95</i>	<i>Agree</i>

According to the findings, respondents consider alumni involvement and network opportunities as driving forces influencing their CIE exam preparation. Despite having somewhat lower ratings, the findings imply that these factors might not be as highly valued or available to all graduates. A well-established network of alumni organizations that could offer direction, support, and certification-related opportunities might not be available to many respondents.

Insufficient alumni involvement in the certification process and insufficient networking opportunities may be the cause of the high number of graduates who have not yet taken the certification exam. In order to encourage more graduates to pursue certification, the university is essential in enhancing networking opportunities and alumni involvement. Certified professionals can share their experiences, strategies, and thoughts on overcoming challenges in the certification process through organized mentorship programs, career seminars, and certification review sessions that the institution can set up. The university can establish a supportive and guiding culture by cultivating a close relationship between alumni and current

students. QCU can partner with industry experts, certification bodies, and professional engineering associations to offer workshops, networking events, and industry exposure that highlight the need for certification for career advancement.

Graduates may be further encouraged to see the value of certification in the labor market through internship and employment programs that promote the advantages of certification. Teachers should actively contribute to awareness-raising by highlighting the long-term advantages of certification and putting students in connection with alumni who have passed the certification examination. Students can be inspired, and given a clearer path to certification, and knowledge-sharing can be facilitated by using social media platforms, webinars, and alumni networking events. By carrying out these programs, QCU can build a more robust support network that will enable more graduates to seek professional certification, thereby improving their employability and advancing their careers.

In examining the factors affecting Industrial Engineering Certification Examination (CIE) preparation, the data reveals that internal motivating factors have the most significant impact on graduates' preparedness for the certification exam. In particular, respondents place a high value on understanding the content of the exam and the perceived benefits of certification, suggesting that these factors are important motivators for obtaining the certification. While recognition and study materials are equally important components of preparedness. Employers' recognition of certification and the availability of comprehensive study materials were found to be powerful motivators. Also, alumni involvement and networking possibilities are still crucial. Increasing networking opportunities and strengthening alumni opportunities may boost interest in taking the certification exam.

Conclusions

Quezon City University (QCU) alumni have exceptionally high employment rates, which is indicative of the institution's successful labor market preparedness. Given the strong employment rate, it is likely that QCU's Industrial Engineering degree meets industry demands and gives graduates the tools they need to succeed in the workplace. Future graduates' employability and career success may be further improved by developing entrepreneurial opportunities and strengthening relationships with professional networks.

Internal factors that greatly influence graduates' motivation to take the certification exam include knowledge of the exam content, track record, and the benefits of certification. Graduates who exhibit a high degree of agreement with these factors are likely motivated by the certification's content as well as its potential professional benefits.

These external factors are crucial in helping students get ready. Despite their relatively good ratings, these criteria suggest that stronger support mechanisms may be provided. Professional mentoring, networking opportunities, and alumni involvement could all improve

students' preparedness even more. Given the lower financial support rating, it is possible that students' willingness to pursue certification could be increased by resolving cost-related issues. Financially constrained students might not study as much for the test because they prioritize personal and professional obligations.

The study underlines the importance of peer support and mentoring when preparing for the Industrial Engineering Certification Examination (CIE). The graduates' affirmative reaction suggests that receiving advice from seasoned experts and peer support improves their preparedness and self-assurance. Students place a high importance on mentorship programs, where alumni offer insights and career guidance. Peer support also fosters motivation and a feeling of community through study groups and cooperative learning. These elements imply that to further enhance certification preparation and overall student achievement, QCU can fortify its mentorship programs and cultivate peer-driven networks.

Recommendations

An organized mentorship program should be established at Quezon City University to enhance certification exam preparation. Alumni and experts from the sector who can help students with the certification process should be actively involved in these initiatives. Students will receive essential insights from personalized mentorship, seminars, and guidance, which will provide them with the knowledge they need to succeed on the certification exam.

Study groups should be encouraged to strengthen peer support networks. Students will be prepared for the certification exam if they have access to online and in-person platforms where they can exchange study materials, talk about challenging ideas, and work through challenges together. Peer-driven support fosters a sense of community while providing emotional support and to overcome the difficulties of exam preparation.

Workshops, seminars, and success stories from certified alumni should all be incorporated into the department's efforts to highlight the long-term employment benefits of certification. Students will recognize the significance of certification and be more inclined to take the certification exam as part of their professional development

Building a stronger network of alumni who actively assist present students is recommended. It will be very helpful to plan events where alumni may share their experiences and thoughts, like review sessions, networking gatherings, and career fairs. Alumni who have passed the certification exam can act as mentors and offer insightful advice.

A monetary award or cash incentive for the top student can be awarded to lessen some of the financial strains that students. The university can also think about honoring the top achiever with a certificate or other types of acknowledgment. This inspires other students to strive for comparable success by fostering a culture of academic excellence within the university.

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Compliance with Ethical Standards

The Quezon City University Research Ethics Board approved the research protocol. To guarantee transparency and respect for participants' rights, all respondents gave their informed consent before their involvement. Every participant received an in-depth explanation of the study's objectives, the fact that participation was entirely voluntary, and their freedom to discontinue involvement at any moment without facing consequences. It was made clear in the informed consent form that answers would be kept private. All survey responses were anonymized, and no personally identifiable information was gathered, to preserve participant privacy. To ensure that individual responses could not be linked to any respondent, only aggregate data was used for analysis. Throughout the study, precautions were taken to protect the confidentiality of the participants.

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