

IMPACT OF CERTIFICATIONS AND ADVANCED DEGREES ON COMPENSATION IN IT COMPANIES IN THE PHILIPPINES

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Abstract— Nowadays, Information Technology (IT) ranks as one of the occupations that can give better compensation package in the Philippines and it is considered to be in high demand for skilled professionals. This demand is powered by the recent flourishing trends in technology and a shift towards digitization, particularly in the Internet of Things (IoT). Many aspects of these technologies are interconnected through sensors, networks, and software which are now accessible through the cloud. With the rapid expansion of the IT industry, competition among highly skilled professionals is also increasing. Because of that, some companies are now seeking individuals with impressive credentials or in some cases, prefer candidates with certifications or master's degrees. The motivation behind this study is to assess the influence of specialized certifications as well as advanced degrees like masters or doctoral degrees, in addition to the advantage of pursuing IT or Computer Engineering courses. This analysis aims to assess how these factors influence the compensation level compared to individuals without certifications or advanced degrees, and those not pursuing IT-related courses. By using quantitative methods, this study aims to determine whether obtaining certifications and advanced degrees can help influence employees to advance their career development or level and can lead to obtaining competitive salary packages. With the use of SmartPLS, the tested hypotheses indicate that certifications and advanced degrees significantly enhance job satisfaction, professional development, marketability, and career advancement opportunities in relation to higher compensation. Employees with certification validate skills and boost their credibility, while advanced degrees develop soft skills and contribute to promotions, especially in managerial roles.

Keywords— Academic Qualifications, Advanced Degrees, Certifications in IT, Multidisciplinary Education, Professional Learning, SEM Analysis.

I. INTRODUCTION

One of the rapidly expanding companies in the Philippines is Information Technology (IT). Some companies use databases, application development, cybersecurity implementation, and software deployment in various sectors such as manufacturing, hospitals, banks, hotels, and many more. According to the World Economic Forum, business leaders continue to prioritize the implementation of cloud computing, big data, and e-commerce [1]. In some cases, most of the solutions offered to companies and consumers are geared towards digital solutions for fast-paced delivery and usage, seeking the most convenient way of doing things. That is why many Filipinos are currently seeking jobs related to IT mainly because it is one of the occupations that can give better compensation package in the Philippines. Jobstreet discovered that the computer and IT industry have the highest increase in job advertisements with a rate of 57.4%, making it the leading industry, while the specialization ranked at 58.7% [2]. Looking at it from a technical standpoint, companies often check the credentials of the applicants and employees to meet the demand for technical support. In these instances, some companies seek individuals who hold a high-level skill set with good credentials, certifications, and experiences in the fields of cybersecurity, data science and analytics, cloud computing, systems administration, mobile application development, and software development. Given this level of expertise and experience, professional certifications offer considerable benefits for individuals seeking to improve their skills and credibility within their respective fields. Employers frequently prioritize certified professionals during the hiring process, and those who invest in acquiring such credentials often find themselves rewarded with higher salaries [3] as ongoing learning is crucial for maintaining a competitive edge in

this fast-paced industry. However, for some individuals applying for these positions, meeting the high qualifications, obtaining certifications, or acquiring an advanced degree poses a challenge.

Working in an IT company, sometimes we have a mindset that only those who graduated from related IT courses or Computer Engineering can qualify. However, some individuals are now grabbing the opportunity to get certified, either by paying at their own expense or, sometimes, the company will shoulder the training or certification but will have a bond, to catch up with the growing demand for IT in the Philippines. Attaining these IT certifications provides an affordable pathway for people without a related degree or IT skills. These certifications can cover various topics such as cybersecurity, ethical hacking, cloud computing, and data analytics [4]. Furthermore, Filipinos who want to explore more jobs in the IT industry sometimes have the perception that they need to obtain an IT-related certification. These IT certifications can be leveraged to demonstrate your skills and competency in a specific field and to use this skillset to negotiate for a higher salary offer. Some certifications only require completing the necessary sessions to obtain a certificate, while for others, you need to pass an exam to assess your knowledge and earn the certification. In an article by Graffius, 11 IT-related certifications were identified and profiled. Some of those are Cisco Certified Network Associate (CCNA), Project Management Professional (PMP), AWS Certified Solutions Architect, ITIL Foundations, Certified ScrumMaster (CSM), and others [3]. Acquiring an IT certification allows employees to demonstrate to their employer that they are qualified and credible. It is an effective way to showcase their technical expertise for future roles and responsibilities. Additionally, this can boost their potential earnings and give them a competitive edge in the industry [5].

Organizations in various sectors like IT are expanding their recruitment strategies by requiring certain certifications for particular job positions. Instead of focusing solely on candidates with traditional qualifications, they are now actively seeking specialists who possess specific skills and expertise to meet the growing and evolving demands of the industry. This shift is driven by the necessity to adapt to new technologies, changing market conditions, and the need for specialized knowledge that can provide a competitive advantage [5]. In 2020, the number of IT certifications in the United States increased by 16% compared to the previous year [6]. Today, particularly in the IT industry, the competition is diverse, especially in specific IT fields. For instance, the requirements are different in the field of Cybersecurity. Others also have different requirements for Application Development or Systems Integration. For others, investing in training is a must to secure a specific slot or job offer. In today's market industry, distinguishing oneself is important. Competition is a crucial aspect of analyzing an organization's environment. Competitive advantage indicates that an organization excels in a significant strength that sets it apart from competitors and offers a marketplace advantage [7].

Once employees feel they have an edge in the market due to acquiring certification(s), this can lead to career happiness and job satisfaction. However, some argue that job satisfaction refers to how much a person enjoys their job or a specific aspect, like the type of work or the level of supervision. Employee satisfaction is important for an organization's success because it increases employee productivity [8]. If productivity is okay, this can influence job satisfaction. If the employee is not satisfied, this can result in feeling more stressed, and exhausted, and tends to leave their jobs. This can cost companies a lot in finding new employees, training them, and lost productivity [9].

To evaluate these relationships regarding IT certifications and their connection to potential factors that can impact compensation, the researcher formulated the following hypotheses.

H1: Employees with IT certifications have a significant impact on earning higher compensation compared to those without certifications

IT certifications can lead to higher-paying jobs in fields like audit, cybersecurity, risk management, and data privacy. They enhance career prospects by meeting job requirements and sometimes come with salary bonuses [4]. Certifications are especially impactful in fields like IT and food service, often benefiting professionals as they gain experience. Studies show certifications improve hiring, retention, and earnings [10].

H2: Employees with IT certifications strongly influence job satisfaction leading to earning higher compensation Globally, 72% of IT professionals are happy with their jobs [11], and certifications often boost their motivation and sense of accomplishment. When employers cover certification costs, 74% of employees are less likely to seek other jobs [6]. Providing training and certification helps improve retention [12]. One of the researchers mentioned that IT certifications are now essential for almost all IT jobs. It can influence hiring decisions and other employment factors, such as promotion rates and job stability [10,13].

H3: Employees with IT certifications strongly influence professional development leading to earning higher compensation

Professional development is important to higher salaries and job satisfaction, encouraging employees to stay longer. While pay matters, skill improvement is just as important [11]. Formal qualifications such as a license or certification signal competence, and 68.65% of respondents believe certifications increase hiring potential [10,14].

H4: Employees with IT certifications strongly influence marketability leading to earning higher compensation A study on hotels found that green certification boosted popularity, profits, and customer loyalty [15]. Similarly, IT certifications make employees more marketable and profitable by showcasing their skills. It's not just about being certified, but effectively applying what's learned [6]. One study showed 85% of respondents prefer hiring certified IT professionals, as certifications offer a clear advantage in the industry [10,16].

H5: Employees with IT certifications strongly influence career progression and adaptability leading to earning higher compensation

A study showed that 61% of IT professionals who took certification exams for career growth received promotions, while 73% aimed to learn new skills and stay updated with the latest technology trends [6]. IT certifications support professional development, increase market value, and open promotion opportunities. They are now essential in most IT roles, influencing hiring, promotion, and job stability [10,13].

Having an advanced degree can be advantageous in IT, especially for higher positions like managerial roles. Some companies even require at least a master's degree for promotions. According to Lubin, pursuing an advanced degree should be done with clear goals and expectations [17]. While 72% of U.S. employers see degrees as unreliable for evaluating skills, 52% still prefer candidates with advanced degrees as a safer hiring choice [18].

An advanced degree includes a master's, professional, or doctorate level [19], and typically leads to higher salaries due to gained expertise [20], increased productivity [21], and better income [22]. Studies consistently show that individuals with advanced degrees earn more than those with only a bachelor's degree [19,23] as confirmed by 2018 median earnings data [24]. Computer science graduates with master's degrees from the Class of 2020 are also projected to earn the highest salaries [25].

To evaluate these relationships regarding advanced degrees and their connection to potential factors that can impact compensation, the researcher formulated the following hypotheses.

H6: Employees with advanced degrees strongly influence on earning higher compensation

A U.S study found that individuals with advanced degrees earned 20% more than those with only a bachelor's degree in 2022, with many high earners being Asian [24]. Master's or doctorate holders typically start with higher salaries [26]. Those with both academic degrees and IT certification have the highest earning potential, compared to those with just one [10,13]. Gender also plays a role for holding a certification which is notably observed to boost earnings for women with master's degrees, while men saw gains mainly at the high school level [10,27]. Licensed college-educated employees also earned more than those without licenses [10,28].

H7: Employees with advanced degrees strongly influence job satisfaction leading to earning higher compensation

An article noted that the success of higher education can be seen through career outcomes and job satisfaction [29]. IT degree holders are more resilient to layoffs and tend to earn higher salaries, with licenses further boosting earnings in specific fields [10,13].

H8: Employees with advanced degrees strongly influence professional development leading to earning higher compensation

In the competitive IT field and evolving Philippine economy, educational qualifications are increasingly considered for training and promotion [20]. Competency-based assessments can help employees demonstrate skills even without specific credentials [30]. In a related study, Navy personnel were able to fast-track degree completion using credits from military training [31].

H9: Employees with advanced degrees strongly influence marketability leading to earning higher compensation

Studies show that individuals with postgraduate degrees often take on specialized, non-routine roles, boosting their job market value [29]. Those with both a bachelor's degree and certification are more employable than those with certification alone, as many companies prioritize applicants with at least bachelor's degree for better-paying roles [32]. In cybersecurity, over half of entry-level jobs require a bachelor's, and one in four prefer a postgraduate degree [30].

H10: Employees with advanced degrees strongly influence career progression and adaptability leading to earning higher compensation

Studies show that career adaptability boosts job satisfaction and engagement, with advanced degree holders showing higher adaptability and promotion potential [33]. While skill-based hiring is trending, many advanced roles are still held by individuals with one or more degrees [30].

1.1. Conceptual Framework

To gain an edge and secure higher compensation, and to enhance the marketability of their expertise in the IT field, employees now balance education and experience when making compensation decisions [18]. This is where the motivation of the researcher comes in to further assess the impact of certification and advanced degrees on higher compensation in the IT industry in the Philippines. The researcher formulated a simple conceptual framework categorizing the factors connected to having certification/s and advanced degrees concerning earning a higher salary in the IT companies in the Philippines. See Figure 1.

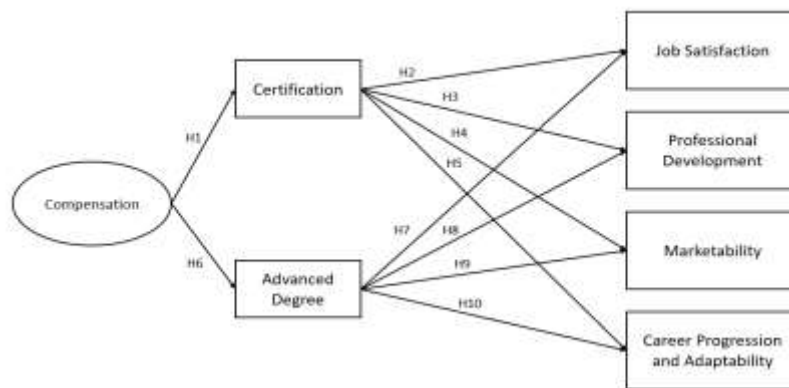


Figure 1: Aspects Contributing to Certification and Advanced Degree Leading to Earn Higher Compensation

1.2. Motivation of the Study

In this study, the researcher aimed to further assess whether having IT certifications and an advanced degree can provide an advantage in securing better salaries compared to those without any certifications or advanced degrees. Since most of the journals and articles the researcher has read and seen pertain to other countries. There has not been much research in the Philippines to assess these statements.

1.3. Significance of the Study

The significance of this study is to carefully assess and identify the importance of IT certifications and obtaining an advanced degree in earning a high salary in the Philippines. In this case, individuals seeking other job opportunities can gain insight into what they can plan for in their desired career ladder, considering the wide scope of the IT field. Other fields offer higher pay if you are certified. Therefore, this research can help the audience realize the potential they can explore through obtaining a certification or pursuing an advanced degree.

1.4. Research Gap

The study only focuses on the IT industry in the Philippines, given the time constraints of this research paper. Also, there are only limited respondents from various IT companies and fields. Future researchers can investigate further the impact of certifications and advanced degrees to other sectors or industries as to how it impacts compensation. By examining compensation trends in other industries, it can be beneficial insights across various FIELDS.

II. METHODOLOGY

The researcher will gather a set of questions about the 4 factors mentioned: job satisfaction, professional development, marketability, and career progression and adaptability. It aims to study how these factors impact the potential benefits of IT certifications and advanced degrees, particularly in terms of higher earnings. Target participants will be those working in an IT company in the Philippines, and surveys will be administered via Google Forms using a 5-point Likert scale. In the questionnaire, there were also supplemental questions to seek feedback from the respondents about the factors that motivate them to stay in the company, to change their jobs, and the factors to consider during a job offer. After this, Structural Equation Modeling (SEM) will then be used to analyze the relationships in the conceptual framework developed for the study.

2.1 Data Analysis

For this research paper, structural equation modeling (SEM) analysis which can also be called confirmatory factor analysis will be used to analyze the impact of having certifications and advanced degrees in earning higher salaries in IT companies with the help of these researchers [34,35]. There are path diagrams that can be seen in the formulated conceptual framework and can determine whether the stated hypotheses will be answered [36]. The questionnaires were divided into measurements and constructs and SmartPLS 4 shall be used for the analysis. This was done to analyze and assess the latent variables using the indicators, which helped address the formulated hypotheses with the assistance of item codes for each measurement. Still, some questions were modified to fit perfectly in this research paper.

An outer loading value of 0.70 or higher indicates high satisfaction. For values between 0.50 and 0.70, carefully analyze the constructs before considering removal. If the outer loading value is below 0.50, the construct should be eliminated [37,38]. The next values to be evaluated focus on reliability and validity, encompassing Cronbach's alpha, composite reliability, and the average variance extracted (AVE). Cronbach's alpha assesses the reliability of the construct, with an acceptable value above 0.70 [39,40]. For the AVE, the value must be at least 0.50 to demonstrate acceptable validity of the construct and its indicators [41]. Then the created hypotheses shall be calculated using bootstrapping. For the result of the p-value using the bootstrapping method, to be considered acceptable, it must be less than 0.05 which will indicate that there is significance. A p-value below 0.01 suggests high significance and a value of 0.00 implies very high significance [42].

III. RESULTS

Based on the gathered questionnaires, the researcher modified and summarized all the constructs and measurements that are necessary to be used for this research. See Table 1.

TABLE I: CONSTRUCT AND MEASUREMENT ITEMS

Construct	Items	Measurements	Reference
Compensation	C1	I am satisfied with my current base salary, especially since I have certifications and an advanced degree.	[43]
	C2	Do you believe that your compensation is competitive compared to industry standards, especially since I have certifications and an advanced degree?	[43]
	C3	Do you believe that the organization has a fair and consistent approach to compensation across all employees especially for those with certifications and an advanced degree?	[43]
	C4	Does the organization provide opportunities for performance-based salary increases, especially for those with certifications and an advanced degree?	[43]
	C5	I believe that my most recent certification(s) or obtaining an advanced degree has been beneficial in increasing my salary.	[44]
Certification	CT1	Do you agree that your latest certification(s) has been useful in getting a job?	[44]
	CT2	Do you agree that you are satisfied with the salary increase or bonus associated with obtaining new certifications?	-
	CT3	How satisfied are you with your current compensation package, considering your certification(s)?	-
	CT4	Does the organization value employees with certification(s)?	-
	CT5	My current job requires a special certification	[44]
	CT6	Do you believe that many professionals in other companies are certified in your field?	[45]
Job Satisfaction (Certification)	JSC1	Do you feel that the organization recognizes and rewards long-term loyalty and tenure through compensation to those who are certified?	[43]
	JSC2	Do you think your certification(s) contribute to a sense of purpose and fulfillment in your role?	-
	JSC3	Do you feel that your certification(s) positively impact your job satisfaction?	-
	JSC4	Employees with certifications tend to experience higher job satisfaction compared to those without certifications	-
	JSC5	Certifications contribute to overall job performance and effectiveness in IT roles	-
	JSC6	Job roles requiring certifications are perceived to be more rewarding	-
Professional Development (Certification)	PDC1	Do you believe that you have opportunities to take on new challenges and expand your skills because of the certifications you have obtained?	[46]
	PDC2	Do you believe that you are provided with opportunities for professional growth and advancement to become certified in your current job or role?	[47]
	PDC3	Do you believe that there is room for growth in compensation based on your certification(s) and performance?	-
	PDC4	Do you believe that there is a demand for professionals with certifications working in this IT field?	[48]
	PDC5	Do you think that your most recent certification(s) have been useful in improving your work skills	[44]
	PDC6	Employees feel that investing time and effort in obtaining certification(s) is worthwhile for their career progression	-

Marketability (Certification)	MC1	Does the organization respond to market trends and adjust compensation accordingly, especially if they know that you have certifications relevant to your field?	[43]
	MC2	Employers value certifications when making hiring decisions	-
	MC3	Do you think your latest certification(s) have been useful in keeping you marketable to employers or clients?	[44]
	MC4	Employees with certifications are perceived as more attractive to potential employers	-
	MC5	Obtaining certifications improves one's professional credibility	-
Career Progression / Adaptability (Certification)	CPAC1	I am satisfied with the opportunities for career progression and associated compensation increases because of my acquired certification(s)	[43]
	CPAC2	Certification(s) are important for my career advancement	-
	CPAC3	Certifications are important for career advancement in the IT industry	-
	CPAC4	Do you believe that the certificates you have earned contribute to your work responsibilities or promotion opportunities?	[44]
	CPAC5	Employees with certifications are more likely to be considered for promotions due to adaptability	-
Advanced Degree	AD1	Do you believe that the organization adequately recognizes and rewards those with an advanced degree?	-
	AD2	Salaries for jobs associated with an advanced degree are better compared to those without an advanced degree	[48]
	AD3	Are you content with the salary increase or bonus linked to obtaining an advanced degree?	-
	AD4	Was your job specific to having an advanced degree?	[49]
	AD5	For your current work, do you think you need a higher education degree?	[49]
Job Satisfaction (Advanced Degree)	JSA1	Do you feel that the organization values and recognizes your contributions through compensation, considering your advanced degree?	[43]
	JSA2	Do you find the knowledge acquired from your advanced degree useful in your current job?	[49]
	JSA3	Advanced degree holders generally perceive higher job satisfaction due to better career growth prospects	-
	JSA4	Employees with undergraduate degrees feel less satisfied with their jobs compared to those with advanced degrees in terms of earning potential	-
Professional Development (Advanced Degree)	PDA1	Do you believe that the organization provides opportunities to those who obtained an advanced degree for skill development that can lead to higher compensation?	[43]
	PDA2	Do you have opportunities to take on new challenges and expand your skills because of the advanced degree you obtained?	[46]
	PDA3	Do you agree that enhancing or upgrading academic studies through professional/technical training is significant?	[49]
	PDA4	Do you believe that the development of skills and leadership is influenced by obtaining an advanced degree?	-
	PDA5	Employees feel that investing time and effort in obtaining an advanced degree is worthwhile for their career progression	-
Marketability (Advanced Degree)	MA1	Do you feel your compensation is competitive in the job market because of your advanced degree?	[46]

	MA2	My degree will allow me to work in a recognized profession	[48]
	MA3	Companies tend to offer higher starting salaries to candidates with advanced degrees	-
	MA4	Employers prioritize candidates with advanced degrees over those with only undergraduate qualifications	-
	MA5	Advanced degrees significantly enhance an individual's marketability in the job market	-
Career Progression / Adaptability (Advanced Degree)	CPAA1	I am satisfied with the fairness in compensation distribution across different roles and levels because of having an advanced degree	[43]
	CPAA2	Having an advanced degree in your career advancement is important?	-
	CPAA3	Since beginning my advanced degree, I have made progress in my professional category	[49]
	CPAA4	Does having a significant role in decision-making directly impact the business and influence your job satisfaction?	[49]
	CPAA5	Employees with advanced degrees are more likely to be considered for promotions due to their adaptability	-

From Table 2, the majority of the respondents were male, comprising 64% of the sample size. The age group was mostly 26-35 years old at 69%, followed by 36-45 years old at 26%. Regarding educational level, 72% obtained their bachelor's degree, with the top courses being Information Technology at 45%, Electronics and Communication Engineering at 15%, and Computer Engineering at 17%. These courses are connected to hardware and software integration, programming languages, design, data, software development, and information processing. Of those who obtained their master's degree, 27%, mostly took an MBA, representing 61%. Most of the respondents, 66%, have 5-10 years of work experience in the IT industry. The salary range is at 42% for those earning Php 100,000 – Php 149,000 and 17% for those earning Php 150,000 – Php 249,000.

TABLE II: DEMOGRAPHICS SUMMARY OF THE 200 PARTICIPANTS

Group	Category	Participants	Percent
Gender	Male	127	64%
	Female	72	36%
	Other	1	1%
Age Group	18-25	6	3%
	26-35	137	69%
	36-45	51	26%
	46-55	5	3%
	56 and above	1	1%
Education Level	Bachelor's Degree	144	72%
	Information Technology	65	45%
	Electronics and Communication Engineering	22	15%
	Computer Engineering	25	17%
	Industrial Engineering	12	8%
	Others	20	14%
	Master's Degree	54	27%
	MBA	33	61%
	MS IT	14	26%
	Others	7	13%
	Diploma/Certificate	2	1%
Work Experience in the IT Industry	Less than 5 years	14	7%
	5-10 years	131	66%
	11-15 years	43	22%
	16-20 years	7	4%
	More than 20 years	5	3%

Salary Range	Php 20,000 - Php 49,000	22	11%
	Php 50,000 - Php 79,000	25	13%
	Php 80,000 - Php 99,000	30	15%
	Php 100,000 - Php 149,000	84	42%
	Php 150,000 - Php 249,000	34	17%
	Php 250,000 above	5	3%

The 200 respondents were also asked about the job requirements and professional qualifications related to their work in the IT industry. The majority answered that special certification is required for their job or position and that the job requires training or experience to perform specific functions. Therefore, 72% of the respondents indicated that the certificates earned were awarded by the company. However, 28% of the respondents chose to go the extra mile to become more credible in the market and obtained certification at their own expense. Regarding advanced degrees, most respondents answered that having an advanced degree is required for promotion. See Table 3.

TABLE III: JOB REQUIREMENTS / PROFESSIONAL QUALIFICATIONS

Group	Category	Participants	Percent
Special certification required for your current job role or position?	Yes	114	57%
	No	86	43%
Position require training or experience to perform the specific function?	Yes	188	94%
	No	12	6%
Advanced degree required for promotion in your current company?	Yes	120	60%
	No	80	40%
Any Certifications?	Yes	172	86%
	Certification awarded by the company	124	72%
	Obtain the certification at my own expense	48	28%
	No	28	14%

Among the majority who answered the survey with a certification obtained an Information Technology Infrastructure Library (ITIL) certification at 28%, followed by Amazon Web Services (AWS) at 10%, and Six Sigma and Project Management Professional (PMP) at 7% each, respectively.

For those who reported currently pursuing an advanced degree, the advantages include meeting promotion requirements or gaining an edge in negotiating a higher salary when applying for a different position. The majority chose to pursue a Master of Science in Information Technology, which is at 44% based on the survey.

Using SEM analysis, the outer loading was assessed to identify a strong correlation between latent variables and indicators. Indicators should be above 0.70 to signify a strong relation to the variable. If the indicator value is between 0.50 and 0.70, the variables need to be assessed before deciding to delete the indicators. If the indicator value is below 0.50, it should be removed. See Table 4.

TABLE IV: OUTER LOADING RESULT

Construct	Items	Outer Loading	
		Initial Iteration	Final Iteration
Compensation	C1	0.882	0.882
	C2	0.847	0.847
	C3	0.897	0.897
	C4	0.806	0.805
	C5	0.863	0.863
Certification	CT1	0.847	0.853
	CT2	0.850	0.860
	CT3	0.855	0.860
	CT4	0.822	0.842
	CT5	0.817	0.815
	CT6	- 0.700	-
Job Satisfaction (Certification)	JSC1	0.757	0.759
	JSC2	0.817	0.816

	JSC3	0.904	0.904
	JSC4	0.869	0.870
	JSC5	0.847	0.846
	JSC6	0.853	0.851
Professional Development (Certification)	PDC1	0.894	0.896
	PDC2	0.723	0.724
	PDC3	0.800	0.800
	PDC4	0.750	0.746
	PDC5	0.886	0.886
	PDC6	0.853	0.853
Marketability (Certification)	MC1	0.735	0.734
	MC2	0.828	0.829
	MC3	0.859	0.858
	MC4	0.876	0.877
	MC5	0.789	0.789
Career Progression/Adaptability (Certification)	CPAC1	0.855	0.856
	CPAC2	0.843	0.843
	CPAC3	0.848	0.846
	CPAC4	0.888	0.889
	CPAC5	0.896	0.896
Advanced Degree	AD1	0.871	0.876
	AD2	0.848	0.852
	AD3	0.799	0.790
	AD4	0.820	0.812
	AD5	0.725	0.733
Job Satisfaction (Advanced Degree)	JSA1	0.825	0.823
	JSA2	0.753	0.750
	JSA3	0.756	0.759
	JSA4	0.799	0.801
Professional Development (Advanced Degree)	PDA1	0.802	0.841
	PDA2	- 0.683	-
	PDA3	0.767	0.806
	PDA4	0.833	0.820
	PDA5	0.893	0.902
Marketability (Advanced Degree)	MA1	- 0.633	-
	MA2	0.826	0.837
	MA3	0.879	0.926
	MA4	0.878	0.894
	MA5	0.881	0.925
Career Progression/Adaptability (Advanced Degree)	CPAA1	0.805	0.802
	CPAA2	0.842	0.844
	CPAA3	0.794	0.791
	CPAA4	0.811	0.812
	CPAA5	0.816	0.818

The next assessments to be done are Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) to validate a strong connection between variables and indicators. Cronbach's Alpha and CR measure the consistency and reliability of all the indicators about the construct. The acceptable value should be a minimum of 0.70 for it to be considered to have a strong connection. To test the validity of each variable, AVE should be assessed. For it to be acceptable, it should have a minimum value of 0.50, indicating that the measurements have strong relevance to the constructs. All of these values were acceptable. See Table 5.

TABLE V: RELIABILITY AND VALIDITY RESULT

Factors	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Compensation	0.911	0.913	0.739
Certification	0.901	0.901	0.716
Job Satisfaction	0.917	0.917	0.709

(Certification)			
Professional Development (Certification)	0.901	0.908	0.672
Marketability (Certification)	0.878	0.886	0.671
Career Progression and Adaptability (Certification)	0.917	0.926	0.750
Advanced Degree	0.872	0.875	0.663
Job Satisfaction (Advanced Degree)	0.791	0.802	0.614
Professional Development (Advanced Degree)	0.865	0.879	0.711
Marketability (Advanced Degree)	0.918	0.927	0.803
Career Progression and Adaptability (Advanced Degree)	0.872	0.874	0.662

Afterward, collinearity statistics VIF were assessed to measure the strength of the correlation between the independent variables. To be acceptable and to avoid multicollinearity, results should range between 1 to 5. This signifies that the model is acceptable. From Table 6, it can be observed that all variables have values less than 5.

TABLE VI: COLLINEARITY STATISTICS VIF

Code	Acceptable VIF	VIF Result	Code	Acceptable VIF	VIF Result
C1	<5	4.313	CPAC1	<5	2.468
C2	<5	3.418	CPAC2	<5	3.220
C3	<5	3.575	CPAC3	<5	3.246
C4	<5	2.521	CPAC4	<5	3.179
C5	<5	2.675	CPAC5	<5	3.263
CT1	<5	2.396	AD1	<5	3.380
CT2	<5	2.920	AD2	<5	3.010
CT3	<5	2.963	AD3	<5	2.831
CT4	<5	2.280	AD4	<5	2.947
CT5	<5	2.100	AD5	<5	1.580
JSC1	<5	1.891	JSA1	<5	2.390
JSC2	<5	2.589	JSA2	<5	2.185
JSC3	<5	4.262	JSA3	<5	1.750
JSC4	<5	3.214	JSA4	<5	1.852
JSC5	<5	2.711	PDA1	<5	1.807
JSC6	<5	2.761	PDA3	<5	2.513
PDC1	<5	3.856	PDA4	<5	2.004
PDC2	<5	1.563	PDA5	<5	3.619
PDC3	<5	2.158	MA2	<5	2.702
PDC4	<5	1.952	MA3	<5	4.059
PDC5	<5	3.496	MA4	<5	3.217
PDC6	<5	2.866	MA5	<5	4.406
MC1	<5	1.810	CPAA1	<5	4.215
MC2	<5	2.341	CPAA2	<5	3.039
MC3	<5	2.343	CPAA3	<5	4.086
MC4	<5	4.356	CPAA4	<5	2.359
MC5	<5	3.614	CPAA5	<5	2.951

Once iterations were made to achieve a good model fit, bootstrapping will now be used to assess and check the p-value. This assessment can show the significant impact of certification and an advanced degree on earning higher compensation. If the p-value is less than 0.05, it indicates significance and confirms the tested hypotheses were correct. Upon simulating using bootstrapping, it was observed that all 10 hypotheses had a p-value of 0.00, indicating very high significance. See Table 7.

TABLE VII: TABLE OF HYPOTHESES

Item	Hypothesis	p-Value
H1	Employees with IT certifications have a significant impact on earning higher compensation compared to those without certifications	0.000
H2	Employees with IT certifications strongly influence job satisfaction leading to earning higher compensation	0.000
H3	Employees with IT certifications strongly influence professional development leading to earning higher compensation	0.000
H4	Employees with IT certifications strongly influence marketability leading to earning higher compensation	0.000
H5	Employees with IT certifications strongly influence career progression and adaptability leading to earning higher compensation	0.000
H6	Employees with advanced degrees strongly influence on earning higher compensation	0.000
H7	Employees with advanced degrees strongly influence job satisfaction leading to earning higher compensation	0.000
H8	Employees with advanced degrees strongly influence professional development leading to earning higher compensation	0.000
H9	Employees with advanced degrees strongly influence marketability leading to earning higher compensation	0.000
H10	Employees with advanced degrees strongly influence career progression and adaptability leading to earning higher compensation	0.000

Upon testing the p-value, the values were then integrated into the formulated conceptual framework to better understand its relationship. See Figure 2.

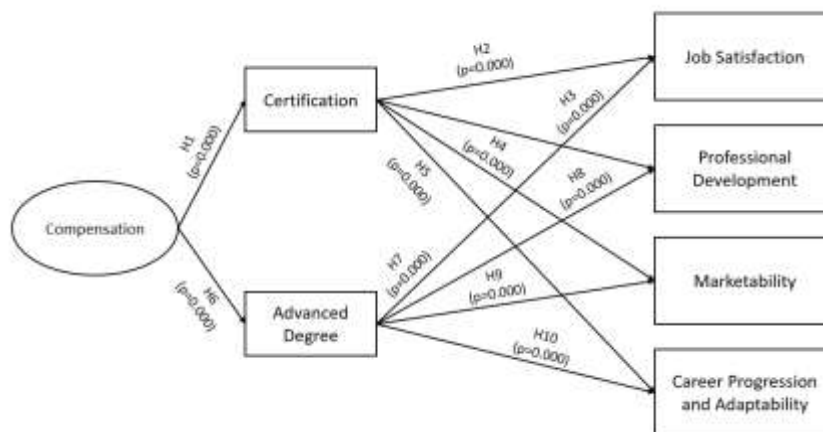


Figure 2: Conceptual Framework with p-values on the impact of certifications and advanced degrees on compensation in IT companies in the Philippines

IV. DISCUSSION

Based on the gathered data, regarding certification whether sponsored by the company or obtained at one's own expense, among the 200 respondents, almost half, or 59%, are earning at least Php 100,000 and above compared to only 3% of those without certification who are also earning at least Php 100,00 and above. The study conducted by the researcher [4] supports the collected data, indicating that acquiring IT certifications can secure higher-paying income. Another study justifies that having a certification can impact earning potential, particularly in the IT field [10]. This is evident since among the 59% of respondents earning at least Php 1000,000 and above with certifications, 48% had a bachelor's degree in Information Technology. With a p-value of 0.000 in hypothesis 1, it can be concluded that employees with IT certifications have a significant impact on earning higher compensation compared to those without certification. In this study, to test the impact of certification on earning a higher salary, the researcher will focus on 59% of the sample population who are earning at least Php 100,000 and above. In terms of job satisfaction related to having an IT certification, the gathered data supports the study that IT professionals are happy with their jobs. There is a sense of accomplishment from acquiring these trainings due to contentment with their salary earnings. Additionally, employees whose certifications are sponsored by the company tend to stay longer with the company [6,11,12]. From the data gathered, it is evident that among those 59% of respondents, 91% strongly agree and agree that they are satisfied with the salary increase or bonus associated with obtaining new certifications, and 69% are satisfied with their current compensation considering their certifications. With this, hypothesis 2, with a p-value of 0.000 confirms that employees with IT certifications greatly influence job satisfaction leading to earning higher compensation.

Next to be tested is the impact of IT certification on professional development leading to higher compensation. Previous studies have indicated that professional development is important for earning a higher salary, as it can expand skills and provide room for growth. Given this, the demand for professionals with certification is expected to increase [11,10,14]. These studies are supported by the collected data. It is evident that 97% of the respondents believe that their skills have expanded due to the certifications acquired, 96% believe that there is room for growth in terms of compensation for obtaining those certifications, and 97% believe that there is a high demand for professionals with IT certifications. With this data, hypothesis 3 is acceptable. As for testing the significant impact on marketability, previous research focusing on the hotel industry mentioned that being marketable and profitable is acquired through green certification. This concept applies to the IT industry, where professionals have an edge due to the acquired skillset from the certifications. Certifications can be utilized by applying skills learned and this can provide them an edge when applying to other IT industries [4,10,15,16]. To support these studies, 96% of respondents believe that employers value certifications when making hiring decisions, and 97% said that their latest certifications have been useful for keeping them marketable. In this research, ITIL, AWS, and Six Sigma are the top acquired certifications that help them remain marketable. This proves that the hypothesis 4 is acceptable. Regarding career progression and adaptability leading to higher compensation, one of the researchers mentioned that those who took IT certification aimed for career advancement [6]. This statement can be justified since 95% of the respondents believe that the acquired IT certifications are needed in their careers and can contribute to their work responsibilities and promotion opportunities. Another study mentioned that IT certification is now essential for almost all IT jobs [10,13]. This is justified by the fact that, in this study, the majority of the respondents, 86%, have acquired IT certifications. This also proves hypothesis 5 to be acceptable.

Another aspect that the researcher wanted to assess is the impact of having an advanced degree leading to higher compensation. From the gathered data, 27% of the sample population had or are still pursuing an advanced degree, and the discussion will focus only on these respondents. A study on earnings in the United States mentioned that those with an advanced degree earn more compared to those with only a bachelor's degree [4,24]. This can be justified from the data gathered in this study, as 38.5% of those who had or are still pursuing an advanced are earning at least Php 100,000, compared to only 37.5% with a bachelor's degree earning the same salary range. However, it is noticeable that the difference is quite small. Another study mentioned that those with an advanced degree and IT certification earn more compared to those with only an academic degree [10,13]. This is supported by this study, as 38.5% of the respondents with an advanced degree and IT certification earn at least Php 100,000, while only 3% with an academic degree but no IT certification earn the same salary range. Given this, hypothesis 6 is proven to be acceptable. Next, to assess the impact on job satisfaction, one study indicated that higher education contributes to job satisfaction. This is supported by 98% of respondents who reported that advanced degree holders perceive higher job satisfaction due to better career growth [29]. Therefore, it only proves that having a p-value of 0.000 for hypothesis 7 is acceptable. One more aspect to assess is professional development. Among those with an advanced degree, 100% believe that enhancing or upgrading academic studies and technical training is significant for achieving higher pay. This aligns with studies in the IT industry that highlight significant competition for career advancement [20]. This supports the acceptance of hypothesis 8.

Next, to assess marketability leading to higher compensation. Studies have shown that those with advanced degrees often hold specialized roles which enhances the marketability [29], which is true for the 100% of respondents who provided their inputs. Thus, hypothesis 9, showing a significant impact with an acceptable value of 0.000, is confirmed. Lastly, the impact on career progression and marketability will be assessed. One researcher mentioned that individuals who have completed an advanced degree demonstrate greater career adaptability, which can create opportunities for promotion [33]. This is supported by this study, where 98% of the respondents made progress with their professions. Therefore, hypothesis 10 is acceptable.

V. CONCLUSION

In this study, the impact of having an IT certification and an advanced degree in IT companies was assessed in terms of earning higher compensation in the Philippines. Based on the data gathered and the results of the tested hypotheses, it can be concluded that IT certifications provide a significant competitive edge. Having an advanced degree also contributes to securing higher compensation leading to job satisfaction, professional development, marketability, and career advancement opportunities. For roles ranging from entry-level to senior level, certification an aid in career progression. However, securing a higher salary also requires a strong work background and job experience, making certifications an advanced degree an added advantage.

Certifications enhance the credibility of an employee, validating their skills and knowledge and providing opportunities to build skillsets and establish expertise. This makes employers more confident in an employee's performance, adding value when applying for any job position or negotiating a higher salary within the IT industry, where the importance of certifications can vary significantly.

In the case of having an advanced degree, soft skills such as collaboration and teamwork can be developed particularly in the field of research, contributing to expanding knowledge applicable in the IT industry. This can help lead to advanced careers and increase compensation due to an edge in promotions, especially in managerial roles and above. In this research, the majority of the respondents with or currently pursuing an advanced degree are in managerial/director-level positions where higher credibility makes them more marketable.

Given the rapid growth in the IT industry, employees with certifications and advanced degrees will have an edge in showcasing adaptability, staying updated with the current challenges and trends, and ensuring they have fast-paced knowledge of the latest developments for better opportunities and higher compensation. While these factors contribute to earning higher compensation, practical experience, a strong portfolio, and professional networking can also provide significant advantages to employees, even without certifications and an advanced degree.

5.1. Theoretical Contribution

This research paper contributes to the understanding of the relationship between IT certifications and advanced degrees relating to compensation in the IT industry in the Philippines. It highlights that IT certifications and advanced degrees significantly enhance an employee's marketability, professional development, and career progression, leading to higher compensation and job satisfaction. The findings underscore the importance of formal qualifications in validating skills and knowledge, providing a competitive edge in the IT industry.

Additionally, this research emphasizes that while certifications and advanced degrees are valuable, factors such as practical experience, a strong portfolio, and effective professional networking can also contribute to career advancement and earning opportunities. Employees with substantial hands-on experience can demonstrate their expertise and achievements, making them attractive candidates for higher compensation and career opportunities even without formal certifications or advanced degrees. By examining these interrelated aspects, future research can explore more the various factors influencing career success in the IT sector offering insights into how different elements contribute to professional growth and financial opportunities.

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