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Research Article

A Meta-Analysis of Salary Benchmarking of Engineers, BIM Modelers, and BIM Managers in the Philippines

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ABSTRACT

This study provides a detailed meta-analysis of salaries for engineers, BIM modelers, and BIM managers in the Philippines, emphasizing how geographical location, experience level, industry sector, qualifications, and market trends influence compensation. The analysis incorporates data from a variety of sources, including academic publications, industry reports, and government statistics, to provide a detailed understanding of salary variations within different professions. Findings show significant salary differences based on their geographical location. Professionals in Metro Manila have considerably larger wages than those in provincial regions. Experience level is also important when it comes to salary increases which can be observed when professionals advance from entry-level to senior roles. Salary levels are also influenced by the industry, with technology, building, and infrastructure development sectors offering highest compensation. Additional qualifications and certificates enhance salary opportunities, reflecting the value of particular skills and expertise. The purpose of this study is to write a meta-analysis of salary benchmarks for BIM modelers, engineers, and BIM managers in the Philippines emphasizing how factors such as geographical location, experience level, industry sector, qualifications, and market trends influence compensation. The analysis includes seven studies that were published between 2019 and 2024 to capture recent salary patterns in these professions. The study shows the importance of understanding these important variables in developing successful compensation methods, optimizing talent acquisition, and promoting retention in the engineering and construction sectors in the Philippines. The insights provided are expected to allow stakeholders to make informed decisions to build a competitive and thriving workforce in these critical industries.

Keywords*: Salary benchmarking, Engineering and construction firm, BIM modelers, BIM managers*

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Introduction

The engineering and construction sectors in the Philippines are key drivers of economic growth with big investments going into infrastructure and tech improvements. These sectors need an increasing number of skilled professionals such as engineers, BIM modelers, and BIM managers who are important for designing, planning, and managing complicated projects that help boost the development of the country. Their skills help lay the foundation for progress making these roles important in shaping a stronger and more modern Philippines.

Understanding salary structure in different professions is critical for employers, policymakers, educational institutions, and professionals. Salary benchmarking provides a comprehensive view of salary patterns, which informs strategic decisions about personnel acquisition, retention, and development.

The engineering sector in the Philippines encompasses a wide range of disciplines, such as civil, mechanical, electrical, and industrial engineering. Engineers are important part of many different projects, from large government infrastructures such as bridges and roads, to private structures, including residential, commercial, and industrial areas. This highly contributes towards economic development in a specific area. BIM puts attention on the digitized infrastructure and administration of operational attributes of that particular locality. BIM is one amongst those revolutionary approaches taken on board by a building organization. BIM Modeler creates accurate digital models wherein, a BIM manager gives their attention to the actualization and coordination of the life cycle. The adoption of BIM in the Philippines is on the rise with increased efficiency, cost savings, and improved collaboration needed in construction projects (Construction-Placements, 2023).

Although it increases the demand for skilled workers in the engineering and construction sectors in the Philippines, it still presents several challenges along with possibilities. It is important to note that talent shortages can be one of the greatest challenges, but better education schemes and professional opportunities again are called for. As geographic factors determine the kinds of jobs and wages they entail, a city like Metro Manila boasts greater job opportunities as well as wages than those located in the provinces. To make economic development more balanced across regions, it's important to look at how new technologies like Building Information Modeling (BIM) is changing the construction industry. With BIM and other digital tools progressing quickly, professionals who keep up are not only getting paid better but are also playing bigger roles in pushing the industry forward.

This shows how continuing to learn can unlock more chances, helping to reduce economic gaps between regions while also building a stronger construction sector. Recent studies have revealed that salary benchmarking in the Philippines especially in the engineering and construction sectors highlights increasing demand for more skilled professionals, including engineers, BIM modelers, and BIM managers. In an extensive review by Bautista et al. (2023), they emphasized that knowing the salary structure assists employers in making informed financial decisions.

This article shows that there is an unaddressed gap when it comes to conducting studies in understanding salary structures for Engineers, BIM modelers, and BIM managers. Very few studies have been initiated toward investigating the compensation packages involving various factors which often affect salary such as geographical location, years of experience, sectoral fields, and organization type size.

The purpose of this study is to conduct a meta-analysis of the salary benchmarks for engineers, BIM modelers, and BIM managers in the Philippines.

This research will provide insightful views on the geographical location, experience level, industry sector, qualifications, and market trends that will help stakeholders make decisions on compensation strategies. The objective of the study includes the analysis of salary differences between engineers, BIM modelers, and BIM managers across different geographical locations, experience levels, industry sectors, and specific qualifications on salary benchmarks, and the identification of current market trends affecting the compensation in the engineering and construction fields.

The study aims to analyze and benchmark the salaries of engineers, BIM modelers, and BIM Managers in the Philippines. Specifically, it aims to gather relevant data to answer the following questions.

1. How do salaries for engineers, BIM modelers, and BIM managers vary across different geographical locations in the Philippines?
2. In what ways do experience level influence salary differences among these professionals?
3. Do specific certifications (e.g., Project Management Professional, BIM-related certifications) correlate with higher salaries in these professions?
4. What are the recent trends in salary growth for engineers, BIM modelers, and BIM managers in the Philippines?
5. How does the size and type of employing organization (e.g., multinational vs. local firms) influence salaries for engineers, BIM modelers, and BIM managers?

Literature Review

In the Philippines, the geographical location, experience level, and industry sector all have a substantial impact on the salaries of Engineers, BIM modelers, and BIM managers. Insights from multiple studies and data sources are synthesized in this review, which emphasizes economic conditions, industry demands, and regional disparities.

Most industries have geographical locations as one strong predictor of levels of wages. Analysts have proven that professionals serving in busy places earn more significant salaries than those serving rural areas. This should result from living costs, specific needs and skills, and high demands for specialization in concentrated industries. Usually, engineers and construction professionals are better paid in Metro Manila than their provincial counterparts because of the benefits of urban economics (Alarcon & Santos, 2022).

Similar patterns can be observed in a global scale. In the US, engineers working in populous locations receive 25% more wages than those working in rural regions. The pay is steeper in costlier states like California and New York (Bureau of Labor Statistics, 2023). The reality is that proper regional deviations in the pay floors demand regional deviation to be involved in the pay floors while employing people in different regions (Smith & Lee, 2022).

In general, engineers in the Philippines most especially in Metro Manila are much more remunerated than in a rural town and a country town. According to JobStreet Philippines (2021), the median annual income of engineers in Metro Manila is estimated to be between PHP 600,000, while in other places it is between PHP 400,000 to PHP 500,000. These gaps exist because living in the city is expensive and most businesses require technical skills (JobStreet Philippines, 2021).

The Philippine Statistics Authority (PSA, 2020) provides further elaboration of collected facts, indicating that entry-level engineers earn around PHP 20,000 to PHP 30,000 per month, while mid-career professionals can earn between PHP 40,000 to PHP 60,000 monthly, depending on specialization and industry. This demonstrates the importance of experience and skills in engineering in the Philippines (PSA, 2020).

Experience is a major factor in setting salaries in engineering and the fields of construction. Research shows that their earning potential increases as they gain more experience (Blau, 2020; Tan & Wong, 2021). This trend is usual in Building Information Modelling (BIM), where more experience boosts technical skills and strengthens project management abilities leading to higher salaries (ConstructionPlacements, 2023).

BIM modelers and managers earn a good amount of money that reflects their specialized talents in digital construction technology and project management. The range of the amount of money they earn is between PHP 800,000 to PHP 1, 200, 0000 per year, depending on their experience and the scope of their project.

Engineers, BIM modelers, or BIM managers working within the Philippines may have their salaries determined by the region or area of their location or by their skills and work experience. In large cities such as Metro Manila, more job opportunities are presented which influences the wage slightly higher than in provincial areas due to differences in economic

and industrial growth (JobStreet Philippines, 2021).

In most cases, engineers and BIM professionals within the technologies, and infrastructure construction industry are likely to earn more than other professionals with less dynamic industries (Chen, 2022). This is because industries such as technology construction or even infrastructure development have huge projects, so they have a larger talent niche that is highly competitive. Because of this, engineers and BIM specialists who are working with large-scale infrastructures are likely to earn more than those dealing with smaller or lesser dynamic projects.

Specific qualifications and certifications are associated with higher salaries, showing the importance of specialized skills in the engineering and construction industries (Brown & Allen, 2019). Certifications in specialist fields such as BIM management, project management (e.g., PMP certification), and certain engineering disciplines are frequently associated with increased earnings potential. These certifications demonstrate expertise and skill in crucial areas, increasing professionals' competitiveness in the labor market.

International research supports these findings, indicating that industry-specific qualifications drive salary amounts in sectors with specialized requirements. For instance, a study in the United Kingdom found that engineers in the energy and construction sectors tend to earn up to 20% more than those in more traditional manufacturing roles, due to both demand and skill specificity (Jones et al., 2021).

The size and type of employing organization also influence salary levels. Large multinational corporations, engineering consulting firms, and government agencies typically offer competitive salary packages and benefits to attract and retain top talent. In contrast, salaries in small to medium-sized enterprises (SMEs) or startups may vary depending on their financial health, project portfolio, and market position. Market dynamics and emerging trends in technology and construction practices impact salary benchmarks. The use of Building Information Modeling (BIM) and other modern digital technology in construction projects is increasing demand for trained personnel, influencing compensation trends in the industry. Professionals with experience in these emerging technologies may be able to negotiate better compensation packages.

Effective salary benchmarking for engineers, BIM modelers, and BIM managers in the Philippines requires a comprehensive understanding of these influencing factors. This insight enables stakeholders in the construction and engineering sectors to develop effective compensation strategies, maximize talent acquisition, and promote retention by regional and role-specific dynamics.

Methods

Research Design

This meta-analysis employs a systematic research design synthesizing existing data on the salaries for engineers, BIM modelers, and BIM managers in the Philippines, following the PRISMA 2020 guidelines (Page et al., 2021). This systematic approach improves the understanding of salary variations influenced by geographical location, experience level, industry sector, qualifications, and market trends.

Materials

The materials for this meta-analysis consist of articles and reports focusing on salary data of engineers, BIM modelers, and BIM managers in the Philippines. Only the sources published within the last five years were considered to ensure the quality and relevance of the studies. This ensures that the findings are significant with present market trends and conditions in engineering and BIM fields.

Data-Gathering Process

The process of gathering data focused on a targeted search strategy which was guided by specific research questions that concentrated on terms that are related to BIM roles and engineering, through academic databases like Scopus, Google Scholar, and relevant local industry reports. Only studies that were considered relevant in the Philippines, included actual salary data and were published within the last five years. For data extraction, key information such as salary figures, geographical location,

experience level, industry sector, and qualifications were collected using a standardized form to make sure the process was consistent and comprehensive.

Data Analysis

Data analysis uses both qualitative and quantitative methods to examine salary trends. Descriptive statistics summarize salary data across different groups. If there are significant differences, meta-regression analyses determined how factors like experience level and industry sector affect salary variations. Publication bias was also evaluated by linear regression funnel plots and Egger's test to detect any sources of bias in the literature. This report endeavors to provide information on different factors that determine the pay structures of engineers, BIM modelers, and BIM managers in the Philippines.

Findings and Results

Meta-analysis research have revealed significant differences in pay for engineers, BIM modelers, and BIM managers in the Philippines. These differences are influenced by factors such as geographic location, experience level, industry type, certifications, and market trends. Stakeholders can gain valuable insights from understanding these compensation inequalities provided by the gathered data.

According to the analysis of the results, one of the main factors influencing pay levels is geographic location. Compared to their counterparts in the provinces, Engineers, BIM modelers, and BIM managers in Metro Manila make significantly more money. Engineers in Metro Manila on average make PHP 600,000 per year while those in outlying areas make between PHP 400,000 and PHP 500,000 (JobStreet Philippines, 2021). In the Philippines, this showed a bias in remuneration among Filipino engineers and is one of the many factors why professionals involved in the construction industry opted to find work and businesses in the metro.

In urban areas where large-scale building projects are more common and modern technologies are often used, BIM specialists benefit from greater compensation due to these reasons. BIM managers in Metro Manila can earn between PHP 800,000 to PHP 1,200,000 per year emphasizing the demand for their skills when it comes to managing complex projects (ConstructionPlacements, 2023). However, as compared to the Philippines' counterpart nations, it is way lower professionals involved in the field are considered underpaid.

Experience level has a major influence on compensation differences among the examined occupations. Career experts with several years of expertise can make between PHP 40,000 and PHP 60,000 per month while entry-level engineers often make between PHP 20,000 and PHP 30,000 (PSA, 2020). Similar trends show that BIM experts pay rise with experience emphasizing the importance of accumulating acquired knowledge and skills.

Senior engineers and BIM managers with extensive experience and advanced skills command the highest salaries. The rise from entry-level to senior roles highlights how crucial job advancement and ongoing education are to getting paid more.

Industry sectors determine the scale of salary. Some sectors pay higher salaries, like technology, construction, and infrastructure development because of the great demand for highly specialized skills and huge projects in scale. Large commercial buildings pay engineers and BIM specialists more than small-sized projects.

Advanced degrees, certifications, and other credentials play highly influential roles in job opportunities. Specialized credentials come with high wages, and the field includes project management, BIM management, and disciplines of engineers. Specialty area experts can negotiate high premiums for compensation packages and are more likely to sell in the marketplace.

The size and the nature of the organization's employment will also have an important role also in determining compensation levels. To stay ahead, to attract as well as retain talent, large, multi-national, and established firms specializing in engineering consulting work and government organizations generally shell out good money and benefits deals.

There is a growing interest in Building Information Modeling and more technological digital tools in managing construction projects which require highly qualified workers to execute jobs at levels that change the patterns in

the industry wage. These new technologies can be sold for better remuneration by the engineers working on them, almost in the same way as adding value to the construction industry through experience and specialized skills.

The result of this meta-analysis shows what factors cause salary variation among the Engineers, BIM modelers, and BIM managers in the Philippines. Geographical location, experience level, industry sector, qualifications, and market trends are the critical factors that influence the salary benchmarks.

Conclusions

For stakeholders in the engineering and construction industries to develop strategic compensation for professionals, this maximizes employee acquisition and improves retention. The results serve as a guide for decision making bolstering initiatives to develop a fair and competitive engineering and construction workforce in the Philippines.

Recommendations

The insights provided can help stakeholders when making informed decisions to build a competitive, equitable, and thriving workforce in these industries. It is hereby recommended by the researcher, to take into consideration, the data on salary benchmarking stated herein for it will surely contribute to the quality and competitiveness of the products and services offered by engineering and construction firms in the Philippines.

References

Alarcon, R. & Santos, J. (2022). Regional Wage Disparities in Engineering Professions: A Study of Metro Manila vs. Provincial Areas. *Philippine Journal of Labor Studies*, 14(3), 185-203.

Bautista, J., Santos, M., & Garcia, A. (2023). Salary Benchmarking in the Philippine Engineering Sector: Insights and Implications. *Philippine Journal of Engineering Economics*, 12(3), 45-62.

Blau, F. D. (2020). Skill Development and Compensation in Engineering. *Journal of Labor Economics*, 38(4), 789-805. https://doi.org/10.1086/708629

Brown, J., & Allen, D. (2019). Impact of Qualifications on Engineer Salaries: An Empirical Analysis. *International Journal of Engineering Management*, 27(2), 115-130.

Bureau of Labor Statistics. (2023). Occupational Employment and Wage Statistics.

Chen, M. (2022). Sector-Based Differences in Engineer Salaries: A Meta-Analysis. *Engineering Economics Review*, 30(1), 90-112. https://doi.org/10.1016/j.eneco.2022.08.003

ConstructionPlacements; (2023). *BIM Job Roles and Their Latest Salary Trends in 2024*.

JobStreet Philippines. (2021). *Philippines Salary Report*.

Jones, A., Smith, L., & Brown, R. (2021). Comparative Analysis of Engineering Salaries across Sectors in the UK. *Journal of Industrial Relations*, 42(1), 55-70. https://doi.org/10.1177/0022185621101125

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., … Moher, D. (2021). The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews. BMJ, 372, n71. https://doi.org/10.1136/bmj.n71

Payscale.com (2024). *Building Information Modeling (BIM) Manager*. https://www.payscale.com/research/US/Job=Building_Information_Modeling_(BIM)_Manager/Salary

Philippine Statistics Authority (PSA). (2020). *Annual Survey of Philippine Business and Industry*.

Smith, A., & Lee, T. (2022). Regional and Industry Influences on Engineering Compensation: An International Perspective. *Journal of Engineering Management*, 39(4), 567-580. https://doi.org/10.1016/j.jengman.2022.03.005

Tan, Y., & Wong, C. (2021). Professional Certifications and Salary Growth in BIM Management. *International Journal of Construction Education and Research*, 19(2), 145-160.