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Payroll Information System And Employee Tax Calculation In One Of The Financial Companies In Bandung

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ABSTRACT

The swift advancement of technology during the globalization era has yielded significant advantages in various facets of life, including Indonesia's taxation system. The Withholding Tax System, which encompasses Article 21 Income Tax, is one of the tax collection systems established. This method enables third parties to retain and ascertain the tax amount owed by taxpayers, in compliance with relevant legislation.

As a financial institution, it is imperative to implement an effective payroll and tax calculation system to mitigate the issues associated with the manual payroll process reliant on Microsoft Excel, which frequently results in computational inaccuracies and demands considerable time investment. ¹ This study is to develop a web-based payroll and employee tax calculation information system utilizing PHP and MySQL. The research methodologies utilized comprise direct observation, staff interviews, and literature reviews.

¹³ *The findings of this study demonstrate that the developed system streamlines the procedures for salary computation and PPh 21, hence obviating the necessity for redundant human computations. Consequently, this system is expected to enhance efficiency and accuracy in the processing of payroll data and employee tax computations at a financial firm in Bandung.*

Keywords: System, Information, Payroll, Tax

INTRODUCTION

Development as time advances, technology is evolving rapidly in this era of globalization, offering numerous advantages across various domains. In Indonesia, one tax collection technique utilized is the Withholding technique, specifically regarding Article 21 Income Tax. The Withholding System permits authorized third parties to withhold and ascertain the tax liabilities of taxpayers in compliance with relevant tax laws. (HARIETY et al., 2024)

Article 21 of the ¹Income Tax in Indonesia is delineated in Law Number 7 of 1983, with its **most** recent amendment being Law Number 36 of 2008. Article 21, paragraph (1), delineates that the income tax withheld pertains to remuneration from employment, services, or other activities, irrespective of nomenclature or form, accrued by individual taxpayers domestically and disbursed by employers ¹²in the form of salaries, **wages**, honoraria, **allowances, and other** compensatory **payments** associated with work.

The corporation has offered both financial and moral support to employees to bolster their devotion to the enterprise. Employees remain liable for tax withholding on their income or salary as a contribution to the state. Employees whose earnings exceed ¹⁴the **Non-Taxable Income threshold** are liable **for income** tax withholding.

A financial firm in Bandung requires a payroll and tax computation system that can efficiently and accurately process employee wage data and tax calculations. The company presently employs a rudimentary computerized payroll system utilizing MS Excel software, which impedes data processing due to inaccuracies in calculating employee salaries, deductions, allowances, basic salaries, and salary reports, including PPh 21, necessitating repetitive calculations for each employee.

Information Systems

An information system involves the collection, storage, and analysis of information to achieve a specific objective. An information system comprises data (input). It generates reports (output) that are then utilized by other systems and strategic activities inside an organization to facilitate actions or decisions" (Munifah Munifah et al., 2025)

Salary

Salary constitutes a form of remuneration provided to employees by the organization in exchange for their labor.

Salary is the monetary remuneration provided to permanent employees for their efforts to the firm. Salaries are often disbursed every month and encompass numerous benefits stipulated in the employment contract" (Gabby Wansaga et al., 2024).

Salary is the compensation provided to employees by the organization in exchange for their time, skills, or contributions to the company.

Based on the aforementioned criteria, salary is defined as a type of compensation or cash remuneration received by employees from the organization in return for their labor, contributions, time, and abilities. Salaries are typically disbursed monthly and may encompass numerous benefits as stipulated in the employment contract between the individual and the organization.

Hikmah and Muqorobin (2020), in their book "Sistem Informasi Akuntansi," identify eight factors of income, each comprising numerous components. The Base Salary is the remuneration earned by employees based on their position or rank within the organization and constitutes the principal element of overall compensation. Secondly, allowances are supplementary benefits provided to employees in addition to their base income, including transportation, lunch, health, and family allowances. Third, Overtime refers to remuneration granted to employees who exceed standard working hours, computed in accordance with relevant legislation and generally greater than the base hourly wage. Fourth, Bonuses are supplementary incentives provided to employees contingent on individual or corporate performance, which may be in monetary form or in other forms of recognition for the employee's contributions. Fifth, Commissions are supplementary wages awarded to employees contingent upon sales performance or the attainment of designated objectives, typically relevant to sales-related employment. Lastly, incentives are rewards offered to motivate specific performance or achieve specified objectives, which may take the form of monetary compensation, tangible items, or other benefits.

Tax

"Income tax 21 is the levy on earnings, including salaries, wages, honoraria, and allowances, received by individuals for work, services, or activities conducted within the country" (Rumetna et al., 2022).

Income tax is imposed on the earnings of individuals, including salaries, wages, honoraria, and allowances, derived from employment, services, or activities conducted by taxpayers within the nation (Farina Jessen Yap, 2023).

Income tax is levied on earnings derived from salaries, wages, honoraria, allowances, pension funds, and other forms of remuneration received by individual taxpayers within the country in relation to the job, services, or activities conducted by those taxpayers (Li & Okafor, 2025).

Based on the aforementioned definitions, it can be inferred that Income Tax 21 is the levy applied to income earned by individuals through salaries, wages, honoraria, allowances, pension funds, and other compensations associated with the work, services, or activities conducted by individual taxpayers within the nation.

Income tax deduction 21

Dian Anggraeni and Angga Sukma Dhaniswara assert in their book ⁸*Cermat Pemotongan PPh Pasal 21/26* (2020) that the withholding of ¹¹Income Tax (PPh) Article 21 and/or Article 26 about employment, services, and activities must be executed by:

1. Employers encompass individuals and entities, including central or branch offices, representatives, or units, that disburse salaries, wages, honoraria, allowances, and other forms of payment, including compensation in the guise of benefits and/or perks, as remuneration related to employment.
2. Government agencies, encompassing non-ministerial government entities, the secretariats of state institutions, the secretariats of non-structural institutions, and representatives ¹⁰of the Republic of Indonesia abroad, that disburse salaries, wages, honoraria, allowances, and other forms of remuneration related to work, services, or activities.

3. Pension funds, labor social security agencies, and other entities disbursing pensions, old-age allowances, retirement guarantees, and/or other payments associated with pension programs, created in accordance with applicable rules.
4. Persons and entities that disburse honoraria or other forms of remuneration for services provided by persons, including expert services delivered through freelancing work and conducted independently, rather than on behalf of their partnerships.
5. Event organizers, encompassing entities, governmental bodies, national and international organizations, associations, individuals, and other institutions that facilitate activities and dispense honoraria, prizes, or rewards in any form associated with an event.

Income Taxpayer 21

⁹ Dian Anggraeni and Angga Sukma Dhaniswara, in their book *Cermat Pemotongan PPh Pasal 21/26* (2020), delineate that beneficiaries of income liable to ⁸ Income Tax (PPh) Article ²¹ concerning work and services, who qualify as individual taxpayers, encompass:

1. Permanent Employees
2. Pensioners
3. Members of the Board of Commissioners or Supervisory Board receiving irregular compensation
4. Non-Permanent Employees
5. Non-Employees, encompassing:
 - a. Experts engaged in freelance work, including lawyers, ⁵ accountants, architects, physicians, consultants, notaries, land deed officials, appraisers, and actuaries.
 - b. Musicians, hosts, vocalists, comedians, film actors, soap opera performers, commercial actors, directors, film crews, photographic models, fashion models, theatrical actors, dancers, sculptors, painters, online content creators (influencers, Instagram personalities, bloggers, vloggers, and similar), and other artists.
 - c. Athletes
 - d. Advisors, educators, trainers, speakers, extension agents, and moderators
 - e. Authors, researchers, and translators
 - f. Service providers in all domains
 - f. Advertising agents

- g. h. Supervisors or project managers
- h. Order facilitators, or individuals who locate subscribers or serve as middlemen
- i. Sales personnel
- j. Insurance representatives. Distributors for ⁵ multi-level marketing enterprises or direct sales and analogous activities.

Income tax reduction 21

Nurhudiani, B., Syafina, L., & Kusmilawat (2025), delineates the deductions applicable under Article 21 Income Tax.

1. Exempt Income

Exempt Income denotes the threshold of income exempt from taxation. For the 2024 tax year, the Exempt Income for individual taxpayers in Indonesia is as follows:

PTKP orang pribadi	Rp. 54.000.000
PTKP bagi WP yang kawin	Rp. 4.500.000
Tambahan PTKP untuk seorang istri yang penghasilannya secara pajak digabung dengan penghasilan suami	Rp. 54.000.000
Tambahan PTKP untuk tanggungan, dengan besaran untuk setiap anggota keluarga sedarah dan keluarga semenda yang berada dalam garis keturunan lurus serta anak angkat	Rp. 4.500.000
Status yang dimiliki wajib pajak	
TK/0 (Tanpa tanggungan)	Rp. 54.000.000
Tidak Kawin (TK)	
TK/1 (1 Tanggungan)	Rp. 58.500.000
TK/2 (2 Tanggungan)	Rp. 63.000.000
TK/3 (3 Tanggungan)	Rp. 67.500.000
Kawin (K)	
K/0 (Tanpa tanggungan)	Rp. 58.500.000
K/1 (1 Tanggungan)	Rp. 63.000.000
K/2 (2 Tanggungan)	Rp. 67.500.000
K/3 (3 Tanggungan)	Rp. 72.000.000

Figure 1. Exempt Income

2. Office Costs

Employees earning income from employment or salary can deduct 5% of their gross income, capped at IDR 6,000,000 annually.

3. Retirement Contributions

Employee pension payments are deductible from gross income for determining taxable income.

4. Deductions for Health Insurance

Taxpayers and their dependents may deduct health insurance premiums in accordance with relevant regulations.

5. Pension Allocations

Pension disbursements from pension program providers may be subject to deductions in accordance with relevant regulations.

6. Deductions for Charitable Contributions

Contributions to specific social, educational, and religious organizations that fulfill the conditions are eligible for deduction from taxable income.

OOAD (Object-Oriented Analysis/Design)

Object-Oriented Analysis and Design (OOAD) is a methodology for developing information systems that employs object-oriented principles for analysis and design. This procedure entails recognizing pertinent objects, their characteristics, and the interactions among them (Wibisono, A. Y., Surya, D., Putra, D., & Margita, 2020).

PHP

PHP is a computer language employed for the development of online applications. PHP operates on a server and is capable of accessing databases and processing user data (Randy Saputra et al., 2023).

Bootstrap

Bootstrap is a design framework that facilitates the development of websites and online apps through the use of pre-designed UI components and a responsive grid structure. Bootstrap assists developers in crafting versatile web designs that seamlessly adjust to diverse devices (HARIETY et al., 2024).

Xampp

XAMPP is a software distribution for servers that includes Apache, MySQL, PHP, and Perl in one installation package. XAMPP enables developers to construct and evaluate web applications locally prior to their deployment on production servers (Munifah Munifah et al., 2025).

Visual Studio Code

Visual Studio Code is a robust and efficient text editor tailored for developers. It has capabilities such as IntelliSense, which delivers intelligent code suggestions, and terminal integration that enables developers to execute commands straight from the editor (Rumetna et al., 2022).

MySql

MySQL is a database management system used for administering relational databases. It is extensively utilized because of its dependability, rapidity, and compatibility with various operating systems (Nurhudiani, B., Syafina, L., & Kusmilawaty, 2025).

METHOD

This research is undertaken to address the concerns identified in the research object, utilizing data collection methods such as observation, interviews, and literature review to fix these issues.

a. Observation

Observation is a data collection method that entails meticulously observing an object to acquire precise information, particularly for employee taxes at a financial firm in Bandung.

b. Interviews

Facilitating direct question-and-answer sessions with personnel or users associated with the system under development.

c. Literature Review

Gathering information through the examination of books, journals, or pertinent sources related to the subject matter.

DISCUSSION

SYSTEM ANALYSIS

A. Business Process Analysis

This document outlines the business process flow for employee payroll and tax computations at a financial institution in Bandung.

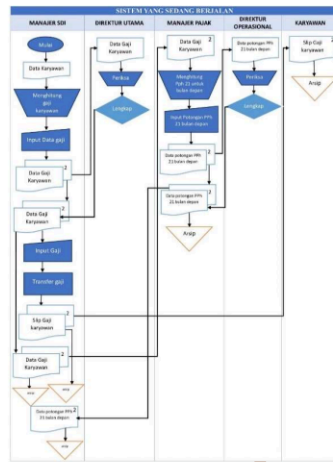


Figure 2. Business Process Analysis

B. SWOT Analysis

A SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis is a methodical approach for determining the critical success factors within an organization or agency. This entails recognizing the strengths, weaknesses, opportunities, and threats inherent in its business processes. The following is a SWOT analysis of the existing system:

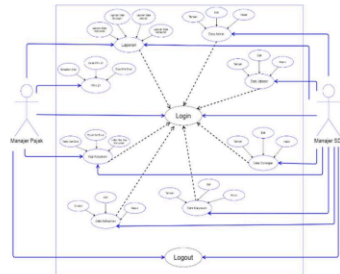
Strength	Weakness
Upon the system's establishment, the computation of employee pay and taxes will be streamlined and enhanced in efficiency.	A financial company in Bandung lacked a mechanism for calculating wages and taxes, resulting in redundant calculations.
Opportunity	Weakness
This solution would enhance the efficiency of tax managers and HR in managing employee salary and tax data, while	The system may be compromised by a damaging virus, leading to data loss or inconsistencies that induce mistakes.

minimizing calculation errors and conserving time.	
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C. Proposed New System

2. a. Use Case Diagram

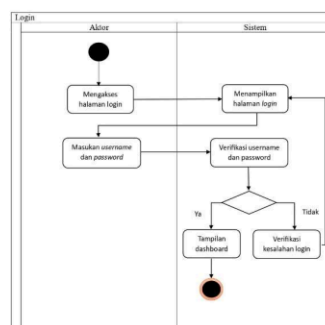
A use case delineates the system for user access permissions within the program.



4 Figure 3. Use Case Diagram

b. **Activity** Diagram

Activity diagrams are designed to delineate the procedural interactions between actors and applications.



4 Figure 4. Activity Diagram

D. Database Design



Figure 5. Class Diagram



Figure 6. Menu Structure

Interface design

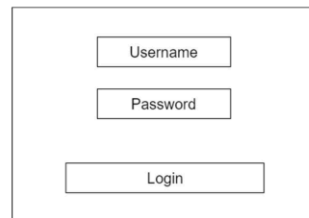


Figure 7. Login Menu

Home	Dashboard	Database	Data Storage	Data Karyawan	Data Absensi	Log Karyawan	HRM21	Logout	Logout
Data Absen									
Form Data									
NO	Username	Nama Lengkap					Jenis		
							Batal Simpan		
							Batal Simpan		

Figure 8. Admin data

Home	Data Referensi	Data Absensi	Data Image	Data Karyawan	Data Kurasi	Data Karyawan	HRM21	Laporan	Logout
Data Jabatan									
Tambah Data									
No	Kode Jabatan	Nama Jabatan	Gig Pokok	Tanggung Jawab	Aksi				
					Edit Hapus				
					Edit Hapus				

Figure 9. Position Data

Form													
Data Karyawan		Data Jabatan		Data Divisi		Data Divisi		Data Divisi		Data Divisi		Data Divisi	
Data Karyawan													
Form Data													
No	Nama	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat
												Simpan	Hapus

Figure 10. Group Data

Form													
Data Karyawan		Data Jabatan		Data Divisi		Data Divisi		Data Divisi		Data Divisi		Data Divisi	
Data Karyawan													
Form Data													
No	Nama	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat
												Simpan	Hapus

Figure 11. Employee Data

Form													
Data Karyawan		Data Jabatan		Data Divisi		Data Divisi		Data Divisi		Data Divisi		Data Divisi	
Data Karyawan													
Form Data													
No	Nama	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat
												Simpan	Hapus

Figure 12. Attendance Data

Form													
Data Karyawan		Data Jabatan		Data Divisi		Data Divisi		Data Divisi		Data Divisi		Data Divisi	
Data Karyawan													
Form Data													
No	Nama	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat
												Simpan	Hapus

Figure 13. Employee Salary Data

Form													
Data Karyawan		Data Jabatan		Data Divisi		Data Divisi		Data Divisi		Data Divisi		Data Divisi	
Data Karyawan													
Form Data													
No	Nama	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat	Tempat
												Simpan	Hapus

Figure 14. Income Tax Data 21



Figure 15. Report Data

3 SYSTEM IMPLEMENTATION

The system implementation phase involves detailing an application system to ensure its readiness for operation.

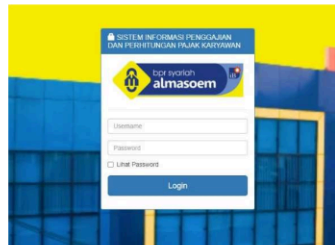


Figure 16. Login Menu

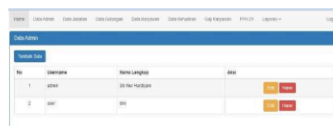


Figure 17. Admin Data



Figure 18. Position Data

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