



Leave management information system using InsideDPS software for efficiency of human resources management

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Abstract

The purpose of this research is to study the management information system and the benefits of InsideDPS software. The study was designed with an embeded mixed method, namely quantitative-qualitative-quantitative. The questionnaire as a quantitative tool was built based on previous research (MSQ), distributed to 250 employees and 198 sets of analyzed multiple linear regression. The questionnaire was distributed 2 times, before and after qualitative research. Interviews, observation and document collection were held with informants for HR managers, IT managers, and selected employees. This study found evidence that MIS InsideDPS software can support HRD performance improvement which is also supported by increased employee satisfaction. The technical implication of the findings of this study is the need for a wider web-based MIS application in the company.

1. Introduction

Leave plays an important role in achieving organizational performance [1]. The use of leave rights by employees has a positive and significant effect on organizational performance [2], and in a broader scope, leave strengthens family resilience which is a basic element in the organization's productive culture formation [3]. The leave mediates the saturation and emotional atmosphere of the employee towards the High Performance Work System [4]. Conversely, intention to use leave is low among employees who behave emotionally and eagerly. With that enthusiasm, employees become motivated to move forward [5]. This shows that good leave management can improve organizational performance for the better and superior. When linked to family welfare, leave can bring family happiness because even short parental leave can have a long-term effect on father involvement in childcare and household work [6].

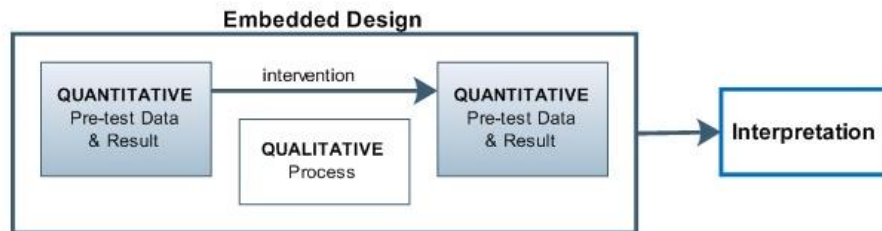
Benefits of leave for employee and organizational performance achievement will not be achieved optimally when leave management is not going well. Poor leave management affects intention to leave and a low prevalence of burnout [7]. The company as the spearhead of implementation in carrying out its programs requires effective and efficient management starting from the planning, implementation, monitoring, and evaluation of the programs that are run. Effective and efficient management requires accurate and timely information generated by management information systems [8]. Among the important applications of management information systems is leave management. Leave management is needed as one of the activities of Human Resource Management which manages employee data in applying for leave, checking leave balance, and obtaining approval, including ensuring compliance with the leave policy. Good leave management makes the level of employee satisfaction can be maintained high [9]. With this implementation of management information systems in the company can improve employee performance [10].

Recognizing the importance of good leave management, this study proposes to use a Leave MIS with InsideDPS software as it has been implemented in ship building and repair companies in Surabaya, namely PT. Surabaya Docs and Shipping. This MIS application can be accessed by employees who want to apply for leave. This system helps facilitate open, friendly and more positive relationships, as well as keeping business interests undisturbed so that the work relations of employees and superiors are always connected in a productive way to all parties [11].

2. Research Method

This research is a mixed method by combining qualitative and quantitative approaches [12]. Data obtained through in-depth interviews, observation, and documentation then continued with the distribution of questionnaires to determine employee satisfaction of users of software. Interviews were conducted directly with IT managers, HR managers, as well as employees with supervisory and ordinary employees.

The data obtained include company conditions and employee leave management system analysis. Data in the form of a description of system applications obtained from HR, flow / chart from the IT, MIS flow / chart making documents, vision and mission, and organizational structure. Data analysis was performed by managing data about SIM (management information systems) on leave using electronic forms (E-Forms) with InsideDPS software based on theory of results from library studies, interviews and direct observation on objects. This mixed methods approach refers to Creswell & Creswell [13] as shown in Figure 1.



Source: Creswell & Creswell.

Figure 1. Creswell's Mixed Methods Approach

The research design used is Embedded by initiating research with a quantitative approach first to pre-test data and results then to begin Qualitative process, both of which are used to carry out a quantitative approach to find out post-test data & results. Interpretation will end the embedded process. The quantitative approach is carried out by distributing questionnaires twice (before and after the qualitative process) to 250 employees. A total of 198 sets of questionnaires were returned and analyzed to determine the level of employee satisfaction when using the Inside DPS software with the same question. The independent variable was built based on previous research [14] and Laudon & Laudon [15] while the independent variable was Satisfaction based on the MSQ standard questionnaire [16]. Data analysis using multiple linear regression with SPSS to determine the effect of 5 MIS independent variables on employee satisfaction.

While the qualitative approach is carried out with the steps to find out the management of software implementation as follows:

1. The first step is to identify the elements of the leave management information system components descriptively. The description includes the leave application system components, procedures, documents, and flow / charts used in the employee leave application.
2. The second step is to describe and understand the application of employee leave. The description includes the procedure and document flow chart used in the employee leave application.
3. The third step is to conduct interviews about the application of employee leave application systems to IT managers, HR managers, as well as Supervisor employees and managers (employee supervisors who apply for leave).
4. The fourth step is to make observations to managers, HR staff and employees in implementing employee leave management systems.
5. The fifth step is to document. The documents that we collect are leave forms, flowchart / employee leave management system chart, approved forms, employee leave balances, and employee data that has taken leave.

3. Results and Discussion

The results of qualitative research were sourced from interviews with the Head of Department and HR (Human Resources) staff, can be explained as follows:

a. Procedure for Submitting Leave

Leave procedures proposed by employees to get approval leave can be illustrated in Figure 2 below:

- 1) The first thing employees do that carry out leave must start by opening the leave application (InsideDPS) to login first. To log in, employees only need to type their name and NIK (Employee Identity Number) / password that has been created.
- 2) Then the employee chooses the time attendance menu in the menu display that is already available. The attendance menu displays the attendance list of the employee concerned (absenteeism), leaves, and permission.
- 3) Next, the employee who wishes to apply for leave adds his leave in the employee leave option and fills out the form provided on the display.

- 4) After finishing completing the leave application form, the employee clicks send to the available options. If not, the employee can exit the additional leave screen and leave forms.
- 5) Employees who send leave to superiors namely Supervisors and Managers. Supervisors and Managers have facilities in permitting leave (Approval) in the InsideDPS menu.
- 6) If the employee applying for leave meets the conditions set by the company following the leave to be taken, then the supervisor ie the Supervisor and manager click on the Approve of leave. If it does not meet the requirements, then the employee's leave request is refused.

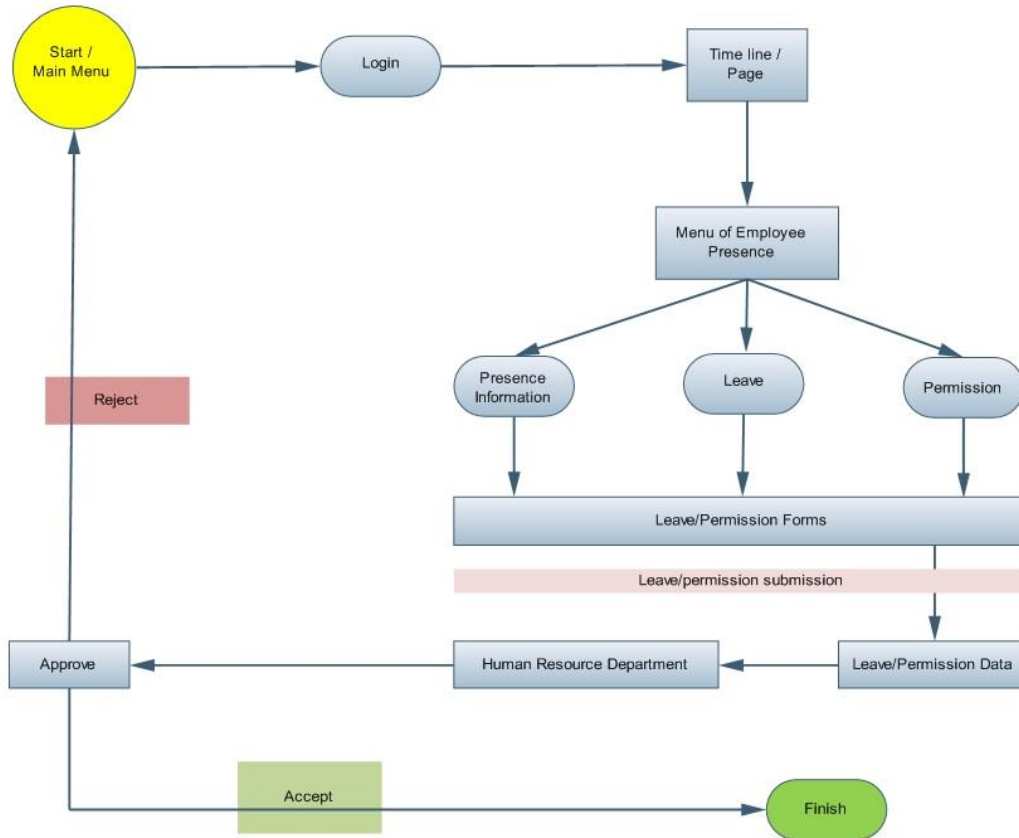


Figure 2. Submission Leave Procedure

b. Leave Submission Form

The leave application form can be seen in Figure 3, Notes in the Leave Application, which contains what employees need or not need to do before making a leave request, namely:

- 1) Employees who apply for leave of at least have worked for at least 1 year in the period of work.

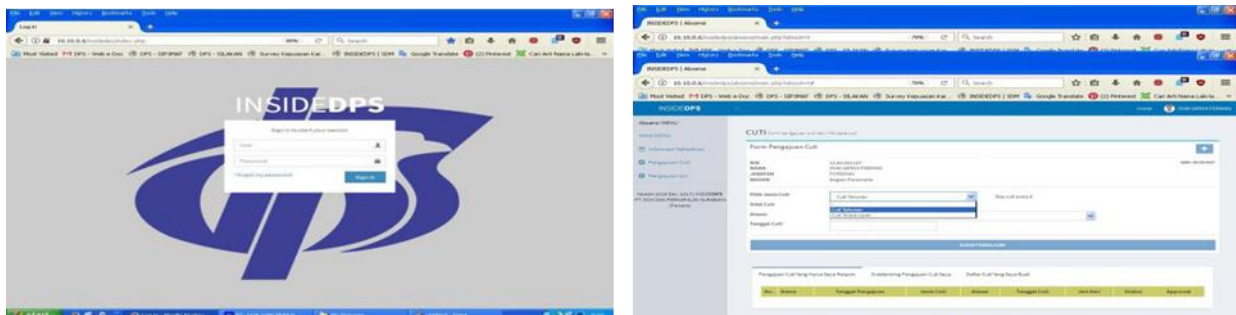


Figure 3. Display InsideDPS Application Login

- 2) If an employee who has not even worked for 1 year to apply for leave, then what is granted is a permit, which is referred to as leave outside dependents so that the employee's salary is deducted according to the amount of his absence.

- 3) Employees who apply for leave should fulfill the conditions set by the company in an agreed collective work agreement in accordance with the type of leave taken.
- 4) Employees who want to apply for leave can be done as long as the balance of leave is still available.
- 5) If the employee concerned applies for leave there is a work that is felt to be completed quickly, then the employee must prepare a replacement employee to replace him in order to support the company's operational activities.

c. Tools Used in Processing Leave

- 1) Hardware (hardware): includes physical devices such as computers and printers.
- 2) Software (software) or program: a set of instructions that allow hardware to be able to process data, this software is InsideDPS
- 3) Database (database): a collection of tables, relationships, and others related to data storage.

d. User MIS Leave InsideDPS

People / users: all parties responsible for developing information systems, processing, and using information systems outputs, namely all employees.

e. Display Application Leave

This login page is the main view that users / users see when running this application. The initial appearance of the user must enter the user name / user and enter a password that has been created by the user, as shown in [Figure 4](#). There are features or facilities for assisting in managing passwords if the user / user forgets

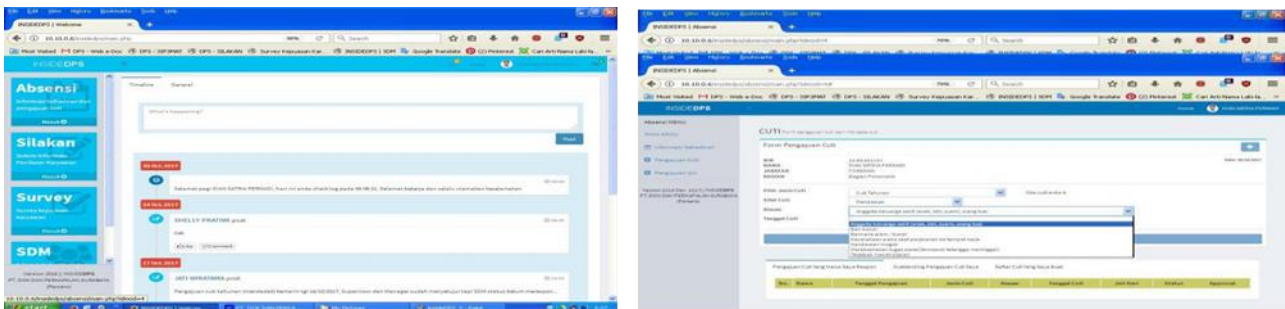


Figure 4. Display InsideDPS Application Features and Facilities

The initial display is the administration module that you want to select. There are several modules provided, including: 1. Absence Module, in this module there is information on attendance and filing for leave, 2. Module Please, in this module there is employee assessment information, 3. Survey Module, in this module there is information about employee satisfaction, 4. HR Module, in this module there is information about employee data, and approval for filing leave. This page is a display that has several main features or facilities provided to meet the needs of use in the attendance menu, including:

1. Attendance Information Menu, in this menu there is information about user delays in months, years and defaulters,
2. The Leave Submission Menu is available on the Leave Submission Request Form, in this menu there is information on employee annual leave, including: i) Last year's leave balance, ii) This year's leave allowance, iii) This year's leave together, iv) The leave has been taken this year, v) Have taken a big leave this year, vi) The rest of the leave can be taken this year, vii) Next year's leave balance.
3. Permission Submission Menu, in this menu there is personal permission information, permission does not return, permission does not return before a break, permission does not return after a break.
4. Users who want to apply for leave clicking the leave application menu on the left side of the display

This page displays the leave application form. Users must click on the plus sign on the right of the page that indicates filling in leave form. This page displays the leave form that appears after the user clicks the plus sign. The user only needs to fill in select the type of leave, nature of leave, reasons for leave and date of leave. For Employee register, the user name, title and part are automatically filled in from the system. After all filled in the user can click send leave application. The steps to fill in the previous leave form only indicate if the annual leave option chooses the type of normal leave. This page shows the continuation of filling from normal leave by selecting the reason/intention for the leave ([Figure 5](#)). Reasons for taking normal leave are: a) Educational purposes (Exam, Thesis Guidance, Thesis Congregation, Graduation), b) Vacation, c) Medical check up, d) Carry out social tasks, e) Taking care of the lost letter, f) Taking care of vehicle documents (licenses, vehicle registration, vehicle ownership certificates, ticket tickets), g)

Taking care of the residence documents (Identity card, Birth Certificate, Letter of Moving House, Marriage Certificate, Divorce Certificate, Death Certificate, Passport), h) Land ownership matters.

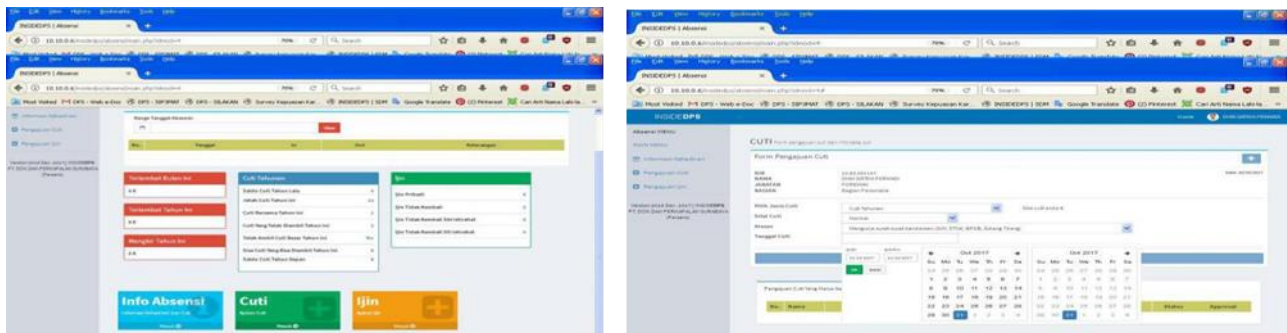


Figure 5. Leave Reasons Form

After selecting the type of leave and reasons for leave, then fill in the date of leave according to user needs, then just click the date of leave and then select the date. Steps to Fill in Sudden Leave Form (figure 9) are required if the user chooses the reason for sudden leave. Users just need to choose a reason and click. The reasons for sudden leave are: 1. Sick family members (children, wife, husband, parents), 2. "Banbocor" (damaged vehicle tires), 3. Natural disasters / floods, 4. Accidents on the way to work, 5. The vehicle broke down, 6. Carry out social tasks (including neighbors died), 7. Trapped traffic jams, 8. Display the sudden leave form that has been clicked sent by the user, it will display the status of the submission process and has been saved automatically. This view is only owned by users of the HR department to view and make approval of leave that employees have submitted. There are three types of menus displayed, namely the check log, approve leave, and approve permission. Display of Leave Proposal Leave Supervisor is a display of supervisors and managers when opening approve employee leave for approval or not. This page is only owned by supervisors, managers and HR staff.

4. Discussion

This research studies and analyzes the InsideDPS leave license that is operating at PT. Dok dan Perkapalan Surabaya (Persero), that the leave license is running with five components, namely: a. Procedures, b. Forms, c. Notes, d. Tools, and e. Users. This refers to previous research [17] which states that an information system consists of procedures, forms, records, tools and peoples operating the system. Nevertheless in practice in operating the MIS leave still have obstacles which indicate the use of technology is not optimal yet, this finding is in line with [18]

Based on observations, the procedure for submitting a software InsideDPS leave has not been entirely computerized with InsideDPS because there are still manually. There is a mismatch of approval between supervisors and managers. When the employee submits leave the supervisor has approved but the manager refuses, so the employee must come in personally to meet directly to ask for his leave, this is in line with [4].

The MIS leave technology used is the InsideDPS application which is not only used to process employee leave data, it is also used for payroll so that it becomes more real time and reliable because the InsideDPS application can be trusted to manage employee rights. This MIS leave can be implemented to manage employee leave data quickly, precisely in providing information. So it is efficient in conducting HR monitoring, by filling in the InsideDPS MIS leave form the data sent to superiors can save time, paper and costs, this is in line with Sanchez's findings [19] also stated by Liew [20].

The following are findings about the strengths and weaknesses of the applied InsideDPS MIS leave. Analysis of system weaknesses aims to further recognize whether the MIS leave is appropriate to use. Advantages of InsideDPS MIS leave: a) Information produced by the MIS leave is fast, accurate and relevant as needed, b) Have clear procedures in the process of filing employee leave, c) Having a form that can save time in completing leave, d) Employees can see leave that has been used and the rest of the leave, e) There are clear instructions for using a MIS leave, f) Format (side view) MIS leave is easy to use, g) MIS Leave can guarantee data security when the data is stored.

Meanwhile the weaknesses of InsideDPS MIS leave: a) Modules and notes used are still not widely available on the InsideDPS leave such as worship leave, retirement leave, maternity leave, menstrual leave, sick leave and unpaid leave so that workers still use the manual process, b) The application for leave through InsideDPS leave has not been updated with the internet so employees who apply for leave cannot access their leave information anywhere, c) There is no clarity about leave that is not approved or postponed by the employer because there is no record or reason for refusing the leave application process, d) Admin can only see and make a report on employee leave data that has been approved or not yet approved and cannot reject requests from employees who do not apply for leave.

The quantitative data findings consist of the coefficient of influence between 5 independent variables and 1 dependent variable, namely satisfaction with the use of InsideDps software as shown in Table 1.

Table 1. Coefficient Regression

	N	Min	Max	Mean	St. Dev
MIS Satisfaction (Y)	198	1	5	4.42	0.31
Variables	Pre-test		Post-test		
	Beta	Sig	Beta	Sig	
Procedure (X1)	.097	.000	.124	.000	
Form (X2)	.147	.000	.245	.001	
Notes (X3)	.224	.000	.336	.002	
Equipments (X4)	.606	.000	.758	.000	
Users (X5)	.150	.001	.278	.001	
Satisfaction (Y)	.225	.001	.568	.000	

The standard deviations in Table 1 show that all variables are smaller than the Mean, then the data for all variables (X1, X2, X3, X4, and X5) and Y variables are in good condition for further analysis. The results of multiple linear regression showed all variables had a greater effect on satisfaction during the post test than during the pre test significantly. For example equipment (X4) has an influence on satisfaction of 0.606 when pre-test and increased to 0.758 when post-test. Likewise, the satisfaction variable (Y) showed an increase from 0.225 at the pre-test to 0.568 at the post-test significantly. This shows that the measurement of using the InsideDPS software was successful.

5. Conclusion

InsideDPS leave management information is able to meet company objectives in terms of procedures, forms, records, tools used and users who apply for leave so that it can save money and work piling up, save time in filing leave applications because employees do not need to meet superiors to ask for approval. Recording employee leave time is more effective and efficient because employee leave uses a login by entering the NIK and password so that it is automatically recorded by the system and directly stored in the data base. Employees apply for leave by filling in the leave application form to be directly seen by superiors namely managers and supervisors. If the form is approved, the employer can see the employee who submitted the leave and can give approval or not approval.

By looking at the results of multiple linear regression which shows the increasing influence when pre to post test on the 5 variables tested on employee satisfaction of users of InsideDPS it can be said that the leave software is feasible to proceed because it can streamline the management of human resources in the company.

Recommendation

An online leave application needs to be developed so that it is expected that with the employee leave management system application, employees will have the freedom to determine where someone can apply for leave including adopting the geolocation of employee positions [21]. Employees can easily access leave information such as viewing leave balances and apply for leave anywhere only with internet access, this is needed in order to meet the context and characteristics of the work, as stated by [22]. It also needs to be equipped with a choice of half-day leave or certain hours in order to help employees who are still studying while working. So, for the purposes of college do not need to take a day off in activities that only require a few hours. It is necessary to develop a WARNING / ALERT regarding substitute employees when employees apply for leave [23]. It is necessary to develop the process of filing leave that is not finished or canceled in the HR system that manages the leave. Add comments or responses to the leave submission column that is rejected or rejected from the employer, so employees who request leave can find out why their leave requests are not approved. The leave license needs to be developed further to be able to add various types of leave by adjusting the regulations set by the government and the Collective Labor Agreement (Collective Labor Agreement) that the company has made in accordance with continuous improvement to meet user needs as stated by Taylor and Pfeifle [24].

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