THE INFLUENCE OF INFORMATION TECHNOLOGY AND INTEGRATED MANAGEMENT INFORMATION SYSTEMS ON EMPLOYEE PERFORMANCE

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ABSTRACT

Particularly, the goal of this study is to determine the impact that management technology and information systems have on staff performance at the Apollo Hospital in Chennai. This research makes use of a survey approach; this type of research is associative; and the research is quantitative in nature (explanatory research). The sampling technique employed a random sample of 100 respondents, with each respondent being chosen at random. Data analysis techniques include multiple linear regression, the t test, the F test, and the cyclical assay. Technology and management information systems, according to the findings of the study, are having a positive and significant impact on staff performance at Apollo Hospital in Chennai City t count 6,864> t table (1,661). Secondly, there is a positive and significant impact of technology and information management systems on the performance of employees at Apollo Hospital in Chennai City (t count is 4,259> t table) (1,661). At the Apollo Hospital, Chennai City (48.326)> F table of 2.359, technology and information management systems have a positive and significant impact on staff performance in the third year of the study. The use of technology and information systems in tandem to monitor staff performance at Apollo Hospital in Chennai City has a determination coefficient of 50.4 percent, according to the hospital. Furthermore, the R2 (coefficient of determination) results indicate that the variable technology and information systems management has a 50.40 percent effect on staff performance at Apollo Hospital, Madurai City, with the remaining 49.60 percent influenced by factors that were not investigated in this study, according to the findings.

Keywords : ***Information Technology, Management Information Systems, Employee Performance***

I. INTRODUCTION

In this age of globalisation, information technology has risen to the top of the priority list for troubled businesses, and it has the ability to provide a competitive advantage in the face of increasing market rivalry. The progress of information technology has now reached a number

of different sectors of life, and it cannot be denied that information technology has the potential to greatly improve the performance of a company. Given that information technology is a technology that is concerned with managing information systems via the use of computers, the function of information technology in various areas of life is immediately obvious.

The development and application of information technology is a means to an end, rather than an end in itself. Although it is not required, its existence is vital and essential for increasing work performance while conserving time, energy, and thinking, as well as accelerating the flow of information for decision-makers. Data collection, processing, and transmission are all accomplished through the use of information technology by managers in order to make educated decisions. Utilizing information technology is an advantage that people who utilise information systems expect to have when carrying out their duties and obligations.

In today's world, a patient management system such as the Management Information System (SIM) is utilised in practically every hospital in the country, including Apollo Hospital in Madurai. The Management Information System at Apollo Hospital, Madurai City is an integrated information system that comprises a patient status data information system, a patient history information system, and a financial information system. It was developed by Apollo Hospital, Chennai City. System integration and interconnection are completed to the point where it becomes a managed information system (MisIS). It is anticipated that all operations would run more smoothly and efficiently as a result of the integrated management information system, benefiting both the patient and the other parties involved.

II. LITERATURE REVIEW

Information Technology

IT (Information Technology) is a common acronym for information technology (also known as information technology). In the context of a business or commercial environment, information technology includes hardware and software, as well as networks and telecommunications, all of which are frequently employed. A set of instruments that help people in interacting with data and executing activities connected with data processing, so according Haag and Keen (1996), is what information technology is. The term "information technology," according to Martin and Kadir (2003), does not only refer to computer technology (hardware and software) that is used to process and store data, but it also includes communication technology that is used to transmit data.

According to Bodnar and Hopwood (2007), there are three components to the application of computer-based information technology: hardware, software, and users. The application of

computer-based information technology is divided into three categories (brainwave). The three components communicate with one another and are connected to an input-output device through their respective functions (input-output medium). Hardware (hardware) refers to the medium via which information is processed (or converted). Because of its function as a hardware and software developer, as well as an operator (operator) of input and as a system user receiving output (output), software (software), especially systems and applications used to transform input (input) to information, is considered subordinate to the user (brainwave) (user). People who use information technology systems are humans (men) who are psychologically associated with a particular behaviour, to the extent that characteristics of human behaviour in the context of information technology users (brainwaves) are significant as a determining factor for everyone who works in the information technology industry. Turban, Rainer, and Potter (2001) state that students have been taught both personal and professional skills during their time at the university. It instils a higher feeling of confidence in them than it does in students in typical classroom settings. While the CDIO-based technique is appealing to the majority of students, it does place them under a little bit of time pressure. Lecturers and teaching assistants (TAs) also have difficulty managing a class of a few hundred pupils. Finally, but definitely not least, a sufficient and consistent financial source is required to assure the long-term success of the CDIO-based programme. To be sure, after we start the CDIO software, we must keep it running until the output of the programme is displayed (i.e. feedback from stakeholders once student graduation). D. W. Bates and A. A. Gawande (2003) argue that the most difficult problem in modern medical therapy is execution. A high level of data and coordination skill is required to provide dependable, efficient, and personalised therapy. This level of data and coordination experience can only be achieved via increased use of information technology. Information technology has the potential to dramatically improve the safety of medical care by coordinating actions, identifying errors, and giving evidence-based, patient-centered decision support at the point of treatment. Developing new ways to improve customization while also collecting and filtering through reams of data in order to detect significant status changes and then notify key employees should be a priority.

Management Information System

Organizational management information systems are a collection of physical and non-physical resources that are all responsible for preparing information and making use of information technology in the course of their work. Knowledge is required in every area of human existence, as well as in every economic venture. To ensure the seamless functioning of

previously discussed employee performance activities inside a firm, almost all areas of activity within that organisation will be intimately tied to information technology systems.

Management information systems, according to Sutabri, are among the best practises for providing information about an organization's external environment at the right time to enable management to make the best decision feasible in order to achieve the organization's objectives (2005). As defined by Romney and Steinbart (2015), a system consists of the following components: Systems are composed of two or more interrelated components that work together to complete a task successfully. The vast majority of systems are made up of smaller subsystems that offer support for larger, more complex systems. Using the systems approach for problem resolution, Tyoso (2016) describes a technique for resolving issues such as how to build an organisational structure or analyse a company's information system in which the organisation or information system is considered to be a whole.

Management information systems, according to Raymond Mcleod and George P. Schell, are computer-based systems that make data available to individuals who have comparable requirements (2008). As defined by George M. Scoot (2001), a management information system is a comprehensive, coordinated, and logically integrated collection of information subsystems that are capable of converting data into information in a variety of ways in order to increase productivity while adhering to predefined quality specifications. According to Raden Sanjoyo, a management information system (MIS) is an integrated human-machine system that displays data to assist operations, management, and decision-making processes, as well as to enable the organization's operational planning duties to be effectively carried out. A management information system (MIS) is a collection of pieces that comprise an activity or a procedure/part of processing that works toward a common goal or objective by operating data or products at a given reference time to generate information, energy, or goods. A management information system (MIS) is a collection of pieces that comprise an activity or a procedure/part of processing that works toward a shared goal or objective by operating data or products at a given reference time to generate information, energy, or goods. Joel E. Ross defines a management information system as a group of people, a set of guidelines and instructions, as well as a set of data processing tools that select and store, process, and retrieve data in order to reduce uncertainty in decision making by generating information for managers to use efficiently (2005).

Employee performance

In this context, "performance" refers to a person's actual performance or to the actual performance that has been completed. The term "performance" refers to the volume and quality

of work completed by an employee in the course of carrying out his or her assigned responsibilities. Performance may be judged in terms of an employee's talents, abilities, knowledge, and sincerity, among other things. The fulfilment of the organization's objectives will be the consequence of hard work mixed with performance. Performance may also be self-motivated for employees whose talents result in a competitive assessment competition, which leads in superior performance outcomes (SHLawu, MR Shinta, A Frimayasa, 2019). In organisational strategic planning, the term "performance" refers to the extent to which a particular activity programme or policy is effective in attaining the organization's goals, objectives, vision, and purpose as stated in the strategic planning process (A Frimayasa, A Kurniawan, MR Shinta, 2018).

Per Mangkunegara (2017), performance is defined as the quality and quantity of work completed by an employee in the course of carrying out his or her assigned duties. Organizational performance is defined as the outcomes achieved by organisations that utilise human resources in a sustainable manner to achieve organisational objectives. An individual or an organization's level of achievement or degree of success is the outcome of their hard work over a period of time. Additional definitions of performance include an accomplishment achieved while providing services to the community over an extended period of time. Performance improvement is hard to achieve without competent management, or management that encourages institutional attempts to raise overall performance levels. Each performance management programme is designed to encourage employees to achieve at the highest level possible within their respective organisations (SH Lawu, MR Shinta, A Frimayasa).

According to certain definitions of performance, it is the fulfilment of work objectives in line with the rules and standards that are relevant to each organisation. Performance, according to Mathis and Jakcson (2006), is defined as "what employees do or do not do." Employee productivity is inversely proportional to the amount of contribution they provide to the organisation. Individual and group performance upgrades have been a major focus of efforts to improve organisational performance in recent years. As defined by Sutrisno (2010), performance is defined as an individual's success in completing a task, the work results that a person or group of people can achieve in accordance with their respective authority and responsibility, or how someone is expected to function and behave in order to complete the task that has been assigned to them, as well as the quantity, quality, and amount of time spent on the task. To paraphrase the work of Sudarmanto (2009), performance is defined as a record of results generated / produced for certain job duties or activities over a set period of time, as well as a collection of behaviours that contribute to the fulfilment of corporate goals. It is stated

by Indrasari in (A Frimayasa and SH Lawu. 2020) that performance may be measured in a number of ways. There are seven elements that may be used to evaluate an employee's performance, and they are as follow:

1. Quality, i.e., the results of the job are near-perfect or satisfy the task's stated objectives.
2. Productivity, defined as the quantity produced or the number of activities done.
3. Timeliness, defined as the ability to accomplish a task within a certain time frame while optimizing the amount of time available for other activities.
4. Effectiveness is the optimum utilization of an organization's current resources in order to maximize revenues and minimize losses.
5. Independence, defined as the ability to carry out tasks without the assistance of gursa while avoiding negative consequences. Work commitment, namely the commitment of workers to their employers, Employees' accountability to their organizations

III. RESEARCH METHOD

Population and Sample

According to Sugiyono (2016), a variety of sampling techniques are employed to determine the sample size for the research, including Probability Sampling and NonProbability Sampling, among other things. A sampling technique that does not provide equal opportunities/opportunities for each element or member of the population to be sampled is characterised by Sugiyono (2016) as non-probability sampling. Systematic sampling, quota sampling, accidental sampling, purposive sampling, saturation sampling, and snowball sampling are some of the sampling techniques that may be used in research. A saturation sampling technique, according to Sugiyono (2016), is one that is used to estimate sample size when the entire population is employed as a sample. A common use of this technique is in studies when the population is small (less than 30 participants) or where the goal of the investigation is to create as few errors in generalisations as possible. Another term for a saturated sample is a census, which is a procedure in which the whole population is randomly sampled. Consequently, based on the preceding description of how the sampling process works, the writer does not provide a sample size, because the whole population will be studied. An overall sample of 100 respondents was drawn from the Apollo Hospital in Chennai City, which comprised all administrative and financial staff.

Method of Analysis

The data processing method used is multiple regression with the help of SPSS 23 software. The multiple regression method is a statistical method to test the effect of several independent variables on one dependent variable. The model formed in this study is

$$Y = a + \beta 1X1 + \beta 2X2$$

Information:

Y = Employee performance

α = Intercept or constant

β1, β2 = Regression coefficient

X1 = Information Technology

X2 = Management Information System

ε = Error term'

IV. RESULT AND DISCUSSION

Validity and Reliability Test

The results of the validity test can be seen in the following table.

Table 1. Variable Validity Test X1

	corrected item total correlation	R-test
P1	0.487	0.167
P2	0.503	0.167
P3	0.488	0.167
P4	0.435	0.167
P5	0.423	0.167

Table 2. Variable Validity Test X2

	corrected item total correlation	R-test
P1	0.614	0.167
P2	0.623	0.167
P3	0.704	0.167
P4	0.462	0.167
P5	0.550	0.167

Table 3. Variable Validity Test Y

	corrected item total correlation	R-test
P1	0.603	0.167
P2	0.433	0.167
P3	0.503	0.167
P4	0.463	0.167
P5	0.344	0.167

According to Tables 1, 2, and 3, the corrected item-total correlation value or count is computed and entered in the Corrected item-total Correlation column of the corrected item-total correlation column. Using a two-sided test with the following data points: (n) = 98, (df) = N-3 = 98-2 = 96, the r table value is compared to a ten percent significance level (0.10), resulting in a r table value of 0.167 at a ten percent significance level (0.10). In the study, it was discovered that all of the question items on information technology variables, management information systems, and employee performance had scores more than 0.167, suggesting that the questions were valid in nature.

Moreover, the credibility of a questionnaire is established when a respondent's replies to the questions are continuous and consistent throughout time. A reliability test's goal is to determine the consistency of an answer's results when compared to the respondent's answer. The reliability evaluation utilised in this study was a one-shot or one-time assessment. A statistical test called Cronbach Alpha is used to assess the dependability of a system. If a variable's Cronbach Alpha value is more than 0.60, it is regarded to be reliable. The reliability coefficient for each variable in this study is more than 0.60, suggesting that these variables are reliable in this investigation.

Statistic test

Using multiple linear regression analysis, the validity of the hypotheses is determined once the validity test has been completed. If the value of the independent variable is positive, this analysis is carried out to assess which way the connection between the independent variable and the dependent variable is going to be directed. Following the validation of the data, the analysis is carried out using the SPSS 23.0 programme on the data that has been validated for validity. The for Window generates the output that can be seen in the following table.

Coefficients[a]	

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig
		B	Std. Error	Beta		
1	(Constant)	3.635	1.401		2.592	0.013
	Information Technology	.453	0.068	.528	6.864	.000
	Management Information System	.342	0.082	.329	4.259	.000

Table 4 shows the data from multiple regression results so that the following equation can be obtained:

Y = 3,635 + 0,453X1 + 0,342X2

It can be noticed that information technology has a positive impact on employee performance based on the regression coefficient of 0.453. While this is true, management information systems have a positive impact on employee performance, as evidenced by a regression coefficient of 0.342, which indicates that for every unit increase in information technology, employee performance rises by 0.342 points. Positive correlation between the variables information technology and management information systems is shown by a plus sign. Employee performance will improve proportionally when information technology and management information systems improve, according to this finding.

Hypothesis testing

1. The t test

The results of the study in Table 4 reveal that the information technology variable has a p-value of 0.000 0.05, which indicates that it is statistically significant, while the count is 6.864> table (1.1661). Hi is code for "rejected." This indicates that information technology has a substantial impact on employee performance to a lesser extent than previously thought. When compared to the information system variable, which has a significance level of 0.0000.05, count 4.257> t table has a significance level of 0.01 which implies it is not significant (1.661). This means that Hi has been approved and Ho has been refused. This indicates that the management information system has a limited impact on the performance of employees.

2. Test F

The F test is used to prove the effectiveness of one's leadership style and work discipline on employee performance. The results of the F test can be seen in table below

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	393,426	1	196.713	48,326	.000[b]
	Residual	386,708	95	4,071		
	Total	780,134	97			

a. Dependent Variable: Employee Performance

B.Predictors (Constant), Information Technology, Management Information System

In accordance with the findings in the table above, there is a statistically significant relationship between information technology and management information systems when they are used together to evaluate employee performance. According to the F count of 48,326> F table of 2,359, this is the case, among other things. As a result, the conclusion is that H_1 is accepted and H_0 is denied, indicating that information technology and management information systems both have an impact on the performance of employees at the Apollo Hospital Madurai.

3. Determination Test

The coefficient of determination (R Square) can be used to predict how much the contribution of the influence of the independent variable (X) to the dependent variable (Y).

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.710[a]	.506	.495	2,01756

a. Predictors: (Constant), Information Technology, Management Information System

b. Dependent Variable: Employee Performance

The following are the findings:

1. The R symbol is sometimes referred to as the correlation coefficient, suggesting that there is a high link between information technology and management information system factors and the performance of Apollo Hospital Chennai City personnel.
2. The R square value indicates that the variable information technology and management information system variables have a 50.6 percent effect on the performance of Apollo Hospital Chennai City workers, while the remaining 49.4 percent is impacted by unspecified factors.

V. CONCLUSION

1. Based on the analysis of the data, it can be inferred that the information technology style (X1) has a favorable influence on employee performance when t count> t table (6.864> 1.661), indicating that information technology has a partial effect on employee performance.
2. Where t count> t table (4.259> 1.661), the management information system (X2) has a favorable influence on employee performance.
3. The regression coefficient of 0.453 indicates that for every unit increase in information technology style, employee performance increases by 0.453. Meanwhile, the regression coefficient of 0.342 implies that the work management information system increases by one unit per year. The employee performance will then rise by 0.342.
4. The R. Square value indicates that information technology and management information systems have a 50.6 percent effect on employee performance indicators, while the remaining 49.4 percent is impacted by other factors not studied in this study.
5. The F test findings indicate that information technology and management information systems have a combined effect on employee performance in cases when Fcount> Ftable (48.326> 2.359).

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