Management Information System and Office Productivity of the Print Media in Rivers State, Nigeria

Ebikebina Tantua (Jnr.) PhD & Felicia Godwin-Biragbara

Department of Office and Information Management,
Faculty of Management Sciences,
Rivers, State University,
Nkpolu-Oroworukwo, PMB 5080, Port Harcourt, Nigeria

ABSTRACT
This study examined the relationship between management information system and office productivity of the Print Media in Rivers State. The research design adopted was the cross sectional survey. The population of the study comprised of 58 managers from 38 printing companies in Port Harcourt, Rivers State. Primary data was collected using structured questionnaire. The research instrument was validated through supervisor's vetting and approval while the reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the items scoring above 0.70. The hypotheses were tested using the Spearman Rank Order Correlation Coefficient. The tests were carried out at a 95% confidence interval and a 0.05 level of significance. The findings of the study revealed that there is a significant relationship between management information system and office productivity of the Print Media in Rivers State. It was recommended that information systems should be adopted in management and operations of print media businesses in order to enhance the ability of the firm to operate efficiently with expectations for high profitability. The print media, as well as other firms and organizations should be encouraged to adopt the use of office automation system such as computers, websites, scanners etc to help boost their operational efficiency and profitability.

Keywords: Management Information System, Office Productivity, Operational Efficiency, Profitability

INTRODUCTION
As competition among business organizations continue to increase, there appears to be a corresponding increase in the demand for technology in the business world while organizations scheme for better and faster means of achieving business goals and organizational productivity. Goals actualization ensures an organization stays in business which invariably tells of the manager’s productivity. Searching for solution to succeeding in one’s business or as a manager requires some sort of information seeking. Some authors make a clear distinction between information systems, computer systems, and business processes. Information systems typically include an ICT component but are not purely concerned with ICT, focusing instead on the end use of information technology. Information systems are also different from business processes because they help to control the performance of business processes (Piccoli & Pigni, 2018). Particular technologies have also now been mapped onto most individual office activities; for example voice messaging for telephone calls, word processing for document preparation and electronic mail for document distribution.

According to Jehad, Nazem & Faye (2016) continuing stream of information technology innovation, combined with new business practices and superb management decisions may transform the way we do business, the way revenues are generated, and the way customers receive products and services. The growth of enterprise – wide information systems that provide extraordinarily rich data to managers on customers, suppliers, and employees, means that managers no longer operate with limited information as they now have nearly instant access to the important information they need to make accurate and timely decisions that influence organization performance.
Productivity matters because not only does it drive growth through higher performance and profits but it also supports, in turn, higher wages, stronger public revenues and greater social prosperity. Businesses face increasing competitive pressures from ongoing developments in a global economy, rapid advances in technology, an increasing pace of innovation and changes to working practices. While there is not a consensus on what’s behind the problem, there is compelling evidence that too few businesses prioritize productivity and still fewer actually measure it. This limits businesses’ pursuit of productivity enhancing management practices and therefore how effectively they are run. While it is important to address the problem of low productivity in business, this study intends to investigate the influence of the application and management of information system on office productivity of the print media. The print media is one of the oldest and basic forms of mass communication. It includes newspapers, weeklies, magazines, monthlies and other forms of printed journals. This study therefore examines the relationship between management information system and office productivity of the Print Media in Rivers State. Furthermore, this study was also be guided by the following research questions:

i. To what extent does management information system influence operational efficiency of the Print Media in Rivers State?

ii. To what extent does management information system influence profitability of the Print Media in Rivers State?

![Conceptual Framework for the relationship between management information system and productivity](source: Author’s Desk Research, 2019)
LITERATURE REVIEW
Theoretical Foundation
John Dewey’s Theory of Constructivism (1859-1952)
Constructivism is a theory of knowledge (epistemology) that argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas. John Dewey was the early founder of constructivism theory (Mascolol & Fischer, 2005). Dewey expressed his thoughts about constructivism theory, stating that learning will not effectively take place if the learners do not have old related experience in order to complete the learning process. He believed that learners need to construct their knowledge through experiences. These experiences give them ways to develop schemas that are created in the mind. Additionally, he described how new information can be shaped in the learner’s brains and it includes three types of processes, which are assimilation, accommodation, and equilibration. In assimilation, the learners integrate new information or experiences in their own thoughts. Accommodation is when the learners change old schema to another in order to include new information or experience. Equilibration is high mental development process, which include assimilation and accommodation. This process happened when learners’ mind needs to adopt more deeply to conditioning experiences or information that causes modification of previous schemas in learners’ brain (Jonassen, 1992; Brau, 2015).

From the propositions of John Dewey’s Theory of Constructivism, it is believed that learners can construct new knowledge from new experiences. Information system is an environment where the learner can actually be exposed to new knowledge. Examples of components of information systems include: Management Information System (MIS) which involves a computer-based system that provides flexible and speedy access to accurate data. This access to new data can actually help induce a new experience in the user or learner which in turn creates a new knowledge. Another component of information system is office automation system which involves a collection of communication technology, computers and persons to perform official tasks. This interaction is believed to have the capacity to create a knowledge based experience for the learner. The Decision Support System (DSS) which is also considered as a component of information system is an interactive computer-based information system that, like MIS, also serves at the management level of an organization.

When the print media is well equipped with information system, the employees who are now considered as the users in this context may become exposed to new information system technologies and other automated equipment and tools. The employee also becomes acquainted with the application and usefulness of these technologies and as a result new knowledge about ways to handle office tasks is learned. It is this construction of the new knowledge that Piaget describes as new information shaped in the learner’s brains which includes three processes, thus: assimilation, accommodation, and equilibration. Assimilation involves accepting and internalizing the new ideas obtained from interaction with the new information technology. Accommodation in the learner can be described as the ability to change from old methods of delivering office tasks to new methods of information technology for better delivery. A stage is reached when the employees as well as the managers begin to ascend in speed and efficiency with the new information system technologies such that office tasks are now more effectively delivered. At this stage, the mental development of the employees are now attuned with the level of the new technology.

Concept of Management Information System (MIS)
Management Information System (MIS) can be defined as a system which provides information support for decision making in the organization. It is also defined as an integrated system of man and machine for providing the information to support the operations, the management and the decision making function in the organization. It is a system based on the database of the organization evolved for the purpose of providing information to the people in the organization. Though there are a number of definitions, all of them converge on one single point, i.e., the MIS is a system to support the decision making functions in the organization. The difference lies in defining the elements of the MIS. However, in today’s world MIS is a computerized, business processing system generating information for the people in the organization to meet the information needs and assisting in taking decisions to achieve the corporate objective of the organization and in the Public sector MIS is designed to deliver services to the citizen also. Management information system (MIS) provides information that organizations require to manage themselves efficiently and effectively. Management
information systems are typically computer systems used for managing the organizations. The five primary components of MIS are: 1) Hardware 2) Software 3) Data (information for decision making), 4) Process (design, development and documentation), and 5) People (individuals, groups, or organizations).

Components of Management Information Systems

Hardware
Information systems hardware is the part of an information system you can touch – the physical components of the technology. Computers, keyboards, disk drives, iPads, and flash drives are all examples of information systems hardware.

Software
Software is a set of instructions that tells the hardware what to do. Software is not tangible – it cannot be touched. When programmers create software programs, what they are really doing is simply typing out lists of instructions that tell the hardware what to do. There are several categories of software, with the two main categories being operating-system software, which makes the hardware usable, and application software, which does something useful. Examples of operating systems include Microsoft Windows on a personal computer and Google’s Android on a mobile phone. Examples of application software are Microsoft Excel and Angry Birds.

Data
The third component is data. Data can be thought of as a collection of facts. By themselves, pieces of data are not really very useful. But aggregated, indexed, and organized together into a database, data can become a powerful tool for businesses. In fact, all of the definitions presented at the beginning of this chapter focused on how information systems manage data. Organizations collect all kinds of data and use it to make decisions. These decisions can then be analyzed as to their effectiveness and the organization can be improved.

People
When thinking about information systems, it is easy to get focused on the technology components and forget that we must look beyond these tools to fully understand how they integrate into an organization. A focus on the people involved in information systems is the next step. From the front-line help-desk workers, to systems analysts, to programmers, all the way up to the chief information officer (CIO), the people involved with information systems are an essential element that must not be overlooked.

Process
The last component of information systems is process. A process is a series of steps undertaken to achieve a desired outcome or goal. Information systems are becoming more and more integrated with organizational processes, bringing more productivity and better control to those processes. But simply automating activities using technology is not enough – businesses looking to effectively utilize information systems do more. Using technology to manage and improve processes, both within a company and externally with suppliers and customers, is the ultimate goal. Technology buzzwords such as “business process reengineering,” “business process management,” and “enterprise resource planning” all have to do with the continued improvement of these business procedures and the integration of technology with them. Businesses hoping to gain an advantage over their competitors are highly focused on this component of information systems.

Concept of Office Productivity
One of the most important issues facing management is that of organizational productivity. Productivity is defined as the ratio of total output to one unit of total input; high productivity means larger capital gains (Yadav & Marwa, 2015). Productivity can also be thought of as how effectively and efficiently value (output) is produced from inputs (such as hardware, software, people, process, data, technology and so on). It can also be defined as the rate at which goods or services are produced by a standard population of workers. Productivity of the print media entails efficiency and credibility. While efficiency is concerned with doing things right, profitability is the financial benefits obtained from applying the right resources (Olumuyiwa, Adelaja and Chukwuemeka, 2012). Sustained productivity growth doesn’t just make businesses more successful, it creates the conditions for real profitability growth.
Productivity growth is important to a business because it controls the real income means needed to meet obligations to customers, suppliers, workers, shareholders, and governments (taxes and regulation). Productivity is thus defined as a measure of the efficiency of production. High productivity can lead to greater profits for businesses and greater income for individuals (Lumen, 2018). As productivity increases, an organization can turn resources into revenues, paying stakeholders and retaining cash flows for future growth and expansion. Productivity leads to competitiveness and potentially competitive advantages. The control managers in a given organization are tasked with maximizing productivity through process-oriented observations and improvements. Sustained productivity growth has been the main driver of higher living standards in industrialized capitalist economies.

Productivity is also defined as an average measure of the efficiency of production. It can be expressed as the ratio of output to inputs used in the production process, i.e. output per unit of input. When all outputs and inputs are included in the productivity measure it is called total productivity. Outputs and inputs are defined in the total productivity measure as their economic values. The value of outputs minus the value of inputs is a measure of the income generated in a production process. It is a measure of total efficiency of a production process and as such the objective to be maximized in production process. Productivity measures that use one or more inputs or factors, but not all factors, are called partial productivities. A common example in economics is labor productivity, usually expressed as output per hour. At the company level, typical partial productivity measures are such things as worker hours, materials or energy per unit of production.

Productivity is a crucial factor in production performance of firms and nations. Increasing national productivity can raise living standards because more real income improves people's ability to purchase goods and services, enjoy leisure, improve housing and education and contribute to social and environmental programs. Productivity growth also helps businesses to be more profitable. Productivity is an overall measure of the ability to produce a good or service. More specifically, productivity is the measure of how specified resources are managed to accomplish timely objectives as stated in terms of quantity and quality. Productivity may also be defined as an index that measures output (goods and services) relative to the input (labor, materials, energy, etc., used to produce the output). As such, it can be expressed as: Hence, there are two major ways to increase productivity: increase the numerator (output) or decrease the denominator (input). Of course, a similar effect would be seen if both input and output increased, but output increased faster than input; or if input and output decreased, but input decreased faster than output. Organizations have many options for use of this formula, labor productivity, machine productivity, capital productivity, energy productivity, and so on. A productivity ratio may be computed for a single operation, a department, a facility, an organization, or even an entire country. Productivity is an objective concept. As an objective concept it can be measured, ideally against a universal standard. As such, organizations can monitor productivity for strategic reasons such as corporate planning, organization improvement, or comparison to competitors. It can also be used for tactical reasons such as project control or controlling performance to budget. Productivity is also a scientific concept, and hence can be logically defined and empirically observed. It can also be measured in quantitative terms, which qualifies it as a variable. Therefore, it can be defined and measured in absolute or relative terms. However, an absolute definition of productivity is not very useful; it is much more useful as a concept dealing with relative productivity or as a productivity factor. Productivity is useful as a relative measure of actual output of production compared to the actual input of resources, measured across time or against common entities.

**Measures of Office Productivity**

**Concept of Operational Efficiency**

The word ‘Operational Efficiency ‘consist of two words ‘Operations’ and ‘Efficiency’ thus in simple words, Operational Efficiency is a measure of task or a job. It is targeted at delivering superiority (product/service) to customers in the most efficient behavior. Resource consumption, production, distribution and inventory management are all common aspect of operational efficiency (Timothy, Coelli, Prasada, Christopher & George, 2015).Every business is associated with ‘Efficiency’. The concept of efficiency pertains to the cost of input for the output produced. The term can be described in various terms. To an engineer efficiency may relate to of input/output ratio or output of a machine while for a cost accountant it refers to reduction of cost.
Generally, ‘efficiency’ means capacity to receive earnings through consumer satisfaction. Thus, ‘efficiency’ means different things to different people. In other words it can also describe the extent to which time, effort and cost is well used for intended task (Goh, 2013).

It represents how well a relevant action is performed. It relates with selecting the best course of action. Efficiency is a measure of whether the right amount of resources has been used to deliver a process, service or activity. Efficiency is not only reducing cost, increasing profit, diversifying business and fulfilling other business objective but it also includes maintaining quality, providing services and retaining customers. “Performing tasks with reasonable effort ‘doing things the right way.’” Similarly, U.N.E.S.C.O. observed, “An ability to perform well or to achieve a result without wasted resource, effort, time or money (using the smallest quantity of resources possible). Efficiency can be interpreted in various ways, namely: to earn revenue, increase revenue or sales, increase on time delivery, decrease in defects, increase in customer satisfaction and so on.

Operational efficiency deals with minimization of waste and maximization of resource for providing quality goods and services to consumers. Operational efficiency is concerned with designing new work processes that improve quality and productivity. The major impact of improved operational efficiency is on the profit margin of companies (Singh&Hardik, 2012). When operational efficiency is improved profit of company is also increased. Weston and Brigham (2012, p.11) pointed out that:

“To the financial management profit is the test of efficiency and a measure of control, to the owners a measure of worth of their investment to the creditors the margin of safety, to the government a measure of taxable capacity and the basis of legislative action and to the country. Profits are an index of economic progress; national income generated and rises in the standard of living”.

Operational efficiency indicates how business manages its income and uses them to generate profits. Maximizing operational efficiency is different for each individual organization, every enterprise uses different type of techniques to maximize the operational efficiency and minimize inefficiencies that smother earnings or growth. Operational efficiency is also defined as the ability of a business to distribute goods or providing services to its clients at low cost but with the high quality of its products and service. It can be achieved by reorganization a company processes in order to more effectively respond to continually changing market forces in a cost effective manner. Operational efficiency means eliminating inefficiencies and pursuing best business practices. It is the difference between survival and failure of business. The term “operational efficiency” is a composite one. The meaning of efficiency is related to operations which imply to the performing of something. Operational efficiency may be a methodical investigation and valuation of the techniques and functions in the different spheres of a business with a view to exploring channels of performance evaluation. The operational efficiency of an organization requires abilities to utilize the existing resources to the maximum extent.

**Concept of Profitability**

Whether you are recording profitability for the past period or projecting profitability for the coming period, measuring profitability is the most important measure of the success of the business. A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Increasing profitability is one of the most important tasks of the business managers. Managers constantly look for ways to change the business to improve profitability (Hofstrand, 2015).

Profitability is defined as the ability of a company to use its resources to generate revenues in excess of its expenses. In other words, this is a company’s capability of generating profits from its operations (My Accounting Course, 2012). Profitability is also defined as the ability of the enterprise to make profit on sales. It is the ability of enterprise to get sufficient return on the capital and employees used in the business operation. As Weston and Brigham rightly notes “to the financial management, profit is the test of efficiency and a measure of control, to the owners it is a measure of the worth of their investment, to the creditors it is the margin of safety, to the government it is a measure of taxable capacity and a basis of legislative action and to the country it is regarded as an index of economic progress, national income generated and the rise in the
standard of living”, while profitability is an outcome of profit. In other words, no profit drives towards profitability (Hofstrand, 2015). Firms having same amount of profit may vary in terms of profitability.

Management Information System and Operational Efficiency of the Print Media
Management information systems are distinct from other information systems because they are used to analyze and facilitate strategic and operational activities (Karim, 2011). Academically, the term is commonly used to refer to the study of how individuals, groups, and organizations evaluate, design, implement, manage, and utilize systems to generate information to improve efficiency and effectiveness of decision making. It also includes expert systems, and executive information systems which helps to evolve a system design capable of handling data inputs, process, and outputs with the least possible noise or distortion in transmitting the information form a source to a destination (Adebayo, 2014). It uses the principles of system Design, Viz., an ability of continuous adjustment or correction in the system in line with the environmental change in which the MIS operates. Such a design help to keep the MIS tuned with the business managements needs of the organization.

MIS plays exactly the same role in the organization. The system ensures that an appropriate data is collected from the various sources, processed, and sent further to all the needy destinations. The system is expected to fulfill the information needs of an individual, a group of individuals, the management functionaries, the managers and the top management (Perez-mendez, & Cabezas, 2015). MIS satisfies the diverse needs through a variety of systems such as Query Systems, Analysis Systems, Modeling Systems and Decision Support Systems, MIS helps in Strategic Planning, Management Control, Operational Control and Transaction Processing. MIS helps the clerical personnel in the transaction processing and answers their queries on the data pertaining to the transaction, the status of a particular record and references on a variety of documents (Perez-mendez & Cabezas, 2015). MIS helps the junior management personnel by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation. MIS helps the middle management in short them planning, target setting and controlling the business functions. It is supported by the use of the management tools of planning and control. MIS helps the top management in goal setting, strategic planning and evolving the business plans and their implementation. MIS plays the role of information generation, communication, problem identification and helps in the process of decision making. MIS, therefore, plays a vital role in the management, administration and operations of an organization (Perez-mendez & Cabezas, 2015).

Another type of DSS is the Knowledge driven DSSs. These are a catch-all category covering a broad range of systems covering users within the organization setting it up, but may also include others interacting with the organization. It is essentially used to provide management advice or to choose products or services. Knowledge-driven DSS can suggest or recommend actions to managers. These DSS are person-computer systems with specialized problem-solving expertise. The expertise consists of knowledge about a particular domain, understanding of problems within that domain, and skill at solving some of these problems. The typical deployment technology used to set up such systems could be client / server systems, the web, or software running on stand-alone PCs. Model driven DSSs are complex systems that help analyse decisions or choose between different options. A model driven DSS emphasizes access to and manipulation of financial, optimization and / or simulation models. Simple quantitative models provide the most elementary level of functionality. Model-driven DSS use limited data and parameters provided by decision makers to aid decision makers in analyzing a situation, but in general large data bases are not needed for model-driven DSS. These are used by managers and staff members of a business, or people who interact with the organization, for a number of purposes depending on how the model is set up. These DSSs can be deployed via software / hardware in stand-alone PCs, client/server systems or the web.

Management Information System and Profitability of the Print Media
Management Information System (MIS) investments are likely to have a positive association with profitability. First, an explanation based on the virtuous cycle argument suggests that firms that invest in management information systems reap benefits and then invest more in the business in the future. Over time, these effects become magnified, leading some firms to continue investing more in information systems.
compared with their historical investment and that of their competitors and to maintain a more proactive
digital strategic posture. As a result of their higher investments in management information systems and
greater opportunities to learn from occasional failures in their overall information system portfolio, the firms
realizes increased profitability with reduced financial loss (Mithas, Ramasubbu, & Sambamurthy, 2012).
A second, learning-based explanation suggests that years of continued investments in management
information systems and experience in managing these systems may have improved the capability of firms to
leverage information and strengthen other organizational capabilities (Grover and Ramanlal 2011; Mithas et
al. 2012). In support of this explanation, several empirical studies show that firms learn how to make use of
management information systems to improve customer satisfaction, at the same time boosting profitability
through the positive effects of customer loyalty, cross-selling, and reduced marketing and selling costs
(Fornell, Mithas, Forrest, & Morgeson, 2016; Grover and Ramanlal 2011; Mithas & Jones, Mitchell, 2004).
Mithas, Tafti, Bardhan and Goh (2012) posit that investments in management information systems facilitate
revenue growth through new value propositions, new marketing and sales channels, and improved
management of the customer life cycle. MIS also allow firms to create new value propositions to better meet
needs and develop new offerings for customers. The application of MIS facilitates personalization of offerings
and services through improved knowledge of customers’ needs, leading to better customer response and
improved one-to-one marketing effectiveness (Mithas, Krishnan, & Fornell, 2015). Research suggests that
MIS investments are positively associated with profitability, thus underscoring the strategic importance of
managing overall levels of Information systems investments as a critical intangible firm resource.
From the foregoing point of view, the study hereby hypothesized that:
H01: There is no significant relationship between management information system and operational
efficiency of the Print Media in Rivers State.
H02: There is no significant relationship between management information system and profitability of the
Print Media in Rivers State.

METHODOLOGY
The research design adopted was the cross sectional survey. The population of the study comprised of 58
managers from 38 printing companies in Port Harcourt, Rivers State. Primary data was collected using
structured questionnaire. The research instrument was validated through supervisor's vetting and approval
while the reliability of the instrument was achieved by the use of the Cronbach Alpha coefficient with all the
items scoring above 0.70. The hypotheses were tested using the Spearman Rank Order Correlation
Coefficient. The tests were carried out at a 95% confidence interval and a 0.05 level of significance.

DATA ANALYSIS AND RESULTS
Analysis of Null Hypothesis 1: Management information system does not have a significant influence on
operational efficiency of the Print Media in Rivers State.

Table 1: Correlation Between Management Information System and Operational Efficiency.

<table>
<thead>
<tr>
<th>Management Information System Operational Efficiency</th>
<th>Pearson Correlation</th>
<th>N</th>
<th>50</th>
<th>0.598</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Management Information System</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>50</td>
<td>0.598</td>
<td>1</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.01 level (2-tailed).

The result of the statistical analysis above (as indicated by the Pearson correlation coefficient, r = 0.598),
shows that there is a moderate, positive relationship between management information system and operational
efficiency of the Print Media in Rivers State.
Table 2: Z-r transformation showing level of influence of management information system on profitability

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>Mean</th>
<th>Std.</th>
<th>Obsv.</th>
<th>Df</th>
<th>Pearson Correlation Coefficient</th>
<th>Z-r</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Management Information System</td>
<td>3.11</td>
<td>0.10</td>
<td>50</td>
<td>48</td>
<td>0.598</td>
<td>0.241</td>
<td>Relationship is significant</td>
</tr>
<tr>
<td>2.</td>
<td>Operational Efficiency</td>
<td>3.07</td>
<td>0.11</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The z-r transformation table below further shows that the relationship between management information system and operational efficiency is significant (z-r value = 0.241, being less than the z-critical value of 1.96). Thus, the null hypothesis is rejected and the result concludes that management information system has a significant influence on operational efficiency of the Print Media in Rivers State.

Analysis of Null Hypothesis 2: Decision support system does not have a significant influence on operational efficiency of the Print Media in Rivers State.

Table 3: Correlation Between Management Information System and Profitability.

<table>
<thead>
<tr>
<th>Management Information System</th>
<th>Operational Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision support system</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Operational Efficiency</td>
<td>Pearson Correlation</td>
</tr>
<tr>
<td></td>
<td>N</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.01 level (2-tailed).

The result of the statistical analysis above (as indicated by the Pearson correlation coefficient, r = -0.818), shows that there is a very strong positive relationship between management information system and profitability of the Print Media in Rivers State.

Table 4: Z-r transformation showing level of influence between management information system and profitability

<table>
<thead>
<tr>
<th>S/N</th>
<th>Variable</th>
<th>Mean</th>
<th>Std.</th>
<th>Obsv.</th>
<th>Df</th>
<th>Pearson Correlation Coefficient</th>
<th>Z-r</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Management Information System</td>
<td>3.08</td>
<td>0.11</td>
<td>50</td>
<td>48</td>
<td>0.818</td>
<td>0.107</td>
<td>Relationship is significant</td>
</tr>
<tr>
<td>2.</td>
<td>Operational Efficiency</td>
<td>2.95</td>
<td>0.15</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The z-r transformation table above further shows that the relationship between management information system and profitability is significant (z-r value= 0.107 being less than the z-critical value of 1.96). Thus, the null hypothesis is rejected and the result concludes that management information system has a significant influence on profitability of the Print Media in Rivers State.

DISCUSSION OF FINDINGS
The study findings revealed that there is a significant relationship between management information system and office productivity of the Print Media in Rivers State. This result was further corroborated by the findings of Perez-mendez and Cabezas, (2015) who revealed that MIS enables the junior management personnel to operate with maximum efficiency by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation. According
to Adebayo, (2014), MIS also helps the middle management in short them planning, target setting and controlling the business functions. This result was further corroborated by the findings of Mithas, Ramasubbu, & Sambamurthy, (2012) who stated that as a result of their higher investments in management information systems and greater opportunities to learn from occasional failures in their overall information system portfolio, the firms realize increased profitability with reduced financial loss. In further support of the findings of the study, a second, learning-based explanation suggests that years of continued investments in management information systems and experience in managing these systems has improved the capability of firms to leverage information and strengthen other organizational capabilities to make profits (Grover and Ramanlal 2011; Mithas et al. 2012). In support of this explanation, several empirical studies also showed that firms learn how to make use of management information systems to improve customer satisfaction, at the same time boosting profitability through the positive effects of customer loyalty, cross-selling, and reduced marketing and selling costs (Fornell et al. 2015; Fornell et al. 2016; Grover and Ramanlal 2011; Mithas and Jones 2017; Mithas et al. 2015).

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, the researcher has concluded that: organizations such as the print media need to apply management information systems in their operations to achieve maximum productivity. The study also concluded that to achieve operational efficiency it is necessary that firms design new work processes that apply information systems technologies to improve efficiency, profitability and productivity. However, the study added that the major impact of improved operational efficiency is on the profit margin of the companies. Conclusively, there is a correlation between management information systems and organizational productivity of the print media.

The study recommends that:

i. Management information system should be applied, not only in print media businesses but also in other businesses requiring the use of advance technologies. This is believed to help these businesses operate more efficiently in a competitive environment.

ii. The print media, as well as other firms and organizations should be encouraged to adopt the use of office automation system such as computers, websites, scanners etc to help boost their operational efficiency and profitability.

REFERENCES


