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# The Nexus Of Management Information System (MIS) Implementation And Managerial Performance: An Exploratory Study

OKOYE, PIUS VINCENT CHUKWUBUIKEM
Department of Accountancy, Faculty of Management Sciences
Nnamdi Azikiwe University, P.M.B. 5025, Awka, Nigeria
vynopee@yahoo.com

EGBUNIKE, FRANCIS CHINEDU
Department of Accountancy, Faculty of Management Sciences
Nnamdi Azikiwe University, P.M.B. 5025, Awka, Nigeria
chineduegbunike@rocketmail.com

ONYALI, CHIDIEBELE INNOCENT
Department of Accountancy, Faculty of Management Sciences
Nnamdi Azikiwe University, P.M.B. 5025, Awka, Nigeria

**Abstract**
This paper examines the nexus of Management Information System Implementation and Managerial performance in respect of sustainability related measurement systems in organisational management. From a resource-based perspective of the firm information is viewed as one of the critical intangible resource necessary for organisational survival and growth. This exploratory study used a structured five-point likert scale questionnaire to obtain desired responses from a sample of 45 respondents. Two hypotheses were formulated and tested in the study. The Multiple Regression statistical method formed the basis for the relationship prediction. The findings revealed that MIS implementation has implications for the development of managerial human resource, social and environmental core competencies as revealed by the Coefficient of Determination ($R^2$), as both had predictive powers of 90% and above. Based on this, the study suggests the adoption and implementation of MIS in organisations. This will aid managers develop technique expertise in the areas of human resource, social and environmental competence areas which is directly linked to the survival and growth of the corporation by providing tools for sustainability performance, stakeholder management and competitive advantage.
**KEYWORDS:** Management Information Systems (MIS), Information Technology,

## Introduction:

The dynamism of present day business environment evidenced by factors, such as: an increase in the number of processed daily transactions, advancements in modern production techniques, merger & acquisition takeovers, increased regulatory pronouncements, developments in information processing systems, and the sustainability discuss etc. have presented corporate managers with issues underlying the survival and growth of their corporations. Managers are constantly harnessing and evolving their skills in other to manage the complexities of this present day business environment. Thus, the success of the decision-making process in organizations, which is at the heart of the management process, is highly dependent on available information (Reddy et al., 2009). However, developments in information technology have presented managers with tools that aid their information processing (Reddy et al., 2009) and management functions effectively and efficiently. Such IT systems whether at office or enterprise levels are capable of handling numerous tasks at a time, a feature of modern day computers thereby reducing information overload and increasing the speed of data processing by managers. Thus, corporate managers have therefore viewed the adoption and implementation of Information Technology (IT) systems as a tactic to combat present day competition by improving productivity, profitability and the level of information dissemination in their organizations (Obasan & Soyebo, 2012) to ensure the survival and growth of their corporations. Obasan & Soyebo (2012) noted that 'information technology has changed the way companies compete, as it moves from a strictly supporting role at the back office to take a new vintage position' in the enterprise operations.

A critical innovation in business systems which the evolution of computer brought about is the shift from manual processing systems to electronic processing systems. Before the widespread use of computers, many organizations found difficulties in gathering, storing, organizing and distributing large amounts of data and information (Reddy et al., 2009). This led to developments in corporate information processing systems, such as: Management Information System (MIS), Decision Support Systems (DSS), etc. Reddy, Srinivasu, Rikkula, & Rao (2009) summarized the benefits of MIS adoption and implementation to the business: as a means of effective and efficient coordination between Departments; a quick and reliable referencing tool; provides access to relevant data and documents; less labor intensive; improves organizational and departmental techniques; management of day-to-day activities (such as: accounts, stock control, payroll, etc.); day-to-day assistance in a Department and provides closer contact with the rest of the world.

Hashim et al. (2012) observed that investment in Management Information System development by organizations, support it: in the development of core competencies; in production processes; keeping and updating human resource records; financial records and in the control and monitoring of the various organisational activities which lead to growth and development by providing a sound basis for strategic decision making. A major challenge for managers in this information technology era is on the alignment of the business IT structure with the overall corporate strategy. However, Luftman et al. (1993, cited in Obasan & Soyebo, 2012) emphasized that for companies to succeed in an increasingly competitive, information-intense, dynamic environment, then the alignment of business strategy and IT strategy is a necessity. The MIS strategy has four distinct components: Information Strategy, Information Technology Strategy, Information Management Strategy, and Change Management/ Implementation Strategy (Jamwal & Singh, 2011). The management information systems strategy is a set-out plan for developing management information systems, which maximize the ability of the organization to achieve its stated objectives (Jamwal & Singh, 2011).

The broad objective of this study is to determine the nexus between management information system (MIS) implementation in Nigerian organisations and the capability of such system to provide managers with tools for managerial core competencies in organisational performance management. Predicated on the above the study is set out to address the following:

1. To determine the extent management information system implementation would provide managers with core competence tools needed for human resource management in their firms.
2. To examine the connection between management information system implementation and the provision of managerial core competence tools needed for a proactive management of environmental and social performance of firms?

**Literature Review:**

The term Management Information System (MIS) made its first appearance in the U.S. navy report on the use of computers to construct a single integrated system to manage all navy resources (Reddy et al., 2009). According to Kumar (2006), in order to define MIS, it must be principally divided into the three facets that constitute it - which are: management, information, and systems. Okoye & Adigwe (1998) added a fourth dimension: Communication. Kumar (2006) defines management as the process through which managers plan, organize, initiate and control operations within their businesses.

To understand the thrust of MIS, a distinction needs to be made between data and information. Succinctly put Okoye & Adigwe (1998) defined the term data as the raw input (materials) of an information processing system. They however described the term information as a relative concept, as what constitutes information to one person may as well be a set of irrelevant data to another (Okoye & Adigwe, 1998). For any processed data to constitute information, it must assist in minimizing the degree of uncertainty in the operating environment of an organisation (Okoye & Adigwe, 1998). Davis and Olsen (adopted from Harsh, 1998) note that "in general, the value of information is the value of the change in decision behaviour caused by the information, less the cost of obtaining such information". Harsh (1998) noted the practical implication of this statement when he stated that:

> 'Many assume that investing in a better management information system is a sound economic decision. However, since it is possible that the better system may not change decisions and/or the associated costs of implementing such being greater than the actual realized benefits, it could therefore be a bad investment. Also, since before the investment

is made, it is hard to predict the benefits and costs of the better system, the investment should be viewed as one with risk associated with it'.

The term system, according to Kumar (2006), refers to "A set of elements joined together for a common objective". Okoye & Adigwe (1998) defined the term as the detailed plan or management of the inter-relationships and integration of available resources to accomplish a given task. The system concept or theory generally operates on the premise that decisions must be based on all factors that are relevant to a given problem (Okoye & Adigwe, 1998). Finally, communication is the act of making ones ideas and/or opinions known to another (Okoye & Adigwe, 1998). Nowduri (2011) however notes that all the facets of MIS run concomitantly in order to ensure overall efficiency of the whole system.

**Management Information System Defined**

Jamwal & Singh (2011) defined Management Information System as an information system that integrates data from all the departments it serves and provides operations and management with the information they require. Management Information System (MIS) can be defined as "A system which converts data from internal and external sources into information and communicate that information in an appropriate form to managers at all levels in all functions to enable them to make timely and effective decisions for planning, directing and controlling the activities for which they are responsible" (O'brien, 2004; Bee & Bee, 1999). Reddy et al. (2009) defined MIS as a system providing management with accurate and timely information necessary to facilitate the decision-making process and enable the organizations planning, control, and operational functions to be carried out effectively. Thus, a Management Information System (MIS) is a processing procedure developed within an organization and integrated for the purpose of providing timely and effective information to support decision making and other necessary management functions (Okoye & Adigwe, 1998).

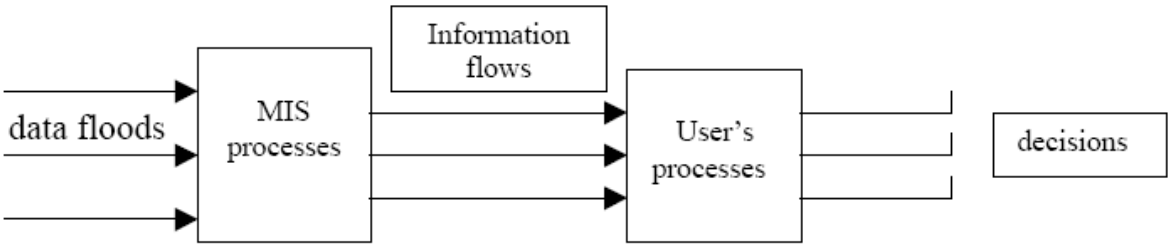



**Figure 1: MIS and Decision-Making Process**

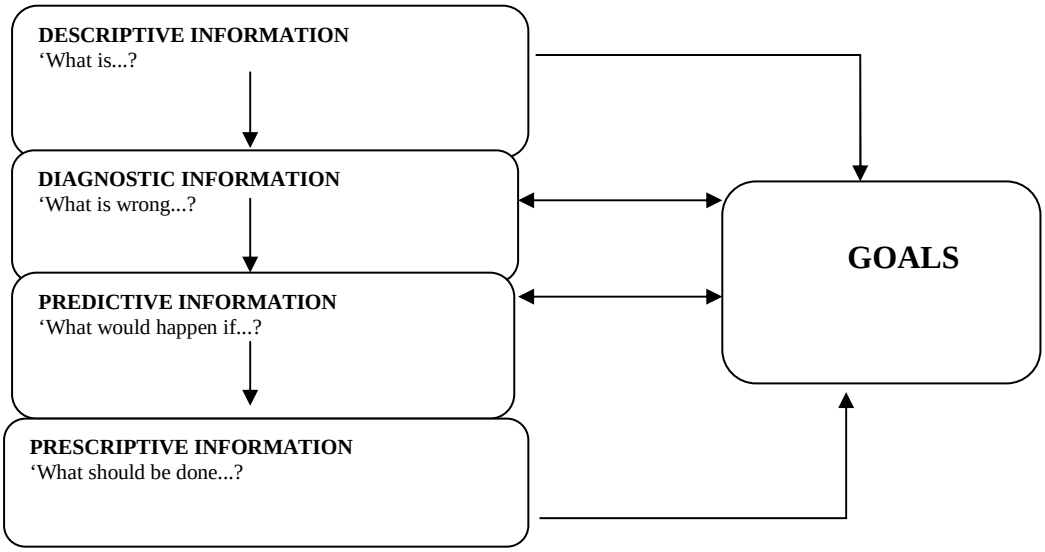
**Source: Lucey (1997, adopted from Reddy et al., 2009)**

Oladejo (2007, cited in Obasan & Soyebo, 2012) described MIS as a system which uses formalized procedures based on data generated from internal and external sources, to enable decision makers make timely and effective decisions, for planning, directing and carrying out the activities for which they have been appointed for. This connotes that MIS is a system responsible for the collection, processing and communication of defined data in order to enhance prompt decision making (Obasan & Soyebo, 2012). In the corporate context MIS has several subsets such as: Decision Support Systems (DSS) and Executive Information System (EIS) (Nowduri, 2011). The DSS is used by all levels of people within a business organization: Top level management applies it for strategic decisions; middle management uses it for tactical decision, while first line supervisors deploy it for their day-to-day operational decisions (Nowduri, 2011).

Harsh, Connor & Schwab (1981) described four information types which are critical components of any MIS: Descriptive information, Diagnostic information, Predictive information and Prescriptive information.

**Figure 2: Types of Information**




**Source: Harsh, Connor & Schwab (1981)**

The first level 'Descriptive Information' describes the state of the business at every point in time; it includes information types such as: financial results, production records, product marketing performance reports, and maintenance records (Harsh, 1998). The second level 'Diagnostic Information' identifies existing problem in the business. This information portrays the "what is wrong" condition, where "what is wrong" is measured as the disparity between "what is" and "what ought to be" (Harsh, 1998). A major requirement for managers using diagnostic information is a standard for comparison and measurement. The third level 'Predictive Information' describes the future state of the business through an analysis of present existing conditions: methods used by managers here include budgeting, simulation, etc. The fourth level 'Prescriptive Information' hinges upon the other four levels to answer to describe the decision-making capability of managers in handling alternative choices. Jamwal & Singh (2011) outlined the principles of effective information management: [1] Recognize (and manage) complexity; [2] Focus on adoption; [3] Deliver tangible & visible benefits; [4] Prioritize according to business needs; [5] Provide a strong leadership; [6] Mitigate risks; [7] Communicate extensively and [8] Aim to deliver a seamless user experience.

They also identified the following information management challenges: [1] Large number of disparate information management systems; [2] Little integration or coordination between information systems; [3] Range of legacy systems requiring upgrading or replacement; [4] Direct competition between information management systems; [5] No clear strategic direction for the overall technology environment; [6] Limited and patchy adoption of existing information systems by staff; [7] Poor quality of information, including lack of consistency, duplication, and out-of-date information; [8] Little recognition and support of information management by senior management; [9] Limited resources for deploying, managing or improving information systems; [10] Lack of enterprise-wide definitions for information types and values (no corporate-wide taxonomy); [11] Large number of diverse business needs and issues to be addressed; [12] Lack of clarity around broader organizational strategies and directions; [13] Difficulties in changing working practices and processes of staff; [14] Internal politics impacting on the ability to coordinate activities enterprise-wide.

Thus, MIS can play a central role in the process of changing organizations, facilitating organizational adaptation to the external environment and increasing the efficiency and effectiveness of internal processes (Obasan & Soyebo, 2012). Jamwal & Singh (2011) observed that the success of MIS is measured in terms of individual and organizational performance. Other roles of MIS in organisations include:

- It should provide a basis to analyze warning signals that can originate both externally and internally, this is the main function of data base (Reddy et al., 2009);
- It should automate routine operations thus avoiding human work in the processing tasks (Reddy et al., 2009);
- It should assist management in making routine decisions and non-routine decisions (Reddy et al., 2009);

- Shifting emphasis from competition to simplification (Jamwal & Singh, 2011) and serving as a strategic weapon to gain competitive advantage (Reddy et al., 2009);
- Linking IT with business strategy (Jamwal & Singh, 2011);
- Simplifying organizations by flattening hierarchies (Jamwal & Singh, 2011);
- Implementing Information System Architecture, this comprises of the organizational IT infrastructure i.e. Hardware, Software, and Communication systems (Jamwal & Singh, 2011).

Reddy et al. (2009) observed that as organizations expand, MIS allows information to move between functional areas and departments, reducing the need for face-to-face communications among employees, thus increasing the responsiveness of the organization. MIS resources can be divided into three broad categories: human, technological, and relationship resources (Jamwal & Singh, 2011).

Obasan & Soyebo (2012) using a structured questionnaire distributed to respondents of three randomly selected banks (Intercontinental Bank Plc., UBA Plc., and First Bank Plc.) examined the relationship between MIS and organisational performance in Nigeria's banking sector. Their results showed a strong positive correlation (correlation coefficient (r) value of 0.703) between the two constructs. However one major recommendation of their study is that MIS needs to be strategically managed in other to ensure profitability and productivity of the organization, thereby increasing the organization's chances of surviving amidst present day challenges.

Boynton and Zmud (1984, cited in de Chabert, 1998) observed that critical success factors (CSFs) as "those things that must go well to ensure success for a manager or an organization, and therefore, they represent those managerial or enterprise areas that must be given special attention to bring about higher performance" According to Brotherton and Shaw (1996, cited in de Chabert, 1998), CSF approach has been linked with the development of core competencies. "CSFs are must achieve factors both within a company and its external operating environment. They are combinations of activities and processes designed to support the achievement of such desired outcomes specified by the company's objectives or goals. In short …CSFs will reflect the company's specific situation, in terms of the core capabilities and competencies which are critical". Thus, CSFs are what the company needs to do to succeed in the industry environment (de Chabert, 1998). Collis (1994, cited in de Chabert, 1998) observed that competitive advantage comes from organizational capabilities, defined as "the socially complex routines that determine the efficiency with which firms physically transform inputs into outputs". Grant (1991, cited in de Chabert, 1998) noted the distinction between resources and capabilities. "Resources are inputs into the production process - they are the basic units of analysis. The individual resources of the firm include items of capital equipment, skills of individual employees, patents, brand names, finance, and so on. While resources are the source of a firm's capabilities, capabilities are the main source of its competitive advantage".

**Research Design & Methodology:**

An exploratory study was carried out to ascertain the perception of managers. Using Criterion-based Sampling technique a random sample of 45 managers across product and service sectors were drawn. The questions were based on a structured five point likert scale questionnaire with the following options: Strongly Agree (SA); Agree (A); Indifferent (ID); Disagree (D) and Strongly Disagree (SD) with the associated weights of 5,4,3,2 and 1 respectively. The questionnaire was analyzed using descriptive statistics and the formulated hypotheses analyzed using Multiple Regression (MRT).

**ADVANTAGES OF MIS ADOPTION AND IMPLEMENTATION**

| s/n | Benefit | Description |
|---|---|---|
| **1** | It Facilitates planning | ▪ MIS improves the quality of plants by providing relevant information for sound decision - making. Due to increase in the size and complexity of organizations, managers have lost personal contact with the scene of operations. |
| **2** | It Minimizes information overload | ▪ MIS change the larger amount of data in to a summarized form and there by avoids the confusion which may arise when managers are flooded with detailed facts. |
| **3** | MIS Encourages Decentralization | ▪ Decentralization of authority is possibly when there is a system for monitoring operations at lower levels. MIS is successfully used for measuring performance and making necessary change in the organizational plans and procedures. |
| **4** | It brings Co ordination | ▪ MIS facilities integration of specialized activities by keeping each department aware of the problem and requirements of other departments. It connects all decision centers in the organization. |
| **5** | It makes control easier | ▪ MIS serves as a link between managerial planning and control. It improves the ability of management to evaluate and improve performance. The used computers has increased the data processing and storage capabilities and reduced the cost.<br>MIS assembles, process, stores, Retrieves, evaluates and disseminates the information. |

**(Source:http://www.management-hub.com/information-management-advantages.html)**

**Table 1: Management Information System Performance Areas**

| S/No | Question Description | Mean | Std. Dev. |
|---|---|---|---|
| **1** | Adopting Management Information System as a key component of Corporate Information System would provide management with relevant, reliable and timely information | 4.3333 | .47673 |
| **2** | To fully service the needs of the organisational Management Information System, management needs to create an Information System Department | 4.0667 | .93905 |
| **3** | To fully realise the benefits of Management Information System implementation, Information Technology specialists are needed in key areas of the organisation | 3.8667 | .72614 |
| **4** | The Management Information System strategy needs to be aligned with Corporate Strategy to ensure goal congruence | 4.4667 | .62523 |
| **5** | The business operating environment is cyclical in nature, therefore dynamic Management Information Systems are best placed to meet the evolving challenges | 4.1333 | .75679 |
| **6** | A cost-benefit analysis needs to be carried out before adopting and implementing any Management Information system | 4.2667 | .57997 |
| **7** | Key human resource performance indicators should be included in the Management Information System design | 4.2000 | .75679 |
| **8** | Key social performance indicators should be included in the Management Information System design | 3.6667 | 1.20605 |
| **9** | Key environmental performance indicators should be included in the Management Information System design | 3.8667 | 1.03573 |

**Source: Field Survey (2012)**

**Table 2: Managerial Human Resource Competence Areas**

| S/No | Question Description | Mean | Std. Dev. |
|---|---|---|---|
| **1** | A necessary function of modern day managers is to identify intangible resources, such as: human resources, that when utilized will ultimately boost corporate performance | **4.6667** | **.47673** |
| **2** | Managing organisational human resources is a key to survival and growth by meeting employee needs and goals | **4.1333** | **.96766** |
| **3** | Organisational human resource attributes are dynamic and constantly in a state of flux | **4.3333** | **.87905** |
| **4** | Information on performance of employees serve as key input in the organisation's decision-making process | **4.5333** | **.89443** |
| **5** | In modern day business environment competitive advantage in highly dependent on the organisation's ability to attract and retain its workforce | **5** | **.0** |

**Source: Field Survey (2012)**

**Table 3: Social and Environmental Managerial Competence Areas**

| S/No | Question Description | Mean | Std. Dev |
|---|---|---|---|
| **1** | Management environmental information processing is a necessary first step to corporate environmental impact management | **5** | **.0** |
| **2** | Management social information processing is a necessary first step to corporate social impact management | **5** | **.0** |
| **3** | Maintain databases of historical environmental performance would provide managers with tools for future performance index development | **5** | **.0** |
| **4** | Maintain databases of historical social performance would provide managers with tools for future performance index development | **5** | **.0** |
| **5** | Developing managerial technique expertise in the areas of social and environmental management is directly linked to the sustainability performance of the corporation by providing tools for sustainability reports and stakeholder management | **4.1778** | **.74739** |

**Source: Field Survey (2012)**

**Questionnaire Reliability Test:**

| **Reliability Statistics** | | |
|---|---|---|
| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
| .976 | .979 | 14 |

**Presenting the Results of the Hypothesis Test**

**Hypothesis I**

**Ho: Management Information System implementation would not provide managers with core competence tools needed for human resource management in their firms.**

**Fitting the Hypothesis Regression Function:**

**Y (Managerial Human Resource Competence Areas) = $\alpha + \beta X_1$ (MIS and the provision of Relevant, Reliable and Timely Information) + $\beta X_2$ (Creation of Information Systems Department) + $\beta X_3$ (Use of Information Technology Experts) + $\beta X_4$ (Alignment of MIS with Corporate Strategy) + $\beta X_5$ (Use of Dynamic MIS) + $\beta X_6$ (Cost-Benefit Analysis of MIS Implementation) + $\beta X_7$ (Inclusion of Human Resource Performance Indicators in MIS Design) + $\beta X_8$ (Inclusion of Social Performance Indicators in MIS Design) + $\beta X_9$ (Inclusion of Environmental Performance Indicators in MIS Design)+ $e_i$**

**Table 4: Regression Model Summary Table for Hypothesis I**

| **Model Summary** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Std. Error of the | Change Statistics | | | | | |
| Model | R | R Square | Adjusted R Square | Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin-Watson |
| 1 | .991[a] | .983 | .979 | .08869 | .983 | 225.509 | 9 | 35 | .000 | .708 |
| a. Predictors: (Constant), Key environmental performance indicators should be included in the Management Information System design, The business operating environment is cyclical in nature, therefore dynamic Management Information Systems are best placed to meet the evolving challenges, The Management Information System strategy needs to be aligned with Corporate Strategy to ensure goal congruence, Adopting Management Information System as a key component of Corporate Information System would provide management with relevant, reliable and timely information, To fully realize the benefits of Management Information System implementation, Information Technology specialists are needed in key areas of the organization, Key human resource performance indicators should be included in the Management Information System design, To fully service the needs of the organizational Management Information System, management needs to create an Information System Department, Key social performance indicators should be included in the Management Information System design, A cost-benefit analysis needs to be carried out before adopting and implementing any Management Information system | | | | | | | | | | |
| b. Dependent Variable: Managerial Human Resource Competence Areas | | | | | | | | | | |

**Table 5: ANOVA Table for Hypothesis 1**

| **ANOVA** | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 15.965 | 9 | 1.774 | 225.509 | .000[a] |
| | Residual | .275 | 35 | .008 | | |
| | Total | 16.240 | 44 | | | |
| a. Predictors: (Constant), Key environmental performance indicators should be included in the Management Information System design, The business operating environment is cyclical in nature, therefore dynamic Management Information Systems are best placed to meet the evolving challenges, The Management Information System strategy needs to be aligned with Corporate Strategy to ensure goal congruence, Adopting Management Information System as a key component of Corporate Information System would provide management with relevant, reliable and timely information, To fully realize the benefits of Management Information System implementation, Information Technology specialists are needed in key areas of the organization, Key human resource performance indicators should be included in the Management Information System design, To fully service the needs of the organizational Management Information System, management needs to create an Information System Department, Key social performance indicators should be included in the Management Information System design, A cost-benefit analysis needs to be carried out before adopting and implementing any Management Information system | | | | | | |
| b. Dependent Variable: Managerial Human Resource Competence Areas | | | | | | |

**Decision Rule**: Using the ANOVA table, which tests the acceptability of the model from a statistical perspective, the decision rule is as follows if $F_{computed} > F_{table\ value}$ – reject the null hypothesis; otherwise accept. Since 225.509 > 2.00, the null hypothesis is rejected and the alternate accepted. Thus, **Management Information Systemimplementation would provide managers with core competence tools needed for human resource management in their firms.**

**Hypothesis II**

**Ho: There is no relationship between Management Information System (MIS) implementation and the provision of managerial core competence tools needed for a proactive management of environmental and social performance of firms.**

**Fitting the Hypothesis Regression Function:**

**Y (Social and Environmental Managerial Competence Areas) = α + β $X_1$ (MIS and the provision of Relevant, Reliable and Timely Information) + β $X_2$ (Creation of Information Systems**

**Department) + β $X_3$ (Use of Information Technology Experts) + β $X_4$ (Alignment of MIS with Corporate Strategy) + β $X_5$ (Use of Dynamic MIS) + β $X_6$ (Cost-Benefit Analysis of MIS Implementation) + β $X_7$ (Inclusion of Human Resource Performance Indicators in MIS Design) + β $X_8$ (Inclusion of Social Performance Indicators in MIS Design) + β $X_9$ (Inclusion of Environmental Performance Indicators in MIS Design)+ $e_i$**

**Table 6: Regression Model Summary Table for Hypothesis II**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .985[a] | .971 | .963 | .02861 | .971 | 129.577 | 9 | 35 | .000 | 2.327 |

a. Predictors: (Constant), Key environmental performance indicators should be included in the Management Information System design, The business operating environment is cyclical in nature, therefore dynamic Management Information Systems are best placed to meet the evolving challenges, The Management Information System strategy needs to be aligned with Corporate Strategy to ensure goal congruence, Adopting Management Information System as a key component of Corporate Information System would provide management with relevant, reliable and timely information, To fully realise the benefits of Management Information System implementation, Information Technology specialists are needed in key areas of the organisation, Key human resource performance indicators should be included in the Management Information System design, To fully service the needs of the organisational Management Information System, management needs to create an Information System Department, Key social performance indicators should be included in the Management Information System design, A cost-benefit analysis needs to be carried out before adopting and implementing any Management Information system

b. Dependent Variable: Social and Environmental Managerial Competence Areas

**Table 7: ANOVA Table for Hypothesis 1**

**ANOVA**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .954 | 9 | .106 | 129.577 | .000[a] |
| | Residual | .029 | 35 | .001 | | |
| | Total | .983 | 44 | | | |

a. Predictors: (Constant), Key environmental performance indicators should be included in the Management Information System design, The business operating environment is cyclical in nature, therefore dynamic Management Information Systems are best placed to meet the evolving challenges, The Management Information System strategy needs to be aligned with Corporate Strategy to ensure goal congruence, Adopting Management Information System as a key component of Corporate Information System would provide management with relevant, reliable and timely information, To fully realise the benefits of Management Information System implementation, Information Technology specialists are needed in key areas of the organisation, Key human resource performance indicators should be included in the Management Information System design, To fully service the needs of the organisational Management Information System, management needs to create an Information System Department, Key social performance indicators should be included in the Management Information System design, A cost-benefit analysis needs to be carried out before adopting and implementing any Management Information system

b. Dependent Variable: Social and Environmental Managerial Competence Areas

**Decision Rule**: Using the ANOVA table, which tests the acceptability of the model from astatistical perspective, the decision rule is as follows if $F_{computed} > F_{table\ value}$ – reject the null hypothesis; otherwise accept. Since 129.577 > 2.00, the null hypothesis is rejected and the alternate accepted. Thus, **there is a relationship betweenManagement Information System (MIS) implementation and the provision ofmanagerial core competence tools needed for a proactive management of environmental and social performance of firms.**

**Discussion of Findings, Conclusion & Recommendations:**

The results of the empirical data analysis thus establish the nexus between MIS implementation and the development of managerial core competencies. More specifically, our findings reveal that:

- Implementing Management Information System (s) in organisations is capable of providing management with relevant, reliable and timely information;
- The need to create, if non-existent, additional Information Systems Department with the employ of knowledgeable IT professionals in key areas of the organisation to service the information needs of the Management Information System;
- As with all other systems, the Management Information System needs to be aligned with the corporate objective to ensure goal congruence;
- Environmental performance indicators should form key inputs in the corporate Management Information System;
- Social performance indicators should form key inputs in the corporate Management Information System;
- Management of social and environmental information processing is a necessary first step to corporate social and environmental management.

Predicated upon the above findings, we conclude that MIS is capable of delivering the needed managerial competence for 21st century managers to efficiently and effectively manage their business concerns. The choice of the system is however a function of factors, such as: Organisational Size, Organisational Culture, Information needs of the Managers, regulatory requirements among others.

The turbulence in the operating environment of modern business concerns however does not require the implementation of static systems, as such dynamic systems capable of responding to changes in the business cycle are recommended. The Management Information System should be capable of maintaining database architecture capable of providing historical information to managers useful for forecasting and long-term planning in organisations. Key performance areas such as the qualitative variables of the Balanced Scorecard Framework (Kaplan & Norton, 1990) should also be utilized in the design of such systems.

**Suggestions for Further Research:**

Other key performance areas facing modern managers could be identified and inculcated in the design of organisational Management Information System(s) so as to aid managers develop further competencies to meet up with the globalized challenges of modern corporations.

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