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Accounting Information System as an Aid to Decision Making In Food and Beverages Companies in Nigeria

Adebayo, Mudashiru (Corresponding Author)
Department of Accounting,
Faculty of Management Sciences, Lagos State University
P.M.B. 001, LASU Post Office, Ojo Campus, Lagos
adebayo_mudashiru@yahoo.com

Idowu, K.A
Department of Accounting,
Faculty of Management Sciences, Lagos State University
P.M.B. 001, LASU Post Office, Ojo Campus, Lagos

Yusuf, Babatunde
Department of Accounting,
Faculty of Management Sciences,Lagos State University
P.M.B. 001, LASU Post Office, Ojo Campus, Lagos

Bolarinwa, S.A.
Department of Accounting,
Faculty of Management Sciences,Lagos State University
P.M.B. 001, LASU Post Office, Ojo Campus, Lagos

ABSTRACT

This study tends to critically examine the impact of accounting information system in assisting organizations in making sound and effective decision. The major source of data to this research is primary data through the administration of questionnaires. Regression analysis and Karl Pearson's correlation was used for the data analysis. The findings show that accounting information system is an indispensable tool in decision making in today's turbulent world. Organizations are however, advised to invest on information technology tools as it improve their efficiency, effectiveness and their overall performance.

Keywords: *Accounting Information, Food and Beverage, Nigeria*

INTRODUCTION

In recent years the advancement in information system modules all over the world has made business organisations to exert resources in this area if they are to compete favourably among their local and foreign counterparts. Gone were the days when business organisations were simply required to make profit, survive and provide a fair return to investors' on their interest. The modern business organisations find itself in the atmosphere of global uncertainties, cut throat competition locally and internationally and unprecedented change in the economy. Hence, a great demand is often placed on the managers of these organisations to make pragmatic and informed decisions if the organisation is to move forward as the success or otherwise of any organisation is often a function of the sum of the decisions taken in the past. However, the quality of decisions taken by managers rests upon the substance and accuracy of information provided by systems available to them. An accounting system is one of the most effective decision making tools of management as it provides an orderly method of gathering and organising information about the various business transactions so that it may be used as an aid to management in operating the business (Copeland and Dascher, 1978). Accounting information also may help managers understand their tasks more clearly and reduce uncertainty before making their decisions (Chong, 1996). Thus, Accounting Information system is vital to all organisations and perhaps, every organisation either profit or non profit oriented need to maintain an Accounting Information System as no organisation is exempted from decision making in their operations.

Accounting system, in recent times, has tended to be a system of information that does not stop at limits of data and financial information, but also it includes data and descriptive and quantitative information which is useful in decision making for users distinct with plurality and diversity. Such users include current and potential investors, lenders, suppliers, creditors, customers, governments and the public in addition to the administration,

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which is its responsibility to prepare the accounting programs and displaying it, that information must be capable of achieving the goal that it has been prepared for. Hence the role of Accounting Information System for effective decision making cannot be over emphasized.

It is noteworthy to say here that Accounting Information System derives its source from accounting data. Accounting Information Systems produce results which enhances decision making. Hence, it can safely be concluded that Accounting Information System is not an end in itself but a means to an end i.e. decision making to improve corporate performance. Accounting Information System produces detailed and comprehensible accounting information which are invaluable basis for decision making.

CONCEPTUAL FRAMEWOK

The conceptual framework will be divided into two parts. The first part examines the concept and usefulness of Accounting Information System in organisations in the eyes of various scholars. The second part examines the value relevance of Accounting Information in assisting investors' investment decisions.

Accounting Information System is considered as a subsystem of Management Information System (MIS). Regarding accounting as information system is perhaps the latest definition of Accounting. For the first time in 1966 the Statement of Basic Accounting Theory, published by the American Institute of Certified Accountant (AICPA) stated that "*Accounting actually is information system and if we be more precise accounting is the practice of general theories of information in the field of effective economic activity and consists of a major part of the information which is presented in the quantitative form*".

In the above accounting is part of general information system of an economic entity. Hence accounting information systems could be described as systems used to record the financial transactions of a business or organization. These system combine the methodologies, controls and accounting techniques with the technology of the IT industry to track transactions provide internal reporting data, external reporting data, financial statements, and trend analysis capabilities to affect on organizational performance (Grande, Estebanez and Colomina, 2010).

In the words of Boocholdt (1999), Accounting Information Systems can be defined as systems that operate functions of data gathering, processing, categorizing and reporting financial events with the aim of providing relevant information for the purpose of score keeping, attention directing and decision-making.

Accounting Information System, according to Nicoloau (2000), is a computer based system that increases the control and enhances the cooperation in the organisation. Management is engaged with different types of activities that are requires quality and reliable information. They require also non-financial information such as production statistics, quality of production and so on. However, quality of information generated from AIS is very important for management.

Kim (1989), argues that usage of AIS depends on the perception of the quality of information by the users. Generally the quality of information depends on the reliability, form of reporting, timeliness and relevance to the decisions.

Effectiveness of Accounting Information System also depends on the perception of decision makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and control within the organisation. Some research indicate that the effectiveness of Accounting Information Systems depend on the quality of output information that satisfy the users (Cameron, 1986; Lewin and Minton, 1986; Quinn and Rohrbaugh, 1983; Delone and Mclean, 1992 and Kim, 1989).

Accounting Information Systems are considered important organizational mechanisms that are critical for effectiveness in decision management and control in organizations. (Galbraith, 1983; Zimmerman, 1995). Accounting Information Systems will be useful when information provided by them is used effectively in decision making process by the users.

Otley (1980) argues that accounting systems are an important part of the fabric of organizational life and the need to be evaluated in their wider managerial, organizational and environmental context. Therefore the effectiveness of accounting information systems not only depends on the purposes of such systems but also depends on contingency factors of each organization. Accounting information systems are said to be effective when the information provided by them serves widely the requirements of the system users. Effective systems should systematically provide information which has a potential effective on decision making process (Ivest

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et.al, 1983). The effectiveness of accounting information systems has long been a subject of many research, (Chong, 1996, Chenhall and Moriss, 1986, Kim, 19988, Mia and Chenhall 1994).

Value Relevance

The studies on value relevance are broad and diverse. According to Beisland (2009), value relevance is the ability of financial statement information to capture and summarise firm value. Beaver (2002) opines that value relevance research investigates the association between a security price dependent variable and a set of independent accounting variables. Value relevance is measured as the statistical association between financial statement information and capital market values or returns. The key commonality in the definitions is that an accounting amount is deemed value relevant if it has a significant association with security market value. Earnings and book value are commonly used as the basis for firm valuation.

However, the reliability of earnings may be affected by the earnings management; it may affect the relevance of earnings in determining firm value. There are several approaches to this definitional explanation. Francis and Schipper (1999) and Nilsson(2003) define it from four perspectives: (a) *the predictive view of value relevance*-the accounting number is relevant if it can be used to predict future earnings, dividends, or future cash flows (b) *the information view of value relevance* –the value relevance is measured in terms of market reactions to new information (c) *fundamental analysis view of value relevance*-the accounting information is relevant in valuation if portfolios formed on the basis of accounting information are associated with abnormal returns and (d) *the measurement view of value relevance* –the financial statement is measured by its ability to capture or summarize information that affects equity value. It is therefore important to define the structure of concept of value relevance for this study. The Information perspective of value relevance is used for this study to determine the value relevance of accounting data of listed firms. Informational perspective measures the usefulness of accounting to individual users without much emphasis on the precise structure of the relation between accounting data and firm value (Bernard, 1995).

EMPIRICAL FRAMEWORK

Existing literature offers scant evidence of the relationship between these AIS and financial performance; though it is important to highlight the study made by Elena Urquia Grande, Raquel Perez Estebanez and Clara Munoz Colomina (2010) which discovered a positive association between AIS design and organizational strategy and performance. The successful implementation of AIS could save shareholder's money and time. The information value generated by AIS to shareholders and stakeholders in making investment decisions (Zulkarnain Muhamad Sori, 2009).

Recently several studies have asserted that AIS plays a proactive role in the strategy management, acting as a mechanism that enables organizational strategy (Chenhall, 2003; Gerdin and Greve, 2004). Strategy has been examined using different typologies, such as Porter (1985) or Miles and Snow (1978). The latter has been extensively used in management literature (Zajac and Pearce, 1990).

On the aspect of value relevance a lot has been opined by various scholars. Ball and Brown (1968) provide evidence of security market reaction to earnings announcements. On the basis of their studies, they claim that accounting information is useful to investors in estimating the expected values and risks of security returns. Their result showed that earnings were value relevant.

In 1967, Benson worked on published corporate accounting data and stock prices and claimed that published accounting reports were used by investors to evaluate their expectations of the corporations. He also posits that changes in investors' expectation caused by published accounting data should be reflected in a price of stock of the company. This wok was criticized by Parker (1967) because the cause-effect relationship was difficult to isolate.

Pankoff and Virgil (1970) presented an inventive and ambitious laboratory experiment in order to measure the usefulness of accounting and other information to professional security analyst who participate as subjects in the laboratory stock market. Usefulness of information is defined as "the extent to which information facilitates decision making". Based on this definition they propose five ways to appraise usefulness of information item. They are subject's demand for the item; the degree to which the item affects the subject's forecast; the extent to which the item leads to good forecasts; the degree to which the item affects the subject's decisions and the extent to which the item leads to good decisions.

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Studies as that of Brown, Lo and Lys (1998) suggesting that there have been a decline in value relevance has met with stiff oppositions. Collins, Maydew and Weiss, (1997) and Balachandran and Mohanram (2006) asserts that it is premature to claim that accounting information has lost its value relevance.

Balanchandran and Mohanram (2006) in a recent study of association between conservatism and the value relevance of accounting information concluded that there is no evidence that industries with increasing conservatism see a greater decline in value relevance than industries with decreasing conservatism.

Furthermore, Callao, Cuellar and Jarne(2006), performed a comparative analysis of the value relevance of reported earnings and their components. Their study provides evidence for the value relevance of net earnings figure. Gjerde, Knivsfla and Saettem (2007) found that the time trend of overall value relevance has not declined after controlling for changes in underlying economic variables.

The importance of financial accounting information can best be appreciated in stock market growth by examining how well accounting information numbers such as earnings explain or impact on stock prices and returns. Research indicates that earnings is a a factor that is "priced" in the securities market (Blume and Huse, 1973). The share price impact appears to subsume both earnings yield and size effects upon abnormal securities returns. The research also indicates that share nprice has a strong cross-sectional association with security returns.

Further studies by Ariff, Loh and Chew (1997) posits a relationship between earnings and share prices. Their results show that unexpected earnings changes are significantly associated with share price changes. They further states that the main reason for which accounting information is generated is to facilitate decision making. However, for financial reporting to be effective, among other requirements, it should be relevant, complete and reliable. These qualitative characteristics require that information must not be unfair nor has predisposition of favouring one party over the others. Accounting information should give a decision maker the capacity to predict future actions. It should also increase the users to identify similarities and differences in two types of information.

In the same vein, Vishnani and Shah (2008), determined the value relevance of financial reporting in India and describe value relevance as the ability of the financial information contained in the financial statements to explain stock market measures. Their study explains the likely impact of financial reporting by listed companies on the market prices of their shares. The result of this study reveals the value relevance of published financial statement is negligible. However, ratios based on these financial statements show significant association with stock market indicators. Further, through his study, they also explored the value relevance value additivity of cash flows. They concluded that despite the widespread use and continuing advancement in accounting information and reporting practices, there is some concern about not carrying enough value in the eyes of the shareholders or investors.

RESEARCH METHODOLOGY

Population of study and sample

The population of study consists of all the employees in the food products companies operating in Nigeria. 100 key employees across the seven food products companies were chosen. These are specifically the personnel that employ Accounting Information Systems in carrying out their job responsibilities.

Sampling procedure

The sampling procedure used is the simple random sampling. Random sampling is used because it is the best single way to obtain a representative sample from the population. Owojori (2002) stated that random sampling is one which all the members of the population have an equal chance of being selected from the sample as every other member and in which the selection of an individual for the sample did not influence the chances of any other individual of being chosen. Also, the opinion of a number of individual investors, stock brokers, portfolio managers and investment advisers on the floor of the Stock exchange will be sought.

Method of data collection

In carrying out this research work, data were collected from major primary sources. The primary source of data was the questionnaire, which was carefully framed and administered to a sample of 100 respondents in the organisations selected. The questions in the questionnaire are straight forward and close ended questions. Hence, responses from the questionnaire were on the five point Likert-type questions (agreed, strongly agreed, disagreed, strongly disagreed and indifferences).

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The questionnaire consisted of twenty questions, which were carefully designed to collect relevant data. The research instrument was pilot studied, by expert panel including faculty members. The revised instrument and a cover letter were mailed to the specific individuals who were listed as the financial managers of the firms sampled. A reminder was sent and non-respondents were followed up with two additional mailings.

During the first questionnaire launching, 54 questionnaires were completed and returned. In the second and third mailings, a total of 33 more completed questionnaires were returned. Altogether 87 questionnaires were available for data analysis.

Method of data analysis

This section deals with the techniques of analysing the data collected.

As the sampling technique majorly adopted during the course of the research is a probability sampling technique, parametric test of data analysis such as Karl Pearson's product moment correlation and regression analysis were adopted with a value of 0.05 (level of significance) that corresponds to a 95% confidence level.

Test of hypotheses

Having given a careful analysis of the responses obtained from the respondents through questionnaire administered, the hypotheses will now be formulated and tested.

Hypothesis I

H_0: There is no significant relationship between accounting information system and effective decision making.

H_1: There is significant relationship between accounting information system and effective decision making.

However, regression analysis was used to analyse this hypothesis. The result and conclusion reached were shown below:

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.968[a]	.938	.927	1601.30239

a. Predictors: (Constant), Accounting information system

Source: Field Survey, 2013.

Table 1 shows the result from the analysis that relationship exists between the independent variable and the dependent variable. The model was significant by establishing a relationship between accounting information system and effective decision making. The coefficient of determination (R^2) is 0.938, which indicate that 93.8 percent of the variations in Effective decision making were explained by the independent variable which is Accounting information system. Therefore, it is concluded that for Hypothesis I that, there is a significant relationship between effective decision making and Accounting information system.

Table 2 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2523.684	1278.779		-1.974	.096
	Accounting information system	.032	.003	.968	9.503	.000

a. Dependent Variable: Effective decision making

Source: Field Survey, 2013.

From the table 2 above, the constant gave a value of -2523.684 which is the intercept, hence establishing a negative relationship because of the negative value while the row contains the name of the Independent Variable (Accounting information system) which refers to the slope. The table also shows the t statistics which helped to determine the relative importance of each variable in the model and this is known by the independent variable whose values are well below -2 and above +2. Any value below -2 and above +2 will be accounted for as less improvement in the procedure and techniques. The value for the independent variable is statistically significant, this also explain the establishment of a relationship between the independent variable and the dependent

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variable. The independent variable (Information Technology) had a significant value of .000 which is lower than the decision rule value of 0.05. And this explains for the strong relationship that existed among the variables. Therefore, it is concluded that there is significant relationship between effective decision making and accounting information system.

This relationship will be shown in the model below:

Y= -2523.684 +.032x

Where Y= Effective decision making and

X= Accounting information system

Hypothesis II

H_o: There is no significant positive correlation between the degree of relationship of accounting information system and decision-making in an organization

$H_{1:}$ There is significant positive correlation between the degree of relationship of accounting information system and decision-making in an organization

Karl Pearson's product moment correlation was used to analyse this hypothesis. The result and conclusion reached were shown below:

Table 3 Correlations

		Accounting information system	Decision-making
Accounting information system	Pearson Correlation	1	.620*
	Sig. (2-tailed)		.047
	N	87	87
Decision-making	Pearson Correlation	.620*	1
	Sig. (2-tailed)	.047	
	N	87	87

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey, 2013.

The test statistic table above shows that there is a strong, positive correlation between the degree of relationship of decision-making and accounting information system which was statistically significant at r = .620 and P = .047. As the p-value is less than .05, we reject the null hypothesis and accept the alternative hypothesis that, there is significant positive correlation between the degree of relationship of accounting information system and decision-making in an organization.

DISCUSSION, LIMITATIONS AND CONCLUSIONS

This study tends to evaluate the effectiveness of accounting information systems (AIS) in decision making from various angle: better decision-making by managers, more effective internal control systems, enhancement of the quality of financial reports, improvement of performance measures, facilitating financial transaction processes.

The findings of the research indicated that implementation of accounting information systems could lead to better decision-making by managers, more effective internal control systems, enhancement of the quality of financial reports and facilitating financial transaction processes.

Organizations are encouraged to embrace the effective use of information technology in order to enhance and improve their competitive advantage in this turbulent 21st century.

Like all empirical studies, the present research also has its own limitations due to the methodology employed. Use of questionnaire to collect data always has also its own limitations, since responses could be biased because of the common method used for the collection of all data. Although extensive care has been taken when designing the questionnaire and the pilot study refined the questions, still the criticism of the survey method can never be completely ignored and should be taken into account.

From generalization of the results point of view, measuring research questions based on the opinion of the respondents would limit our generalization of the findings.

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However, the above mentioned constraint will not invalidate the findings of the study.

More so, despite the above limitations, this research has provided useful results in paving the way for future research in this area. Since in this reign of industrialization, increasing demand for AIS, as an effective tool in managing organizations, has prevailed.

This research could provide a supportive evidence for the implementation of AIS.
Avenues for future research could be:
1. Analysis of the effectiveness of AIS with corporation of AIS designer companies,
2. Analysis of the effectiveness of AIS as a part of MIS,
3. Study of the extent to which factors such as inflation, human resource accounting etc. would be taken into account when designing an AIS, and
4. The effects of user participation on the design of AIS.

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