CURRENT TRENDS IN ACCURATE ACCOUNTING INFORMATION AND MANAGERIAL DECISION MAKING

BY

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ABSTRACT

The paper examines the current trends in accounting information and decision making. It specifically examines modern ways of generating prompt accounting information that is in tandem with real –time enterprises and real –time economy in line with the demands of the 'now economy'. Various techniques that facilitate compliance with the principles of the 'now economy' were x-rayed. The study therefore, concluded that there is an obvious need for both the providers and users of accounting information to be compliant with the current demands of the real-time enterprises and real-time economy. The study recommended adoption of an integrated accounting business approach (IABA), otherwise known as Udeh's Model which entails integration of accounting information system software appropriate for the size and functions of the organization to business process and business intelligence model.

Introduction

Accurate accounting information is a sub-set of the general accounting information system that works synergistically with other systems to aid managerial decision making. It is a component, though a very important one, that complements others in ensuring that all the essentials needed for informed decision making are available. Unlike some other items, provision of accurate accounting information may be expensive, time consuming and skill-demanding.

It must be noted that availability of accurate accounting information is not in any way all that is required. The knowledge and skill of an accountant who interprets the indices and advises management based on what is available appear more important. This is because even when the information is available and good interpretation is lacking, informed decision may not be reached. Unfortunately, many do not understand the inevitability of accounting information in decision making. No wonder some alternatives in decision making are devoid of accurate accounting information in some situations. In the past, many people relied on the traditional accounting information system to generate the required data. It usually took time to be generated with so many associated human errors and imperfection. With ever increasing advancement in information technology, it is obviously clear that the traditional accounting information system is now inadequate to perform this function satisfactorily.

Trigo, Belfo and Estebanez (2014) and Vasarhelyi and Alles (2008) opine that enterprises are entering a new era, the era of real-time enterprises and real-time economy which is otherwise known as the "now economy". The "now economy" is profusely characterized by substantive acceleration of business assessment and decision processes. The "now economy", in all intents and purposes, demands real-time accounting. In the real sense, traditional accounting information system cannot fit into the current demands of the "now economy".

Furthermore, higher competition among enterprises demands more updated information to allow management to rapidly adapt to opportunities and answer questions. In the context of technology-driven world activities, professional investors believe that real-time reporting from enterprises allows them not only to better understand corporate performance but also to be more confident on corporate governance (Ashcroft, 2005).

Statement of Problem

Provision of accurate accounting information in decision making has most of the time been problematic. It is often associated with some of these problems; inaccuracy, lateness and unavailability. Once any accounting information is bedeviled with inaccuracy, lateness or is entirely unavailable, it may lead to sub-optional decisions that may not promote achievement of desired goals.

How to generate accurate accounting information that will be capable of the expected reliance in decision making process has been a matter of concern to organizations. While some lack the required skills, others lack the necessary tools for prompt generation of accurate accounting information for purposes of decision making. This invariably creates a lacuna both in the process of generation and utilization of accurate accounting information in decision making. The lacuna has undoubtedly resulted in unfavourable decisions or better still, decisions that did not promote accomplishment of organizational objectives.

There is no doubt that organizations would always want to make best decisions. Regrettably, this has not always been the case. It is a truism that organizations have, in the past, taken decisions that resulted in devastation, unintended loss, unprecedented diminuendo in the scale of their activities.

Several times, managers and directors of organizations have shockingly realized that their wellintended decisions resulted in disastrous consequences such as gradual collapse of the organization, decline in the market value of the shares of the organization, withholding of credit facilities by some creditors, loss of market share of the company's products, protracted legal battles from creditors and even customers. Many a time, when this happens, the managers and directors embark on a fruitless search for whom to blame both within and outside the organization. Little do they realize that a single wrong decision can spell doom for their organization.

Since most decisions all over the world concern achievement of objectives through either maximization of revenue or minimization of cost or reporting of operations, it becomes not only necessary but imperative that accurate accounting information which provides the required indices for decision making in this direction are considered. It is therefore, in view of the above that this study is structured to adequately address these concerns.

Literature Review

Concept of Accounting Information

Chapman (2018) sees accounting information as data about a business entity's transactions. From buying inventory and machinery to entering into long-term building contracts, the events that occur in business operations almost always translate into accounting information. Accounting therefore, identifies and records these data which it uses to generate useful reports for a variety of purposes. Evwierhurhoma (2021) sees accounting information as the qualitative and quantitative information provided by a business accounting information system and modified by accountants to make them useful to users. Modification that facilitates usefulness of accounting information comes in diverse ways. In most cases, it is propelled by the ultimate need of the information.

In our own view, accounting information is any output from an accounting information system that is capable of being applied in decision making process. It can be quantitative or qualitative in nature. It is fundamentally useful in managerial decision making.

Forms of Accounting Information

Accounting information is presented in various forms including financial statements, feasibility reports, project evaluation reports.

Financial Statements: Murphy (2020) explains financial statements as written records that convey the business activities and financial performance of a company. They include statements of comprehensive income (balance sheet), income statements (profit and loss account), cash flow statements and supplementary notes.

Statements of comprehensive income provide an overview of a company's assets, liabilities and shareholders' equity as a snapshot in time. The date at the top of the sheet represents when the snap was taken, which is generally the end of a fiscal year. It shows the net worth of a company.

Income statements show an overview of revenues, expenses, net income and earnings per share. Income statements, unlike statement of comprehensive income covers a range of time, which may be a year for annual financial statements. This shows the financial performance of a company over a specific accounting period. Cash flow statements measure how well a company generates cash to pay its debt obligations, fund its operating expenses and fund its investments. The cash flow statements enable investors understand sources of the company's money and how the money is spent. The details of a company's sources and uses of cash flow are shown in three components of the report (Debreeny, et al (2005):

Operating Activities: These contain all sources and uses of cash from running the business and selling its products or services. They include changes in cash, accounts receivable, depreciation, inventory and accounts payable. Other transactions usually included in operating activities are income tax payment, wages, interest payments, rents and cash receipts from the sale of a product or service.

Investing Activities: These cover sources and uses of cash from investments of a company on long term basis. Any activities concerning mergers or acquisitions, purchase or sale of an asset, loans to vendors or receipts from customers belong to this category. In fact, all changes affecting assets, equipment of all classes and investments belong to investing activities.

Financing Activities: Financing activities include sources of cash from investors or banks and cash used to pay stakeholders. They usually include debt insurance, equity insurance, loans, dividends paid, stock purchases and repayment of debts.

The cash flow statements in addition to its fundamental role of showing the sources and uses of funds from those specific areas, help to reconcile the income statements with the statements of comprehensive income.

The content of the financial statements above shows different bases for decision making. It is however, certain from the financial statements that irrespective of the type of report or the purpose

of decision, that accounting information would be at the centre of such decisions. In fact, it is always the yardstick for decisions arising from financial statements.

Supplementary Notes: When financial statements are issued to outside parties, supplementary notes are included. The notes explain various activities, provide additional details on some accounts and other items that are normally outside the scope of a typical accounting records as mandated by the applicable accounting framework, such as Generally Accepted Accounting Principles (GAAP) or International Financial Reporting Standards (IFRS).

Feasibility Reports: A feasibility report is one that evaluates the viability or otherwise of proposed projects. It comprises of an executive summary, introduction, background and context, evaluation criteria, conclusion and recommendations. While the other parts deal with general issues, the evaluation criteria concentrate on decision variables. Some of the major decision variables include financial cost, tax impacts, public perception, environmental effects and resources needed.

More often than not, the recommendations are based on well set out accounting information such as financial costs and resources.

Project Evaluation Reports: These are reports of assessment of project profitability or liquidity. Ghosh (2020) identifies top four methods of project evaluation as:

Return on Investment (ROI): This is the ratio of profit expected from an investment project and the proposed investment for the project. The greater the ROI of a project, the more acceptable it becomes. The formula $ROI = \frac{amount \ of \ profit}{amount \ of \ investment}$

The amount of investment may mean the amount of assets, amount of capital invested or the amount of equity capital. Based on the above, we have three variables of ROI viz:

Return on Assets (ROA):ROA represents the ratio between net profit and theassets. It is expressed asnet profit excluding taxes + interest paid ×100Total assets

Return on Capital Employed (ROCE). Here, ROCE is net profit (excluding tax) is expressed as a ratio of the total amount of invested capital. Total amount of invested capital may be seen as the sum total of long term liabilities and equity of the shareholders or the summation of the net circulating capital and fixed assets.

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It may be expressed as ROCE = $= \frac{Net \ profit \ minus \ tax}{Total \ investment \ capital} \times \frac{100}{1}$

Or

 $ROCE = \underline{net \ profit \ minus \ tax + interest \ paid}_{Total \ invested \ capital} \times \frac{100}{1}$

Return on Shareholders' Equity (ROSE): This is the ratio of net profit and equity of shareholders. Shares of a company are of two types – preference shares and ordinary shares. ROSE is expressed as

<u>Net profit minus tax – dividend paid to preference shareholders</u> Equity of the ordinary shareholders.

There are two ways through which owners of ordinary shares may obtain return from their company. They are earning per share (EPS) and dividend per share (DPS). These two are expressed as:

EPS =<u>net profit minus tax – dividend paid to preference shareholders</u> Number of ordinary shares

DPS = <u>dividend paid to the owners of ordinary shares</u> Number of ordinary shares

Payback Method: This is a measure of liquidity rather than profitability. It measures the time within which a project will return the invested capital. The shorter the time, the better for the investor in view of the vagaries of the investment climate. For investment with equal streams of income, it is the expected return divided by the useful life of the project.

Net Present Value (NPV): This is a discounted cash flow method that equates discounted cash outflow with discounted cash inflow. When the present value of the flow of costs of the project is deducted from the present value of the flow of net revenues, net present value of the project is arrived at. Usually, the rate of cost of capital (r) is used as the discount rate.

The formula is: NPV =
$$\left(\frac{R1}{(1+r)} + \frac{R2}{(1+r)2} + \dots + \frac{Rn}{(1+r)n}\right) - \left(co + \frac{c1}{1+r} + \frac{C2}{(1+r)2} + \dots + \frac{Cn}{(1+r)n}\right)$$

The general rule is to accept any project whose net present value is greater than zero; otherwise reject. However, if NPV = 0, the firm would be indifferent between the acceptance and rejection of the project.

Internal Rate of Return (IRR): This is another method of discounted flow. It makes the present value of the expected revenues to be obtained from an investment project equal to the present value of the cost of the project. Where m is the rate of discount, IRR would be $C = \frac{R1}{(1+m)} + \frac{R2}{(1+m)2} + \frac{R2}{(1+m)}$

$$\dots \frac{Rn}{(1+m)n}$$

Or C =
$$\sum_{t=1}^{n} \frac{R1}{(1+m)t}$$

The general rule is accept the project if IRR is greater than the rate of cost of capital.

These project evaluation methods are sometimes used in conjunction with some risk factors in order to account for associated business risks. The combination makes for a more integrated approach in evaluation.

In all these situations, accounting information remains a reliable decision variable. Different approaches rely on it either directly or indirectly to make valid and useful decision

Concept Of Decision Making

Terry (n.d.) defines decision-making as the selection of one behavior alternative from two or more possible alternatives. In other words, decision making involves choice either between or among alternatives.

Mcfarland (n.d.) states that a decision is an act of choice wherein an executive forms a conclusion about what must be done in a given situation. A decision represents behavior chosen from a number of alternatives.

Decision making according to Openstax (2012), therefore implies the following:

Exercise of Choice: Managers exercise choice based on some conscious and deliberate logic or judgment. Managers' understanding of the organizational goals plays a key role in the exercise of choice.

Availability of Alternatives: Several alternatives are required for decision or choice to be made. In the absence of alternatives, imposition of ideas results.

Choice is Driven by Purpose: What needs to be achieved often helps to determine the choice to be made. The fundamental reason for decision making is to achieve organizational goals. Therefore, the possibility of each alternative helping to attain organizational goals must be considered.

Tools For Managerial Decision Making

Certain tools facilitate informed decision making in organizations. They do this by either promoting timely provision of required variables for decision making or by disseminating the processed data for decision making. In the view of Johnson (2019), such tools include:

Accounting Information System Software: This software facilitates quick processing analysis, store and retrieval of accounting information. Different types exist for use in enterprises. Nature of enterprise operations, size, financial capacity and objectives help to determine the type of accounting information system software an organization requires for efficient decision making.

Business Process Management [BPM]. Kissflow (2022) sees business process management as how a company creates, edits and analyzes the predictable processes that make up the core of its business. It is an organized management strategy that looks holistically at management processes in order to achieve optimized business outcome. It analyzes current state and identifies area of improvement in order to create a more dynamic, efficient and effective enterprise. Unmanaged chaotic processes may hurt business and lead to one or two of these scenarios – time wastage, more errors, increased blame, demoralized employees etc. The above scenarios retard business growth and achievement of objectives.

Kissflow (2022) identifies three basic types of business process management thus:

Integration- Centric BPM: This type handles processes that primarily rotate among existing systems in an organization without much human involvement. Integration-centric business process management requires extensive connectors and access to be able to create processes that move fast.

Human-Centric BPM: This concerns those processes that are essentially executed by human beings. They are made up of tasks and approvals performed by individuals. These platforms excel at a friendly user interface, easy notifications and quick tracking.

Document-Centric BPM: These business process management solutions are required when a document is at the heart of the process. They enable routing, formatting, verifying and getting the document signed as the task pass along the workflow.

A good business process management should contain the following essentials-visual process diagramming tool, drag-and drop form designer, role-based access control, mobile support, powerful administration features, single-sign-on (SSO), integration with existing software systems, reports and analytics, performance for larger user bases and process performance metrics. These promote operationalization of the entire process.

Cloud Computing: Ranger (2018) defines cloud computing as the delivery of on-demand computing services – from applications to storage and processing power – typically over the internet and on a pay-as-you-go basis. Egivi and Udeh (2020) define cloud accounting as an integrated, yet portable accounting system which uses accounting data from a server with the aid of a compatible accounting software through an internet facility in an electronic device. This

implies that the essentials of cloud accounting include a server with stored accounting data, accounting software and electronic device with internet facility.

One major benefit of using cloud computing services is that firms can avoid the upfront cost and complexity of owning and maintaining their own IT infrastructure and can simply pay for what they use when they use it. Providers of cloud accounting services benefit from significant economies of scale through service delivery to a wide range of customers (Fauscette, 2013).

Ranger (2018) and Defelice (2010) believe that cloud computing exists in three models:

a. Infrastructure as-a-Service (Iaas). This refers to the fundamental building blocks of computing that are rentable such as physical or visual servers, storage and networking. Firms that do not have technical skills particularly find this model attractive. However, the safety of data in laas may not be guaranteed.

b. Platform-as-a-Service (Paas). This is the next layer up-as well as the underlying storage, networking and virtual servers. It also includes tools and soft wares that developers utilize to develop applications that may encompass database management, operating systems, middle - ware and development tools.

c. Software-as-a-Service (SaaS). This concerns the delivery of applications-as-a-service. This appears to be the most conversant aspect of cloud computing. It is usually used on daily basis. Here, the end user has no need for the underlying hardware and operating system since they normally get service via a web browser or application which may be arranged on the basis of seat or user. Saas has been found to be most dominant model of cloud computing.

As laudable as cloud computing may appear, some criticisms tend to decimate its use and application even on the part of users and vendors. Ranger (2018) notes that latency (i.e location of

data centre) may affect the rate of movement. It is argued that applications coming from a data centre on the other side of the planet or from a congested network may be sluggish when compared to a local connection. Furthermore, he sees data sovereignty as another issue. Many people are scared over where their data are processed and subsequently stored. This has raised a big concern that has given rise to the thought of building regional data centre so that organizations can keep and control their data in their own region. This however, may not be the end of fear of data insecurity. Each vendor may need to have independent control of his or her data.

Business Intelligence (BI). Stedman and Burns (2021) opine that business intelligence is a technology-driven process for analyzing data and delivering actionable information that helps members of the executive, managers and workers make informed business decisions. They state that as part of business intelligence process, organizations collect data from internal IT system and external sources, prepare it for analysis, run queries against the data and create data visualizations, BI dashboards and reports to make the analytics results available to business users for operational decision making and strategic planning. The business intelligence initiative is anchored on analytics, data management and reporting tool as well as different methodologies for managing and analyzing data in order to ensure better business decisions that propel increase revenue generation and improvement in operational efficiency for more competitive advantage (Sahay & Ranjan, 2008).

Elena (2011) argues that business intelligence goes beyond mere software. It includes other functional sub-systems that drive its success in the business world. In fact, business intelligence data can include historical information and real-time data gathered from source systems as generated, enabling business intelligence tools to support both strategic and tactical decision making processes. Before, it is used in business intelligence applications, raw data from different

source systems generally must be integrated, consolidated and cleansed using data integration and data quality management tools to ensure that business intelligence teams and business users are analyzing accurate and consistent information (Stedman & Burns, 2021).

Types of Business Intelligence Tools and Applications

A number of tools and applications are available for utilization in business intelligence. Chaudhuri, et al (2010) believe that tools and applications help to sharpen different aspects of business and decision making process. According to Negash and Gray (2008) and Stedman and Burns (2021), the following business intelligence tools and applications exist:

Ad hoc Analysis: This entails the process of writing and running queries to analyze specific business issues. The core area of application of this tool is why people sometimes call it ad hoc querying. It is seen as one of the cardinal elements of modern business intelligence applications and an important feature of self-service BI tool. These tools are run regularly with the analytics results included as reports.

Online Analytical Processing (OLAP): Online analytical processing was among the early technologies of business intelligence. It is useful in data analysis along multiple dimensions especially when complex queries and calculations are involved. Previously, as a matter of necessity, data would be extracted from a data reservoir and stored in an OLAP multidimensional cubes from where they are run. These days, as a result of advancement in technology, OLAP analysis can be run directly without involvement of columnar databases. The beauty of this tool is its ability to engage in analysis along multiple dimensions.

Mobile Business Intelligence: This enables business intelligence applications and dashboards to be available on smartphones and other handy electronic gadgets such as tablets. One major limitation of mobile business intelligence is its inability to analyze data. It is basically designed to view, with ease, analyzed data.

Real-time Business Intelligence: The special feature of this is its ability to analyze data as they are created, collected and processed to avail users of current information regarding business operations, customer behavior, financial market situations as well as other decision making variables inherent in the business including credit scoring, inventory trading and promotional strategies.

Operational Intelligence (OI): This is a kind of guided real-time analytics which delivers processed information to only managers and frontline workers. It is used in operational decision-making with the intent of producing fast results on contending issues. Its application in handling operational problems quickly and successful underline why it is often called operational business intelligence.

Software-as-a-Service Business Intelligence (SaaSBI). The principles of functionality of SaaS is similar to that of cloud computing that is structured on the basis of subscription. It has facilities for multi-cloud support which favours its use in different cloud platforms in a bid to meet user needs and promote efficient business management. It is sometimes referred to as cloud business intelligence.

Open Source Business Intelligence (OSBI): Open source tool exists in two forms-the community version which does not attract any charge and commercial version that is subscription

based. Some vendors, in order to encourage individual users, may prepare business intelligence tools that offer free services to individual u

Embedded Business Intelligence (EBI): This category permits direct combination of business intelligence and data visualization. It allows data analysis with the applications they utilize in doing their regular job. It is adaptable to even locally made applications without compromising any of its features.

Collaborative Business Intelligence (CBI): Collaborative business intelligence makes use of no specific technology. It only entails the combinations of available business application and collaboration tools to provide a platform for different people to work together on data analysis and information utilization.

Location Intelligence (LI): Unlike the CBI, this is a highly specialized version of business intelligence that is used to analyze location and geospatial data with map-based data visualization. It is designed to handle geographic issues in business data. It is very useful in handling complexities arising from diversities in location and relation matters.

All these tools and applications of business intelligence have become essentials in coping with the demands of informed decision making. Different tools and applications have continued to find increasing relevance in the global drift to the now economy.

Enterprise Architecture (EA).

Gillis (n.d) perceives enterprise architecture as a conceptual blueprint that defines the structure and operations of organizations. It entails analyzing, planning, designing and eventual implementation of the policies. The overall intent of enterprise architecture is to determine how an organization can effectively achieve its current and future objectives. Enterprise architecture helps business to integrate their legacy applications with processes in order to control their environment (Stelzer, 2009).

Enterprise architecture helps multiple departments in a business to coordinate their activities, articulate challenges and business risks using a business model. It is a composite capability and identity gaps with a view to making informed decisions (Barlow, 2013).

Intaglio (2020) identifies four perspectives of the Enterprise Architecture thus:

Business Perspective: This concerns processes and standards by which businesses operate on a day-to-day basis. It offers a general platform for managing businesses on a short term and regular basis. It defines company's strategy, planning and tactics.

Application Perspective: This perspective defines interactions among the varying processes and standards that are in use in the organization. It basically harmonizes all processes and standards to avoid internal conflict and improve efficiency.

Information Perspective: This perspective handles, orders and classifies raw data contained in document files, images, data-bases, spreadsheets and presentations that the organization requires for optimal operation. The ordering and classification of raw data facilitates effective decision making. In fact, this domain expands the company's ability to have accurate data driven plans.

Technology Perspective: This deals with the hardware components, operating systems, programming and networking tools that are employed in the organization. These tools process the raw data specifically to provide results from which informed decisions are taken. Stakeholders depend on the interplay of information and technology perspectives for correct, current and reliable basis of decision making in organizations.

Models and Methodologies of Enterprise Architecture

Enterprise architecture is applied in organization using different models and methodologies. The choice of the models are dependent on the organizational size and objectives.

Some of the common models according to Gallis (n.d) and Intalio (2020) are:

Zachman Framework (ZF): This framework covers six architectural points as well as six primary stakeholders that are useful in defining and standardizing IT architectural components. Many organizations find this model useful and easily adaptable.

Unified Architecture Framework (UAF): The UAF is generally seen as a complex though flexible enterprise architecture when compared to other framework. It is particularly suitable for military and government software development as well as in commercial entities. It is operated through a UML profile. It is quite dependable.

Agile Enterprise Architecture (AEA): This model focuses on organization around a flexible, extended collection of structures and processes that have the potentials to grow or develop further. It is sometimes integrated as important part of agile software delivery component.

Federal Enterprise Architecture Framework (FEAF): This is a recent model that was introduced in 1996 specifically to improve effectiveness of IT. Notwithstanding that is was designed for use in public sector, it has also found usefulness in private companies.

Conclusion

Accurate accounting information has been shown in various perspectives to be the bed rock for managerial decision making. It undoubtedly presents a transparent and convincing yardstick for

choice in the presence of competing alternatives. Managers and researchers implicitly place reliance on accurate accounting information for far-reaching decisions that impact significantly on corporate objectives.

However, the periodic provision of accurate accounting information in enterprises appear not to be in tandem with the rate of technological development sweeping across all sectors of the economy presently. There is therefore, an obvious need for both the providers and users of accounting information to be compliant with the current demands of the real-time enterprises and real-time economy. The providers of the accounting information should adopt technologies that will promote real-time accounting in order to ensure that accurate accounting information remains the foundation for corporate managerial decision making in organizations.

Recommendations

In view of the centrality of accounting information in managerial decision making, it is necessary that providers of accounting information should move with time. They should provide accounting information that will promote optimal decision making in real-time. Since the world is moving towards the "now economy", providers of accounting information should ensure the adoption of practices that are compatible with real-time accounting. It is in the light of the above that the following recommendations are proffered:

1. Adoption of An Integrated Accounting Business Approach (IABA). This model is otherwise known as Udeh's Model. It entails integration of accounting information system software appropriate for the size and functions of the organization to business process and business intelligence model.

While the accounting information system software ensures real-time quick processing, analysis, storage and retrieval of accounting information, business process management and intelligence permit real-time monitoring of business processes that send relevant financial or non-financial information from business operations to management and users of accounting information. This approach goes beyond computerization of some departments.

The model involves total re-engineering of all operations or processes in an organization with a view to having all required pieces of information from every segment of the organization at the click of a button for decision making purposes. It usually involves automation of operational processes. It uses IT as a vehicle to achieve its objectives.

2. Engagement of IT Compliant Accountants: In addition to the above, engagement of highly skilled and IT compliant Accountants is sacrosanct in organizations. Such Accountants use their skills to interpret and coordinate various IT reports with a view to organizing the available accounting information to be able to meet the divergent needs of both actual and potential users.

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