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Option Valuation:

The Black-Scholes Model

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THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA

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Editor's Note

One of the requirements in the Strategic Financial Management (SFM) syllabus of the Institute is that students should be able to value options using the Black-Scholes Option Pricing Model and the Binomial Option Pricing Model.

*To assist students in understanding what is required to achieve this, the author of our lead article entitled "**Option Valuation: The Black-Scholes Model**" looked at how the Black-Scholes Option Pricing Model could be used to value options on stock.*

In the article, he analysed that the value of an option contract is affected by six factors, some of which are specified by the contract, but others are determined by the underlying asset and the level of interest rates. He went further to list the five variables along with the symbols commonly used to denote each of them.

*The second article in this edition bothers on budgeting as an integral part of budget control in any organization. The author entitled it as "**Budgeting: A Panacea for Resource Allocation within an Organization**". He simplified the article by defining budget in various ways, citing several authorities.*

According to him, budget could be seen as management plan, with the assumption that positive steps will be taken by those implementing it to make actual events conform to the plan. He declared it in simple term as what one plans to spend and what he intends to generate.

In the news section, you will read about the E-learning platform just inaugurated by the Institute and the Memorandum of Understanding signed between ICAN and Yaba College of Technology, Yusuf Maitama Sule University, Kano and Police Academy, Kano.

Under The Examiner column, we publish some past questions and their solutions to guide students on how to approach questions to ensure success in ICAN examinations.

Your comments and contributions are welcome. Write to corporateaffairs@ican.org.ng or editor@ican.org.ng

ICAN Donates Books To Four Tuition Houses

The Institute has donated books and other educational materials to four tuition houses across the country. The donation of the books was held on March 27, 2018 at ICAN Office Annex, Ebute-metta, Lagos.

The four tuition houses that benefitted from the donation were: Professional Tutors for Success, Oshogbo; Risk Free Standard Associates, Lagos; Taraba Business School, Jalingo, Taraba state and Onitsha Business School, Onitsha, Anambra state.

Making the presentation, the Chairman, Board of Trustees on ICAN Tuition House Support Fund, Dr. Richard Uche, enjoined the benefitting tuition houses not to betray the confidence ICAN reposed in them. He appealed that the books should be made available to students writing ICAN examinations and should also serve as teaching materials.

L-R: Mr. Sunday Bammeke (Member, Board of Trustees), Chief (Dr.) Richard Uche (Chairman, Board of Trustees), Olayinka Gabriel (Taraba Business School, Jalingo), Wole Bodunde (Snr. Mgr. Students' Affairs).

ICAN Has Taken The Lead In Fighting Corruption, Says Unimaid VC

The Vice Chancellor, University of Maiduguri, Professor Ibrahim Abubakar Njodi has applauded the Institute for making efforts towards discouraging corruption in the country. Professor Njodi gave the remark in Maiduguri while receiving the President of ICAN, Ismaila Zakari, in his office on Thursday, March 8, 2018.

ICAN President, Ismaila Zakari presenting sovenir to the Vice Chancellor, University of Maiduguri, Professor Ibrahim Abubakar

While welcoming the ICAN President, the Vice Chancellor observed that apart from having a tribunal that tries erring ICAN members, the Institute has also made further efforts like its "ICAN Accountability Index" to monitor public office holders and politicians, with the sole aim of keeping them on their toes and discourage corruption.

Speaking further, the University Don who described Accounting as a global programme solicited ICAN's support to give the students the best. "On accreditation, ICAN has really supported us but we still want more support from the Institute. We want more educational materials and laptops with accounting software. In a nutshell, we are looking towards collaborating with the Institute," he stated.

Earlier, the ICAN President, Ismaila Zakari, had expressed satisfaction with the existing mutual and cordial relationship between the University and ICAN, adding that the minimum requirement for accreditation was still maintained by the University,

He also encouraged the management of the Institution to work towards embracing ICAN's Mutual Cooperation Agreement with Tertiary Institutions (MCATI).

According to him, under the MCATI programme, there would be a Memorandum of Understanding between both parties under which ICAN curriculum would be incorporated into the school's own thereby exposing their Accounting students to both the academic and professional side of accounting.

He explained that the agreement would give the students of the Institution exemption from eleven subjects as against the normal seven subjects given to accounting graduates of Institutions not under the MCATI programme.

Laptops, Accounting Textbooks Donated To Tertiary Institutions

In fulfillment of the pledges made by the Institute to support the growth and development of accountancy education in the country, the Institute has donated laptops and Accounting textbooks to some tertiary Institutions in the country. The Institutions are: Ahmadu Bello University, Zaria; Benson Idahosa University, Benin City; Paul University, Awka; Chukwuemeka Odumegwu Ojukwu University, Anambra; Delta State Polytechnic, Oghara; Federal College of Education (Technical), Lagos; and Lagos State University, Lagos.

Making the presentation to the Institutions in Lagos on Tuesday, May 8, 2018, the ICAN President, Ismaila Zakari reiterated that ICAN was guided by its determination to add value, build capacities and improve educational standard in the country. He explained that Nigeria was currently having its fair share of the global downturn, the impact of which had adversely affected all sectors of the economy-most especially the educational sector, which appears to be the worst hit.

"As a professional body committed to technical excellence and in line with its statutory mandate of setting standards and regulating the practice of Accountancy in the country, the Institute proactively reacts to these challenges by instituting policies at Council to support the growth and development of Accounting Education in Nigeria".

ICAN President, Ismaila Zakari presenting the ICAN package to one of the beneficiaries

"It is instructive to stress that apart from setting standards and regulating the practice of Accountancy in the country, the Institute ensures that its potential members receive appropriate and qualitative technical and academic training which can be bench marked against global standards," he declared.

Furthermore, the ICAN President added that it was in appreciation of the role of information technology on the Accountancy profession and the dearth of study materials for accounting students that propelled the Institute to commit funds into the acquisition of Computer Laptops and Textbooks to assist the Accountancy students in tertiary institutions in their pursuit of Information Technology (IT) skills insights into the relevant accounting software.

ICAN Invites Yaba Tech To Embrace MCATI Programme

...signs MOU with Yusuf Maitama Sule University Kano

The Institute has appealed to the management of Yaba College of Technology, Lagos to embrace its Mutual Cooperation Agreement with Tertiary Institutions (MCATI). The appeal was made by the 53rd ICAN President, Ismaila Zakari during a visit to the College as part of his tour of the Lagos Mainland and District Society of the Institute.

According to Zakari who was represented by the 2nd Deputy Vice President of the Institute, Mrs. Onome Adewuyi, ICAN and Yaba Tech had been partners for long in building human capacity, hence the call for more robust relationship through MCATI.

He explained that under the MCATI programme, there would be a Memorandum of Understanding between both parties under which ICAN curriculum would be incorporated into the school's own thereby exposing their Accounting students to both the academic and professional side of accounting. This according to Zakari would give the students of the Institution exemption from eleven subjects as against the normal seven subjects given to accounting graduates of Institutions not under the MCATI programme.

Responding, the Rector of the school, Engr. Obafemi Omokugbe described ICAN's relationship with Yabatech as remarkably long and cordial, promising that the MCATI issue would be looked into and given urgent attention. He described ICAN as a leading professional body in the country and its track records had proved and spoken much about its integrity. While appreciating the various donations in books and computers by ICAN, the Rector solicited for accounting books, more computers and a Lecture Theatre for its accounting department.

Meawhile, the Institute has signed a Memorandum of Understanding (MOU) with Yusuf Maitama Sule University Kano under its MCATI.

In his speech at the signing ceremony, the ICAN President, Isma'ila Zakari said the agreement was aimed at deepening the standards of learning and dissemination of knowledge of Accountancy in Nigerian tertiary institutions for the betterment of the profession and Nigeria as a whole. He explained further that the benefit of high quality Accountancy education to Nigeria

ICAN Invites Yaba Tech To Embrace MCATI... *contd*

could not be quantified.

According to him, the Memorandum of Understanding is essentially a collaboration between ICAN and the University in which ICAN syllabus for qualifying professional examinations will be integrated with that of the University's NUC approved curriculum for undergraduate accounting programme.

"The Mutual Cooperation Agreement requires that undergraduate accounting students will study using the integrated ICAN/NUC approved accounting curriculum and those who graduate from the Accounting Department of the University would be granted 11 subject exemptions which is the highest exemptions granted to ICAN students, as against seven 7 subjects exemption granted to students whose universities are under the normal ICAN accreditation scheme," said the ICAN President. This represents full exemptions from Foundation and Skills levels of ICAN Professional Examinations, he concluded.

Responding, the Vice Chancellor of the University, Professor Mustapha Ahmad Isa said the signing of the MOU will enhance learning of Accounting as a course in the Institution.

Nigeria Police Academy Partners With ICAN On MCATI

The Nigeria Police Academy, Wudil, Kano State has signed a Memorandum of Understanding (MOU) with the Institute, under its Mutual Cooperation Agreement with Tertiary Institutions (MCATI).

(L-R) Registrar, Nigeria Police College, Kano, Mohammed Usman; ICAN President, Ismaila Zakari; Commandant, of the College, AIG Sanni Mohammed and ICAN Registrar, John Evbodaghe, after the signing of the MOU

During the signing ceremony, the Institute's President, Isma'ila Zakari said the agreement was aimed at deepening the standards of learning and dissemination of knowledge of Accountancy in Nigerian tertiary institutions for the betterment of the profession and Nigeria as a whole.

According to him, the Memorandum of Understanding is essentially a collaboration between ICAN and the Academy in which ICAN syllabus for qualifying professional examinations will be integrated with that of the Academy's approved curriculum for undergraduate accounting programme.

Responding, the Commandant of the Academy, Mr. Sanni Mohammed (AIG), said the signing of the MOU was part of the many good things that would happen between the Academy and ICAN.

ICAN Commissions E-Learning Platform

The Institute has commissioned its e-learning platform christened "ICAN Learning." Commissioning the platform on Wednesday, April 25, 2018, the President of the Institute, Ismaila Zakari explained that the vision was to continuously update the technical skills and competencies of Chartered Accountants and participants through value added training provided at minimum cost to enhance their productivity and social responsiveness.

In her opening remarks, the Chairman of Members' Education and Training Committee, HRM Adaku Chidume-Okoro enumerated some of the benefits inherent in the project for members and non-members of ICAN. According to her, the e-learning platform would be running concurrently with the Mandatory Continuous Professional Education (MCPE) physical training. Also, it would meet the need of ICAN members in Diaspora and others unable to attend classroom teachings, due to geographical limitations for current MCPE delivery.

She stated further that more members would be able to access MCPE training, resulting in potential enhancement in the knowledge, skills and competencies of ICAN members, adding that the platform was convenient for members and non-members irrespective of status and location.

Option Valuation: The Black-Scholes Model

By Ade Omolehinwa

The Strategic Financial Management (SFM) syllabus of the Institute requires that students should be able to value options using the Black-Scholes Option Pricing Model and the Binomial Option Pricing Model. In this article, we look at how the Black-Scholes Option Pricing Model can be used to value options on stock.

The value of an option contract is affected by six factors, some of which are specified by the contract, but others are determined by the underlying asset and the level of interest rates. The five variables are listed, along with the symbols commonly used to denote each, as follows:

S = current price of the underlying asset (e.g. a stock)
E = strike price of the option, also called exercise price
T = time to expiration of the option
r = level of the short term risk-free interest rate applicable to time T
D = present value of the dividend paid on the underlying stock over time T
σ = expected volatility of the price of the underlying asset over time T

The effect of changes in each variable on the value of the option contract (assuming that all other variables are held constant) are detailed below.

***Current price of the stock*, S.**
For a given call option, as S increases, the value of the call increases. This is rather obvious when considering a call with a strike of N40. If the current price of the stock is N50, the call option will be more valuable than if the stock price is N45.

For a given put option, as S increases, the value of the put decreases. A put with a strike of N40 is more valuable if the current price is N30, rather than N35. The relationships hold even if the options are "out-of-the-money."

***Strike (or exercise) price of the option*, E.**
For call options, as the strike price increases, the value of the call decreases. Clearly, you would pay less for an option that gives you the right to buy at a higher price. For put options, as the strike price increases, the value of the put increases. Here, you will pay more for an option that allows you to sell at a higher price.

***The time to expiration*, T.**
For American options, increasing the time to expiration will increase the option value. With more time, the likelihood of being in-the-money increases.

***The risk-free rate over the life of the option*, r.**
With a higher risk-free rate, the value of a call option will be higher. Since the call option allows the holder to purchase the underlying at a stated price (the strike price) at a future date, an investor can purchase the call option rather than the stock and lend the difference at the risk-free rate until expiration. A higher risk-free rate has the opposite effect on put options since the holder of the put may put the shares now and lend the money rather than hold the contract to expiration. Thus, higher rates result in lower put option prices.

***Volatility of the stock price over the life of the option*, σ.**
Increased volatility always results in higher option values. Although we are accustomed to viewing both upside and downside volatility, the asymmetrical payoffs of options already limit the downside risk to a long option position. As volatility increases, option values increase. Since long option positions have a maximum loss equal to their original cost, increased volatility only increases the chances that the option will expire in-the-money.

Option Value
The key aspect to an option's value is that the buyer (also called the holder or the long) has a choice whether or not to use it (i.e. to exercise the option). Thus the option can be used to avoid down side risk exposure without foregoing upside exposure. The value of option is made of two components.

- **Intrinsic value or exercise value.** The intrinsic value of an option is its value at expiration. The formula used to compute the intrinsic value depends on the type of option, call or put.
  - For a call option, the intrinsic value is: C = Max (O, S – E) This means that the intrinsic value of a call option, C, is worth either zero or the difference between the underlying price and the exercise price whichever is greater.
  - For a put option, the intrinsic value is: P = Max (O, E – S) This means that the intrinsic value of a put option, P, is worth either zero or the difference between the exercise price and the underlying price, whichever is greater. Note that an option cannot have a negative intrinsic value.
- **Time value**
  The time value of an option is the difference between the current market value and the intrinsic value. The time value of an option is affected by risk-free rate, time to expiration, and volatility of the underlying asset.

The Black – Scholes Option Pricing Model
The Black – Scholes option model values options before the expiry

date and takes account of all five factors that determine the value of an option.

Using the Black – Scholes model to value call options

$$C = [S \times N(d_1)] - [Ee^{-rT} \times N(d_2)]$$

Where:

$$d_1 = \frac{\ln\left(\frac{S}{E}\right) + \left(r + \frac{\sigma^2}{2}\right)(T)}{\sigma\sqrt{T}} \qquad d_2 = d_1 - (\sigma)(\sqrt{T})$$

Where:

C = Call price
S = Current stock price
E = Exercise or Strike price
N(d) = Value of the area under a normal probability (bell-shaped) curve to the left of d. It is a number given from the standards normal cumulative probability distribution table.
r = The continuously compounded risk-free rate of return in decimal
T = Time to expiration of the option measured in fractions of a year (in decimal)
σ = The annualised standard deviation of the stocks return (volatility) in decimal
In = Natural log, available in most calculators

The above black-Scholes model is based on the following fundamental assumptions:

- **Lognormality**. The model assumes that the return on the underlying asset follows a normal distribution which means the return itself follows a lognormal distribution.
- **Perfect markets.** There are no transaction costs (e.g. commission, bid-ask spread, tax, etc.)
- **Constant interest rates.** The risk-free rate used in the model is assumed to be constant and known.
- **Constant volatility.** The volatility (measured by standard deviation or variance)of the underlying asset is known and remains constant throughout the life of the option.
- **Tradability.** The model assumes that there is a market for the underlying asset and it can therefore be traded.
- **No cash flows.** The model assumes that the underlying asset does not generate any cash flows, e.g. dividends during the life of the option.
- **European option.** It is assumed that we are pricing European style option (can be exercised only at expiration).

In practice these unrealistic assumptions can be relaxed and the basic model can be developed to reflect a more complex situation.

Applying the Black-Scholes Option Pricing Model
To illustrate the Black-Scholes Option Pricing Model, we make use of the following example:

Suppose that stock TK is N52, and there is a call option that trades on TK with price of N50 which expires in three months. The risk free rate is 10% per annum. The volatility (standard deviation) of the stock returns is 20%. Calculate the values of the call option and the related put option.

Solution
Call Option
Step 1: Determine d_1, and d_2 - to two decimal places

$$d_1 = \frac{\ln\left(\frac{S}{E}\right) + \left(r + \frac{\sigma^2}{2}\right)(T)}{\sigma\sqrt{T}}$$

$$d_1 = \frac{\ln\left(\frac{52}{50}\right) + \left(0.1 + \frac{0.2^2}{2}\right)(0.25)}{0.2 \times \sqrt{0.25}} = 0.69$$

$$d_2 = d_1 - (\sigma)(\sqrt{T}) \qquad = 0.69 - (0.2)(\sqrt{0.25}) = 0.59$$

Step 2: Determine $N(d_1)$ and $N(d_2)$.
$N(d_1)$ and $N(d_2)$ are derived from the normal distribution table
(You are referred to the appendix at the end of this article on the use of normal distribution table.)
$N(d_1) = 0.5 + 0.2549 = 0.7549$
$N(d_2) = 0.5 + 0.2224 = 0.7224$

Step 3: Compute the price of call
$C = [S \times N(d_1)] - [Ee^{-rT} \times N(d_2)]$
$C = (52 \times 0.7549) - (50 \times e^{-0.10 \times 0.25} \times 0.7224) =$ ₦4.03

Step 4: Compute the value of put
When asked to calculate the value of put, it is best to first calculate the value of call and then make use of Put-Call-Parity to compute the value of put. This is the approach recommended even when the value of call is not required.

The Put-Call-Parity is given by:
$P = C + Ee^{-rT} - S$
(All variable as previously defined)
Thus, in this example, we have:
$P = 4.03 + 50e^{-0.01 \times 0.25} - 52 =$ ¦ 0.79

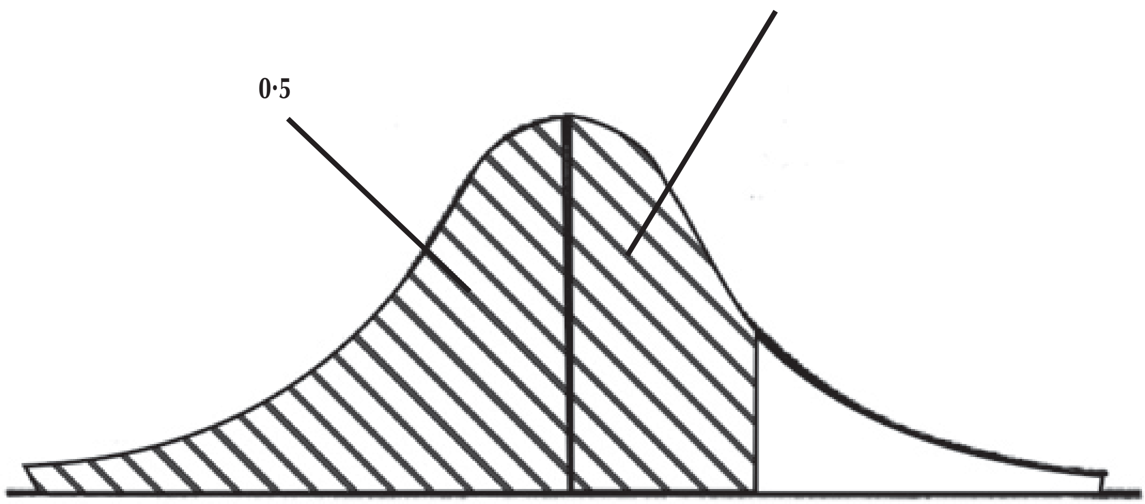
Appendix
The use of Normal Distribution Table
The extract of normal distribution table given below can be used to calculate $N(d_1)$ (and $N(d_2)$), the cumulative normal distribution function for the Black-Scholes model of option pricing.

- If $d_1 > 0$, and 0.5 to the relevant number from the table
- If $d_1 < 0$, subtract the relevant number from 0.5

In our example

- With d_1 of 0.69, $N(d_1) = 0.2549 + 0.5 = 0.7549$
- With d_2 of 0.59, $N(d_2) = 0.2224 + 0.5 = 0.7224$
- If $d_1 = -0.69$ for example, $N(d_1) = N(-0.69) = 0.5 - 0.2549 = 0.2451$

Standard normal distribution table



	0·00	0·01	0·02	0·03	0·04	0·05	0·06	0·07	0·08	0·09
0·0	0·0000	0·0040	0·0080	0·0120	0·0160	0·0199	0·0239	0·0279	0·0319	0·0359
0·1	0·0398	0·0438	0·0478	0·0517	0·0557	0·0596	0·0636	0·0675	0·0714	0·0753
0·2	0·0793	0·0832	0·0871	0·0910	0·0948	0·0987	0·1026	0·1064	0·1103	0·1141
0·3	0·1179	0·1217	0·1255	0·1293	0·1331	0·1368	0·1406	0·1443	0·1480	0·1517
0.4	0.1554	0·1591	0·1628	0·1664	0·1700	0·1736	0·1772	0·1808	0·1844	0·1879
0·5	0·1915	0·1950	0·1985	0·2019	0·2054	0·2088	0·2123	0·2157	0·2190	0·2224
0·6	0·2257	0·2291	0·2324	0·2357	0·2389	0·2422	0·2454	0·2486	0·2517	0·2549
0·7	0·2580	0·2611	0·2642	0·2673	0·2704	0·2734	0·2764	0·2794	0·2823	0·2852
0·8	0·2881	0·2910	0·2939	0·2967	0·2995	0·3023	0·3051	0·3078	0·3106	0·3133
0·9	0·3159	0·3186	0·3212	0·3238	0·3264	0·3289	0·3315	0·3340	0·3365	0·3389

Reference
ICAN SFM Study Text
- John C, Hull, Options, Futures and other Derivatives 7th edition.

Note: In the second part of this article, we will discuss **real options** and the applications of Black-Scholes Option Pricing Model.

Mr. Ade Omolehinwa
contributed this article from Lagos.

Budgeting:

A Panacea for Resource Allocation within an Organization

By Ayozie Kingsley Ndubueze

DEFINITION OF BUDGET:
According to the Chartered Institute of Management Accountant (CIMA) UK, budget can be defined as "a financial or quantitative statement prepared and approved prior to a defined period of time usually showing the planned income to be generated and/ or expenditure to be incurred in order to achieve a basic objective." Adeniji, A.A (2012) : An insight to Management Accounting defined budget "as a future plan of action formulated by management for the whole organization or a section thereof, which is expressed in monetary terms." He concluded by saying that a budget is a detailed commitment to a plan of action, thus differs from a "forecast" which is merely an assessment of future events which are likely to occur if no positive planning action is taken."

Budget could also be seen as management plan, with the assumption that positive steps will be taken by those implementing it to make actual events conform to the plan. In simple terms, it shows what you plan to spend (expenditure) and what you intend to generate (income) over a specified time period.

NOTE: Budget is an integral part of budgetary control.

CHARACTERISTICS OF BUDGET:
The following are the characteristics of Budget:

(i) Most times it covers a one year period.

(ii) It is basically stated in monetary terms although the monetary values may be backed up by non-monetary amounts. Take for instance number of units produced or sold.

(iii) Once approved, it can be changed only under specific conditions.

(iv) Budget proposal is reviewed and approved by an authority higher than the budgetee.

(v) Budget contains an element of management commitment in that managers agree to accept the responsibility for attaining the budgeted activities.

(vi) From time to time, actual financial performance is compared to the budget and variances are analyzed and explained.

BUDGETTING:
This is the process of demanding money (fund) from an organization in support of programmed activities and once approved becomes an operating plan for that organization concerned. It could also be seen as a systematic and formalized approach for performing significant phases of the management planning and control of functions. (Adeniji A.A, 2012)

BUDGETARY PLANNING:
This can be defined as a process of preparing a detailed short term plan known as budget for the function, activities and departments of an organization. In general, plans are developed using physical value. Take for instance

- *The number of units to be produced*
- *The number of hours to be worked*
- *The amount of materials to be consumed etc.*

When monetary values are attached, the plan becomes a budget.

BUDGETARY CONTROL
The Chartered Institute of Management Accountant (CIMA) UK defined budgetary control "as a system of controlling costs which includes the preparation of budgets, co-ordinating the departments & establishing responsibilities, comparing actual performance with that budgeted & acting upon results to achieve maximum profitability."

It can also be defined as the establishment of budget relating the responsibility of the executive to the requirement of a policy and continuous comparism of actual performance with budgeted level so as to secure either by individual action the objectives of such policy or to form a basis for its provision.

In a nutshell, budgetary control emphasizes control of plan by comparing "actual results" against "plans" in order to identify variances upon which corrective measures could be taken.

OBJECTIVES OF BUDGETARY CONTROL
The objectives of budgetary control are as follows:

- To centralize control across the organization.
- To direct capital expenditure in the most profitable direction.
- To combine the ideas of all levels of management in the preparation of the budget.
- To co-ordinate all the activities of the business.
- To plan & control income & expenditure so that maximum profitability is achieved.
- To ensure that sufficient working capital is available for the efficient operation of the business.
- To show management which action is needed to remedy a situation.

BUDGETARY FUNCTIONS

Budgetary functions tries to underscore those key activities that putting in a place a good budgetary system will assist us to achieve.

- Budget will assist a firm to plan its activities effectively well.
- It is also a good tool for performance evaluation.
- Budget when properly implemented will help an entity to coordinate her activities very well.
- Budget can also be used to implement those plans that an organization set to achieve.
- It is a tool of communication between an entity and her stakeholders when the need arises.
- A good budgetary system is an antidote in motivating employees to work and key into the organization's objectives.
- Lastly under government budgeting, it can be effectively used to authorize actions and get things done fast.

FACTORS TO BE CONSIDERED IN BUDGETARY SYSTEM

The following are the factors to be considered in budgetary system

- The extent of individual participation.
- The group pressure identification to the company.
- The aspiration level of individual(s).
- The rate of inflation will be unknown so that budgeting for price level will be a mere guess work.
- The past performance of the organization is also to be considered.
- Understanding that there is an inherent lag and delay in budgeting system.

CONDITIONS FOR SUCCESSFUL BUDGETARY SYSTEM

For the benefit of budgets to be enjoyed, the following conditions need to be observed:

- The involvement and support of the top management
- A realistic organizational structure with clearly defined responsibilities
- Genuine and full involvement of line managers in all aspect of the budgetary system
- A clear cut definition of long term corporate objective within which budgetary system will operate
- An appropriate accounting and information system which will include the record of expenditure and performance related to responsibility, a prompt and accurate reporting system showing actual against budgeted.
- Ability to administer budget in a flexible manner as changes in condition may call for changes in plans.

BUDGET TIMING:

This refers to the time frame, period or duration that a budget proposal should cover.

At least three months before the commencement of your new financial / accounting year with respect to companies and government establishments, you are expected to draw up your budget proposal. For personal budget, ideally it should be for a weekly basis or at most monthly. However, in the case of corporations/companies, it should align with her financial/fiscal or accounting year.

PERSONS TO BE INVOLVED IN BUDGET PROCESS:

Any individual or organization who either spend or receive money should be involved in budget process and at the same time come up with her budget proposal as the situation demands. This implies that all of us must engage in budget process & come up with our budget because we all receive money and at the same time spend money too.

In a nutshell, the following parties must prepare her own budget: individuals (You & I), organizations, corporate bodies, churches, clubs, associations, governmental & governmental agencies. With reference to corporations, it is expected that both the employees and board members should participate in each stage of the budgeting process that affects line items

COMPOSITION OF A BUDGET COMMITTEE:

A corporation's budget committee is meant to be composed of the following personalities:

- The Managing Director/Chief Executive Officer who acts the Chairman.
- The Chief Accountant (Director of Finance) who shall act as the Budget Officer. As the budget officer, he co-ordinates the preparation and readiness of other budgets and prepares the cash budget as well as the master budget.
- The Head of Department or the Line Managers who prepare the functional budget of the department.

TYPES OF BUDGET

The following are the types of budget that exist in most organizations:

- Cash Budget
- Fixed Budget
- Flexible Budget
- Continuous or Rolling Budget
- Zero Base Budget (ZBB)
- Line-Item Budget
- Traditional or Incremental Budget
- Planning Programming Budgeting System(PPBS)
- Functional Budget
- Master Budget
- Activity Based Budgeting(ABS)

(1) CASH BUDGET

This is a budget prepared to show the receipts and payments of all cash items during the budget period.

It can be viewed as a summary of the company's expected cash flows and outflows over a given period of time.

Under this, the outlay show Receipts and Total, then the Payment and the Total.

NOTE: *The difference between receipts and payments gives the cash balance*

STATED BELOW IS THE FORMAT FOR COMPUTING CASH BUDGET

		Purchasing Department	Distribution Department	Finance Department	Total
		₦	₦	₦	₦
(A)	**RECEIPTS:**				
	Revenue	XX	XX	XX	XX
	Receivables	XX	XX	XX	XX
	Sale of Non-Current Ass	XX	XX	XX	XX
	Others	XX	XX	XX	XX
		XX	XX	XX	XX
(B)	**PAYMENTS:**				
	Purchases	XX	XX	XX	XX
	Payables	XX	XX	XX	XX
	Salaries & Wages	XX	XX	XX	XX
	Rent	XX	XX	XX	XX
	Others	XX	XX	XX	XX
		XX	XX	XX	XX
	Net Cash Balance (A-B)	XX	XX	XX	XX
	Opening Balance	XX	XX	XX	XX
	Closing Balance	XX	XX	XX	XX

ADVANTAGES:

-It provides a base for monitoring actual activity.
-It provides early signals of potential deficit or surplus in order to take appropriate action.
-It indicates the financial effects of policies within a firm.
-It also enables financial feasibility of plans to be ascertained.

(2) **FIXED BUDGET**

This can be defined as those budget that are not adjusted to the actual volume of output or level of activity attained in a period which probably may be different from the level of activity originally planned.

However by the term fixed, we do not mean that the budget is kept unchanged. Revision to the budget may be made if exceptional situation demand.
NOTE: *Fixed budget is essentially used for planning purposes and it forms a very good basis for corporate planning.*

(3) **FLEXIBLE BUDGET**

This a type of budgeting system that recognizes the existence of fixed, variable and semi variable cost which is designed to change in relation to actual volume of output or the level of activity attained in a period.

It could also be seen as a budget designed to change in accordance with the activity level attained ie designed to change in relation to the actual volume or output or level of activity in aperiod.
Note: *Flexible budget is a more dynamic tool for control purposes involving the comparism of "like with like"*. It is fundamental to budgetary control. Control is not achievable with a fixed budget.

(4) **CONTINUOUS OR ROLLING BUDGET**

This can be defined as an attempt to prepare targets and plans which are more realistic and certain by shortening the periods between preparing budget.

It also involves continuously updating budgets by reviewing the actual result of a specific period in the budget and determining a budget for the corresponding time period. Generally there would be two types of budget under this scenario viz: long and short term budget. Take for instance, if a continuous budget is prepared for every three (3) months, the first three (3) months would be prepared in great detail where as the remaining nine (9) months would be in lesser detail because of the uncertainty about the long term future.

ADVANTAGES:

- Whereas the traditional budget becomes outdated and obsolete when there is a rapid inflation, the continuous allows for more frequent re-assessment and revision in the light of inflationary trend.
- It allows management to be continuously aware of the budgetary process since the figures for the next 12months would have been made available as usual.

DISADVANTAGES:

- Higher cost and effort are required under continuous budget
- In each budget the whole processes of preparing budget have to be undertaken, thereby making it stressful and time consuming.

(5) **ZERO-BASE BUDGET (ZBB)**

Zero-Base Budgeting (ZBB) which seeks to eliminate the drawbacks of traditional incremental budgeting is a technique which requires every item of expenditure to be justified as if the particular activity or program is starting afresh. It is concerned with the evaluation of the cost s and benefits of alternatives and implicit in this technique is the concept of opportunity cost.

This implies starting a budget from a zero situation rather than merely adding or subtracting from historical budgets or actual on different basis.

It was introduced in the early part of 1970's in the United State of America by O Phyrr. Former US president

Jimmy Carter directed all the US government and departments to adopt this technique.

It is worthy of note to state that ZBB is applied in three (3) stages:

- Decision unit
- Decision packages.
- Agreed packages.

BASIC ACTIVITIES INVOLVED IN ZERO-BASE BUDGETING

The following are some basic activities involved in Zero-Base Budgeting (ZBB):

(a) Formulation of an operational plan which identifies the decision units.
(b) Development of decision packages that describe each unit.
(c) Allocation of resources to each of the decision packages.
(d) Appraisal and ranking of decision packages using cost benefit analysis (CBA).

Under ZBB, there is an assumption of zero spending during budget preparation. This represents a departure from the status-quo concept in which the existence of current spending is taking as justifying the amount to be incurred in the future.

Conventionally, budget are only queried when they show increases in expenditure over previous years. In ZBB there is a positive attempt to eliminate slack and inefficiency from future cost to be incurred. Zero Based Budgeting can also be called Priority Based Budgeting (PBB)

ADVANTAGES

- It is the most detailed and complete budget analysis
- It forms a better basis for review of activity performance.
- It encourages a better evaluation of management performance.
- Efficient allocation of scarce resources to activities and departments is facilitated.
- It focuses attention on value for money.
- Management attention is focused on the activity which warrants action.
- It encourages cost consciousness in an organization.
- All activities are evaluated and justified.
- It is cost effective in nature.
- It is highly objective because it guarantees the need to think out, define and justify the entire request

DISADVANTAGES

- Extra paper work are created by the evaluation and ranking of the decision package.
- It is time consuming in nature as it involves too much documentation (paper work).
- It requires high management skill in its processes.
- The co-ordination of all activities may be difficult to achieve.
- It completely ignores the present state which may reduce ambitions that are impossible to achieve
- The cost of operating ZBB is much as it involves so many members of staff since it is an annual event
- The definition of decision unit and the criteria used for ranking them are conceptually weak.
- Above all, Trade Unions always go against ZBB, who prefer status quo to remain.

(6) **LINE ITEM BUDGET**

This is a system whereby the budgets are prepared based on the items on which an organization spends money. Such as rent, salary, telephone & postages etc.

ADVANTAGES

- It enables the management to control expenditure by comparing between what is authorized and that which is spent.
- It will keep expenditure in check and prevent the improper use of an organization's money.

DISADVANTAGES

- A lot is being said about the items on which money is to be spent but nothing about what the organizations intends to achieve via spending of money is mentioned.

NOTE: That this type of budgeting is peculiar to the government system

(7) **TRADITIONAL OR INCREMENTAL BUDGETTING**

This is a system by which the proposed year's budget will depend on the previous year's budget which are used as the base.

NOTE: The proposed year's budget is calculated thus: *(The base year's budget x inflation factor + cost of new activities)*

ADVANTAGES

- It does not require skilled man power
- It does not require excellent statistical resources

DISADVANTAGES

- It makes use of arbitrary rate of inflation in determining the budget.
- It concentrates more on financial inputs and not on the service outputs which are to be financed

(8) **PLANNING PROGRAMMING BUDGETING SYSTEM (PPBS)**

This is a system for an organization as a whole providing regular procedures for reviewing goals and objectives, for selecting and planning program over a period of years in terms of output related both to objectives and to resource between program and for controlling their implementation.

It could also be seen as a budgetary system that analyses the output of a given programme , & seek for the alternatives to find the most effective means of reaching basic programme activities. It involves the preparation of a long- term corporate plan that clearly establishes the objective that the organization have to achieve. It is the counter part of the long term process for profit oriented organization.

AIMS & OBJECTIVES:

The aim & objective of PPBS is to provide information that will enable management to assess the effectiveness of its plans.

ADVANTAGES

- It concentrates on long term effects
- It provides information on the objectives of the organization
- It enables resource allocation choices to be made on the basis of benefit/ cost relationships

DISADVANTAGES

- It requires skilled man power that are not readily available
- It is capital intensive in nature as often times it requires the use of computer and other programming tools that are not readily available.
- It also requires excellent statistical sources and data storage which are often not readily available in most small organizations.

(9) **FUNCTIONAL BUDGET**

This is a budget prepared by the departmental heads in an organization.

The order of importance in preparing this type of budget will depend on the *budget limiting factor* of the organization which might include sales or raw materials etc. Under this instance, either the sales or raw material budget is prepared first before preparing the functional budget.

(10) **MASTER BUDGET**

This type of budget consolidates the position of all the functional budgets in the form of a budgetted Income Statement and a budgetted Statement of Financial Position.

(11) **ACTIVITY BASED BUDGETING (ABB)**

This is a method of budgeting based on an activity framework and utilizing cost driver data in the budget setting and variance feedback processes (ICMA).It is based also on activity analysis techniques and as such forms part of the planning & controlling system as it tends to support the objective of continuous improvement. ABB is also a form of development of conventional budgeting system. *This can also be referred to as Activity Cost Management (ACM). This type of budget is been advocated because of the following strengths.*

FEATURES:

- *It differentiates and examines activities for their value adding potentials.*
- *It recognizes activities that drive cost.*

ADVANTAGES

- It has the ability to tackle cross organizational issues through a Participatory approach.
- It provides stronger links between an organization's strategic objectives.
- It uses activity analysis techniques which promotes continuous improvement.

Having examined the meaning and types of budgets we have in an organization, it is important that we x-ray the importance and problems of budgetary system.

IMPORTANCE OF BUDGET & BUDGETARY SYSTEM

- It compels planning of your organization's activities
- It is an effective control mechanism which at the long run will assist you and your company achieve both your vision and mission statement.
- It provides useful information as regards the amount required for executing a project.
- It assists to track whether you are on track or not.
- It helps in communicating the plans of the organization to the employees
- It forms a basis for authorizing action by management
- It also forms a basis for evaluation of performance within the organization or system as the case may be.
- It helps to identify efficiency and inefficiency within the system.
- It promotes sound structure of the organisation.
- It assists in coordinating the different activities of the different departments in an organization
- It assists in motivating employees to be at their productive best.

PROBLEMS OF BUDGETARY SYSTEM/ LOW SUCCESS IN BUDGET IMPLEMENTATION

The following have been summarized as some of the problems mitigating against good budgetary system and at the time causing low success in budget implementation.

- There is a major problem in setting the level of attainment to appear in the budget
- A budgetary program requires continuous adaptation to changing circumstances which most times are outside the reach of those setting and preparing the budget.
- There is the problem of negative attitude of the operating managers to the control techniques.
- There may be the presence of conflicts between departmental manager's personal objective and the goal congruence of the organization.
- No budgetary system can replace the needs of superior executive ability in major business decisions.
- Due to pressure and poor human relation, budget may cause antagonism and thus decrease motivation.
- There is also the issue of lack of co-operation amongst the parties involved in the whole process.

WAYS OF SOLVING BEHAVIOURAL PROBLEMS IN BUDGETING

- As a matter of urgency, the management's buy-in or support for the budgetary processes must be sought for.
- There should be effective participation by all affected or concerned which in turn will lead to more positive attitude and higher performance.
- There should be proper channel of reporting.
- The issue of motivation must be pursued vigorously as it improves business results and eliminate misdirected or dysfunction operation.

CONCLUSION

Budget is a means to an end, and not an end in itself. Above all, it is a short term plan that depicts the focus of a long term objective of the organization.

CASE STUDY
As the Accountant of Beta Food Limited, you are required to prepare a cash budget for the first six (6) months of the company in the year 2013

i. Budgeted Income Statement for the period ended 30th June, 2013

	Jan ₦'000	Feb ₦'000	March ₦'000	April ₦'000	May ₦'000	June ₦'000
Revenue	70	65	78	80	82	90
Less: Purchases	25	30	28	45	37	47
	45	35	50	35	45	43
Less: Operating expenses						
Admin Exp.	(10)	(7)	(12)	(9)	(12)	(10)
Distribution Exp.	(11)	(8)	(13)	(6)	(12)	(13)
Selling Exp.	(14)	(10)	(10)	(11)	(6)	(10)
Net Profit	10	10	15	9	15	10

ii. Sales for November and December 2012 were N68, 000 and N65, 000 respectively
iii. 40% of sales would be in cash, 60% each would be paid in the month following thereafter.
iv. Purchases for November and December 2012 were N30, 000 and N28, 000 respectively.
v. 75% of purchases would be paid for immediately and the balance in subsequent months
vi. Selling expenses are to be settled in immediately
vii. Distribution expenses are payable one month in arrears while administration expenses are payable immediately too
viii. Bank balance as at 31st December, 2012 stood at N14, 000
ix. The company intends to pay for the following
- Company tax of N6,000 in March 2013
- A new laptop costing N4,500 in a April 2013
- Dividends of N10, 000 in May 2013

x. Some unserviceable generating set would be sold in January, 2013 for N9, 000
Show all workings:

SOLUTION TO CASE STUDY

BETA FOOD LIMITED
CASH BUDGET FROM JANUARY – JUNE 2013

	January	February	March	April	May	June	Total
RECEIPTS:							
Revenue	67,000	68,000	70,200	78,800	80,800	85,200	450,000
Asset Disposal	9,000	-	-	-	-	-	9,000
TOTAL	76,000	68,000	70,200	78,800	80,800	85,200	459,000
PAYMENTS:							
Purchases	(25,750)	(28,750)	(28,500)	(40,750)	(39,000)	(44,500)	(207,250)

Selling Expenses	(14,000)	(10,000)	(10,000)	(11,000)	(6,000)	(10,000)	(61,000)
Distribution Expenses	-	(11,000)	(8,000)	(13,000)	(6,000)	(12,000)	(50,000)
Admin Expenses	(10,000)	(7,000)	(12,000)	(9,000)	(12,000)	(10,000)	(60,000)
Corporation Tax	-	-	(6,000)	-	-	-	(6,000)
Laptop	-	-	-	(4,500)	-	-	(4,500)
Dividend	-	-	-	-	(10,000)	-	(10,000)
TOTAL	**49,750**	**56,750**	**64,500**	**78,250**	**73,000**	**76,500**	**398,750**
Net Cash flow	26,250	11,250	5,700	550	7,800	8,700	60,250
Opening Balance	14,000	40,250	51,500	57,200	57,750	65,550	14,000
Closing Balance	40,250	51,500	57,200	57,750	65,550	74,250	74,250

W**ORKINGS**

	November 2012	**December 2012**	**January 2013**	**February 2013**	**March 2013**	**April 2013**	**May 2013**	**June 2013**
REVENUE								
Actual	**68,000**	**65,000**	**70,000**	**65,000**	**78,000**	**80,000**	**82,000**	**90,000**
40%	27,200	26,000	28,000	26,000	31,200	32,000	32,800	36,000
60%	-	40,800	39,000	42,000	39,000	46,800	48,000	49,200
Total	27,200	66,800	67,000	68,000	70,200	78,800	80,800	85,200
PURCHASES								
Actual	30,000	28,000	25,000	30,000	28,000	45,000	37,000	47,000
75%	22,500	21,000	18,750	22,500	21,000	33,750	27,750	35,250
25%	-	7,500	7,000	6,250	7,500	7,000	11,250	9,250
TOTAL	**22,500**	**28,500**	**25,750**	**28,750**	**28,500**	**40,750**	**39,000**	**44,500**

References:

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2. Chartered Institute of Management Accountant (CIMA) UK journals
3. Adeniji, A.A (2012): An insight into Management Accounting (6th ed.) Lagos : Value Analysis publishers..
4. Ayozie Kingsley Ndubueze – Unpublished work on Management Accounting.

Ayozie Kingsley Ndubueze FCTI, FCA is the Managing Partner, Kingsley Ayozie & (Chartered Accountants)

THE INSTITUTE OF CHARTERED ACCOUNTANTS OF NIGERIA

(Established by Act of Parliament No. 15 0f 1965)

List Of Recognised Tuition Centres

1 **Able God Professional Tutors**
47, Ikotun/Egan Road, Market B/stop, Igando, Lagos.

2 **Accountancy Tutors Nigeria Limited**
1-9, Ilorin/Katsina Road, By Independence Way, Marafa Estate, Kaduna State.

3 **Accountancy Trainining Centre , Makurdi**
Uni-Agric Road, Opposite First Gate, Makurdi, Benue State.

4 **Accuracy Tutors, Aba**
No 76, St Michael's Road, Aba, Abia State.

5 **Alphamarshall Professional Limited**
72, Mbano Street, Phase 3, Kubua, Abuja.

6 **Atlas Professionals Limited, Ota, Ogun**
BELLS University of Technology, Ota Ogun State.

7 **Best Option Tuition Centre, Makurdi**
9, kashim Ibrahim Road, Makurdi, Benue State.

8 **Bratim Training Centre Limited**
Ground Floor, National Library Building, Adjacent Reiz Continental Hotel, Central Area, Abuja.

9 **Career Intelligent Professionals**
New Capital School, 17/30 Kwame Nkrumah Crescent, Asokoro Abuja.

10 **Crest Professional Tutors**
Plot 238/240, Apapa Oshodi Expressway, Odo-Olowu Bus stop, Ijeshatedo, Lagos.

11 **Deo-Gratia Professional Tutors, Oshogbo**
25, Oyedokun Street, Ago-Wande, Oke -Onitea Road, Oshogbo, Osun State.

12 **Edge Educational Services & Logistics**
47, Athur Eze Avenue (Emmaus House), Awka, Anambra State.

13 **Edo Wyse School of Professional**
75/98, Arthur Eze Avenue, by Unizik Temp-Site Junction, Awka, Anambra state.

14 **Excel Professional Centre**
11, Queen Elizabeth Road, Mokola, Ibadan, Oyo State.

15 **Excellent Associates Tutors**
African Church Model College, College Road, Ifako-Ijaiye, Ogba Lagos.

16 **Execellent Tutors, Abakaliki**
7, Water Works Road, Abakaliki.

17 **Foresight Professional Institute**
24 Road Opposite H Close, Festac Town, Lagos.

18 **Gusau Business School**
Off Sokoto Road, Opp. Janyau Primary School, Gada Biyu, P.O.Box 315, Gusau, Zamfara State.

19 **Galaxy Professional Tutor & Consultant**
L.E.A Primary School, by Mopol Junction, Opposite Diamond Bank Plc, Nyanya, Abuja.

20 **Global Focus Initiative Consulting Co.**
Junior Secondary School, Apo Legislative/National Assemply Quarters, Zone B,Apo, Abuja.

21 **Integrity Professional Academy, Warri**
253 Warri Sapele Road, Warri.

22 **IQ Bryte, Ipaja Lagos**
Towergate Private School, Falola Street, Off Church B/Stop Ipaja, Lagos.

23 **JK Consulting Co. Ltd, Abuja**
4th Floor, Wing B, City Plaza; Plot 596, Ahmadu Bello way, Garki II, Abuja.

24 **Knight Business School, Oyingbo**
80, Murtal Mohammed Way, Ebute-Metta.

25 **Jodoc Accountancy Tutors**
St John Catholic Church Primary School, Rumuokwurushi, Portharcourt, Rivers State.

26 **Maximum Professional Associate**
27, Duduyemi Street(Salvation House) off Olugbede Market, Egbeda.

27 **Legacy Associate Limited**
Olatunji HSE/Legacy HSE, 299/295, Ikorodu Rd, Idiroko B/stop, Maryland, Lagos.

28 **MIKON Professional Tutor**
34A, Boundary Road, G.R.A. Benin City, Edo State.

29 **MSL, School of Accountancy & Mgt. Studies**
L8, Ahmadu Bello Way, Katsina Round-about, same building with Studio 24, Kaduna, Kaduna State

30 **Networth Professional Tutors, V/I**
1 Bishop Aboyade Cole Street, Opposite ExxonMobil House, Off Ozumba Mbadiwe, V/I

31 **Onitsha Business School, Onitsha**
19A Lady Regina Nwankwu Avenue, GRA, Onitsha, Anambra State

32 **Pass Associates Limited**
9 - 11, Ogunyade Street, Gbagada, Lagos

33 **Password Professional Tutors, Akoka**
Oluwole Pry School Complex, Beside Unilag Main gate, Akoka

34 **PLUM Academy Limited**
336, Lagos Abeokuta Expressway, Super B/stop, Abule-Egba, Lagos

35 **Portharcourt School of MGT & Economics**
6B, Abeokuta Street, D/Line Port Harcourt, Rivers State

36 **POSSE Associates Tutors, Enugu**
WTC Primary School Compound, Off WTC B/Stop, Near University of Nigeria, Enugu Campus (UNEC

37 **Potec Training Centre, Port-Harcourt**
1 Chinda Street, Off Stadium Road, Opposite BEKO Port-Harcourt

38 **Precept with Passion**
164, Iju Road,Opposite Fagba grammar school, Station Bus -Stop, Agege Lagos

39 **Professional Tutor for Success**
PTS Building, Opposite NUJ Secretariat, Iwo/Ibadan Road, Dada Estate, Oshogbo, Osun State

40 **Protrac Associates Limited**
1, Lagos Road, Ikorodu, Lagos

41 **Real Professional Tutors**
Wuse Zone 6, School Compound, behinde Oando filling Station, Abuja

42 **Risk Free Standards Associates Limited**
5, Olusoji Idowu Street, Off Association Avenue, Ilupeju, Obanikoro B/Stop, Lagos

43 **Safe Associate Limited**
31, Ore-Ofe Street, Gbaja, Off Barracks B/Stop, Onitolo, Opposite Laspotech Surulere Campus, Lago

44 **Salvage Professional School, Ibadan**
9, Kabiawu Street, Opp. Veterinary, Mokola Ibadan

45 **Sapati International School**
Off Ajase-Ipo Road, Sapati-Ile Road, Ilorin, Kwara State

46 **Sky Associates Nigeria Limited**
LEA Primary School, Wuse Zone 3, Abuja

47 **Soteria Business School**
Beside DB Petrol Station, Bola Ige B/Stop, Liberty Road, Oke-Ado, Ibadan, Oyo State

48 **Starry gold Academy**
Suit D2 Alhaja Humani Shopping Mall, 82 Kudirat Abiola Way, Oregun , Lagos

49 **Students SWOT Associate, Enugu**
3, Independent Layout, PRODA office, Opposite Hotel Presidential, Enugu

50 **Students PYE Nigeria Limited**
14, Oweh Street, Jibowu Lagos

51 **Superiorpoints Associates Limited**
148 Olojo Drive, FCMB Building, Opposite Ojo Local Govt Secretariat, Ojo

52 **Sure Success Better Consult, Lokoja**
Ule Close, GRA, Lokoja, Kogi State

53 **SQUAD Associates**
Ojodu Junior Grammar School, Grammar School B/S Berger

54 **Synergy Professionals**
2, Afric Road, Off Funsho Williams Avenue, Iponri, Surulere, Lagos State

55 **Taraba Business School, Jalingo**
Opposite Civil Service Commission, 183 Hammaruwa Way, Jalingo

Our goal is to ensure success in ICAN exams. We have, therefore, provided solutions to some past questions to guide candidates in future exams. Although these suggested solutions have been published under the Institute's name, they do not represent the views of the Council of the Institute. ICAN will, therefore, not enter into any correspondence about them.

Audit And Assurance (SKILLS LEVEL EXAMINATION - November 2017)

Question 1

a. International Standards on Auditing ISA 315 deals with the auditor s responsibility to identify and assess the risks of material misstatement in the financial statements, through understanding the entity and its environment, including the entity s internal control.

Required:

i. Explain the term "audit risk" ***(3 Marks)***

ii. Identify and explain the key elements of audit risk ***(6 Marks)***

iii. Explain why the auditor needs to understand the entity s internal controls as part of the audit process. ***(6 Marks)***

b. Favour & Co. (Chartered Accountants) is the external auditors to Happy Limited, a company engaged in the production of pharmaceutical products. The company imports spare parts for the maintenance of its production plant from Taiwan, with a lead time of three months. Some of these spare parts are of high value and strategic, so must readily be available for repairs of plant to avoid production stoppage. As a result of this, the company maintains high level of the strategic spare parts in the store at every point in time. Also, these spares are specific to the current plant and may not fit into another plant.

As part of its plan to achieve efficiency and effectiveness in its operation, the company embarked on the construction of a new production plant with modern technologies which was completed and commissioned at the beginning of the financial year. With the completion of the new plant, the company decommissioned the old one. At the beginning of the financial year, there were still significant amount of the old spare parts in the store.

Johnson Adamu and Mark Onwuchekwa have been the Partner and Manager respectively, on this engagement for three years. Apart from the Partner and the Manager, the other members of the engagement team are new.

Prior to the commencement of the audit, the Manager called the team and described the location of the client s office and informed them that they were expected to complete the audit in three weeks. He further advised them to go with the prior year audit file for better understanding of the client s business. At the end of the risk assessment process, the team identified risks in revenue, property, plant and equipment and receivables based on prior year experience, and designed procedures to address these risks.

Required:

i. Identify and explain the key issues in the above scenario. ***(8 Marks)***

ii. Describe why the auditor needs to understand the entity and its environment as part of his risk assessment. ***(7 Marks)***

(Total 30 Marks)

Question 2

a. The Companies and Allied Matters Act (CAMA) CAP C20 LFN 2004 requires every company at each annual general meeting to appoint an auditor or auditors to audit the financial statements of the company, and to hold office from the conclusion of that annual general meeting (AGM) until the next one. However, the auditor may choose to resign his appointment during his tenure.

Required:

i. State THREE factors that could lead to the auditor s resignation. ***(3 Marks)***

ii. Describe the procedures to be followed by the auditor as regards the provisions of the CAMA in the resignation of his appointment. ***(4 Marks)***

b. It is a fundamental principle that members of the Institute of Chartered Accountants of Nigeria (ICAN) should carry out their work with professional competence and due care.

Required:

i. Explain the concept of "duty of care". ***(2 Marks)***

ii. State the consequences of auditor s failure to apply skill and care in performance of his professional service. ***(6 Marks)***

(Total 15 Marks)

Question 3

The balances for payables, receivables and bank accounts are usually material amounts in a company s statement of financial position. An important technique is the direct confirmation of the balances in these accounts.

You are required to:

a. Explain the main audit work expected to be carried out by you on receipt of the bank confirmation. ***(5 Marks)***

b. Describe the audit procedures relating to confirmation of receivable balances. (5 Marks)

c. State and explain the steps the auditor should take if the management of an entity refuses to allow the auditor to send a confirmation request to its customers. ***(5 Marks)***

(Total 15 Marks)

Audit And Assurance

(SKILLS LEVEL EXAMINATION - November 2017)

Suggested Solutions

Solution to Question 1

a.i Audit Risk

It is described as risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated. It is a function of the risk of material misstatement and detection risk. Audit risk is the risk that the auditor reaches an inappropriate or wrong conclusion on the area under risk. For example, if the auditor s benchmark for audit risk is 5%, it means that the auditor accepts that there will be a 5% risk that the audited item will be misstated in the financial statements and only 95% probability that it is materially correct.

ii. The audit risk model is represented in this formula: AR = IR x CR x DR

Where: AR = Audit Risk
IR = Inherent Risk
CR = Control Risk
DR = Detection Risk

The key elements of audit risks are identified and explained as follows:

Inherent Risk:
It is described as the susceptibility of an assertion about a class of transactions, account balance or disclosure to a misstatement that could be material, either individually or when aggregated with other misstatements, before consideration of any related controls. Inherent risk, which is the risk that items may be misstated as a result of their inherent characteristics may result from either the nature of the items themselves as well as the nature of the entity and the industry in which the entity operates.

Control Risk:
This is the risk that a misstatement that could occur in an assertion about a class of transactions, account balance or disclosure and which could be material, either individually or when aggregated with other misstatements, will not be prevented or detected and corrected, on a timely basis by the entity s internal control. Control risk is the risk that a misstatement would not be prevented or detected by the internal control system that the entity has in operation. In preparing an audit plan, auditor needs to make an assessment of control risk for different areas of the audit. Evidence of control risk can be obtained through „tests of control . Initial assumption of the auditor should be that control risk is very high and their existing internal controls are insufficient to prevent the risk of material misstatment.

Detection Risk:
This is the risk that the procedures performed by the auditor to reduce audit risk to an acceptable low level will not detect a misstatement that exists and that could be material, either individually or when aggregated with other misstatements. It is the risk that the audit testing procedures will fail to detect a misstatement in a transaction or in an account balance.

iii. Internal control is the process designed and effected by those charged with governance, management, and other personnel to provide reasonable assurance about the achievement of the entity s objectives with regard to reliability of financial reporting, effectiveness and efficiency of operations and compliance with applicable laws and regulations.

The auditor needs to understand the entity s internal controls because of the following reasons:

- To identify controls that are relevant to the audit. Although the entity s system of internal controls is made up of various controls designed to achieve reliability of financial reporting, effectiveness and efficiency of operations and compliance with applicable laws and regulations, not all the controls may be relevant in addressing the risks identified by the auditor. He therefore needs to understand the controls with a view to identifying the ones that are relevant to the audit.
- To evaluate the design, implementation and operating effectiveness of the relevant controls. whether the controls have been properly designed, implemented and operated effectively throughout the period of intended reliance.
- The auditor s understanding of the internal control will enable him determine the controls and will also enable him determine the extent of substantive procedures to perform in addressing the risks identified.
- Appropriate understanding of the internal control system by the auditor helps to determine the type of audit opinion.
- Knowledge of the entity s internal control is a major part of the knowledge of the client and the environment, which assists the auditor to determine the audit strategy. It is also required by ISA 315.

b.i Key audit issues identified in the above scenario as it relates to the audit of Happy Limited are as follows:

- Failure to identify the risk relating to the key event that happened in the year under review:
In the year under review, the company decommissioned the old plant. This created impairment risk on the spare part

inventory that were specific to the old plant as it was clear in the scenario that these parts cannot be used in other plants. This risk was not identified by the team.

- Lack of proper briefing of the engagement team:
  It is obvious from the scenario that the engagement team was not properly briefed regarding the audit. Audit engagements are Partner- led, hence there should have been an engagement team discussion, where the Partner should share his experience with the team including proper briefing on the events that happened in the current year, and the impact of such events- on the audit. This resulted in a poor risk assessment which contributed to the team not being able to identify a key audit risk during the risk assessment process.

- Reliance on prior year information without ascertaining whether there were changes in the prior year:
  Although, the Manager advised the team to review prior year file to acquaint themselves with prior year information about the client, there is no evidence that they checked the continued relevance of the information to current year s audit.

- Lack of involvement of the Engagement Partner and Manager in the risk assessment process:
  Senior members of the engagement team (Partner and Manager) are responsible for providing strategic direction to the engagement team to ensure proper risk assessment, efficient and effective performance of the audit. This was clearly missing on this engagement.

ii. The auditor needs to understand the entity and its environment as part of his risk assessment process because of the following reasons:

- To enable him understand and identify the specific risks of material misstatements that could arise from the nature of the industry in which the entity operates;

- Through the understanding of the entity and its environment, the auditor will ascertain the appropriateness of accounting policies adopted by the entity in the treatment of significant and unusual transactions.

- Understanding the entity and its environment helps the auditor to Identify areas where special audit consideration may be necessary, for example, related party transactions, the appropriateness of management's use of the going-concern assumption, complex or unusual transactions, or considering the business purpose of transactions;

- The auditor obtains an understanding of the entity s performance measures which assists him in considering whether these result in pressures on management that may have increased the risks of material misstatements; and

  To enable the auditor reach the conclusion that the audit should give particular attention to areas with high audit risks and material misstatements.

Examiners' Report

Part (a) of the question tests candidates on audit risk, while part (b) asks candidates to analyse a given scenario and explain the key issues in the given scenario; and the need for the auditor to understand the entity and the environment as part of his risk assessment. It is a compulsory question, consequently attempt of the question is 100%.

Candidates generally exhibited poor understanding of the requirements of the question except for a(i) and a(ii) where the performance was average. Marks earned therefore were well below average. Their greatest pitfall was mix-up of the requirements of a(iii) with that of b(ii).

Candidates are advised to make better use of the Institute s Study Text and sharpen their analytical skills. Candidates should also understand the requirements of a question very well before attempting it.

Solution to Question 2

a.i. An Auditor can resign his appointment during his period of office due to the following reasons;

- Lack of integrity demonstrated by management and/or those charged with governance;

- Where significant fees for the services provided by the auditor remain unpaid;

- The audit firm can no longer maintain its independence; and

- The audit is no longer profitable to the audit firm.

ii. The procedures for the resignation of the current auditors as regards the provisions of the Companies and Allied Matters Act CAP C 20 LFN 2004 are:

- The resignation should be made to the company at its registered office in writing. The company should submit this resignation letter to the appropriate regulatory authority;

- The auditor should prepare a statement of the circumstances. This sets out the circumstances leading to the resignation, if the auditor believes that these are relevant to the shareholders or creditors of the company. If no such circumstances exist, the auditor should make a statement to this effect;

- The company should send this statement to the Corporate Affairs Commission within 14 days of receipt; all persons entitled to receive a copy of the company s financial statements (principally, the shareholders) unless the Commission rules that the Auditor is seeking to defame the company with needless publicity; and

- The auditors may require the directors to call a meeting of the shareholders in order to discuss the circumstances of the auditors resignation.

b. Duty of care

i. Every professional Accountant is required to discharge his duty with reasonable degree of skill and care. He has a duty to maintain his professional knowledge and skill at such a level that a client or employer receives competent service, based on current developments in practice, legislation and techniques.

This implies that the audit work performed by an auditor for a client must be adapted to the specific circumstances and characteristics of the client.

Members should act diligently and in accordance with applicable technical and professional standards.

ii. If the auditor fails to exercise adequate degree of care, a number of consequences may follow. These include:

- There may be legal claims against the auditor in the law of contract or the law of tort;
- There may be disciplinary proceedings against the auditor by the Institute of Chartered Accountants of Nigeria; and
- The auditor or audit firm may earn a reputation in the business community for poor standards of work, and may therefore lose clients.

Examiners' Report

The question is in two parts. Part (a) deals with the resignation of auditors while part (b) tests candidates on fundamental principle of due care. About 95% of the candidates attempted the question, but their understanding was average.

Candidates commonest pitfall was non-exhibition of understanding of the question properly. For instance many candidates did not state the consequences before the impact of the consequences in the case of b(ii)

Candidates are advised to relate solutions to the requirements of the question and the Institute s Study Text for their studies.

Solution to Question 3

a. The main audit work expected to be carried out on receipt of the bank confirmation are as follows:

i. Agree the opening balance with the closing balance of the previous audited financial statements;
ii. Agree the confirmed balance with the reconciliation statement for accuracy;
iii Review the bank confirmation for ownership of accounts;
iv. Confirm that balances have been properly presented in the financial statements;
v. Review the bank confirmation to ascertain completeness and validity of transactions; and
vi. Relate other information contained in the confirmation letter to other areas of the audit, like accrued bank charges provided for in the financial statements.

b. Audit procedures relating to confirmation of receivable balances

i. Review the accounting policies as regards receivables;
ii. Review the schedule of receivables to confirm classification;
iii. Test for age analysis of receivables for adequate provision for impairment losses;
iv. Test for existence of receivables by circularisation;
v. Confirm the effectiveness of Internal Controls over receivables;
vi. Test for proper disclosure of receivables in the financial statements; and
vii. Obtain representation of management.

c. The following are the steps the auditor will take if the management of an entity refuses to allow him to send a confirmation request to its customers:

i. Enquire into and validate the reasons for such refusal;
ii. Consider the implication of the refusal on risk assessment and other audit procedures;
iii. Perform alternative audit procedures like checking the payment history, post audit date and related transactional records; and
iv. Where the auditor considers the materiality of the transactions and its impact on the financial statements, he may modify his opinion on the basis of limitation to audit scope.

Examiners' Report

The question tests candidates knowledge of substantive audit procedures on current assets, namely:

(a) Audit work on receipt of bank confirmation; (b) Audit procedure on confirmation of receivable balances; and (c) Audit procedures if management refuses to allow sending a confirmation request. Understanding of Parts (a) and (b) was poor while that of part (c) was average. Performance was relatively poor for (a) and (b) and average for (c). The commonest pitfall is their inability to apply audit principles to practical scenarios.

Candidates are admonished to apply their knowledge to practical situation.

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