

**ON ENTREPRENEURSHIP & BUSINESS DEVELOPMENT**

**DEVELOPING AN ACCOUNTING INFORMATION SYSTEM FOR A RESTAURANT  
AND UNDERSTANDING ITS POTENTIAL IMPACT ON THE BUSINESS**

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Received 1 January 2018; accepted 9 January 2018; published 10 March 2018

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**ABSTRACT**

This paper argues and demonstrates that accounting information systems, both manual and computerized, can offer several benefits to restaurants. However, restaurant managers must ensure that there is a proper synchronization of accounting systems they seek to deploy and organizational contingent variables.

**Keywords:** Accounting Information System, Restaurant

## **1.0 INTRODUCTION**

### **1.1 Background**

Developments in IT have been paramount in recent decades, and they have been leading developments in the globalization of markets and societies (Castells, 1996). In view of this fact, it is widely acknowledged that IT plays an important role in the field of accounting; IT can be strategic weapons to support the object and strategy of organizations. Some business organizations get competitive advantage by adopting new information systems. Therefore, organizations tend to increase their investments in IT, which makes the ratio of IT investment to their total budget higher. In an era of global competition, the key to a firm's survival is the continuous improvement of its performances. However, there is uncertainty in predicting how growing need for accounting information system will change the profitability of the organization since the Accounting information system provides a base to an organization, to deal with its vendors, customers and employees.

Small businesses (and hotels and restaurants and inclusive) require effective information systems to support and to deliver information to the different internal users to make the correct business decisions, but more often than not, a limited number of these entities actually make use of such a system (Bruwer & Watkins, 2010).

An accounting Information system (AIS), as observed by Salehi, Rostami and Mogadam (2010), can be a manual system, or a computerized system using computers. Regardless of the type, an

AIS is designed to collect, enter, process, store, and report data and information. AIS are pivotal to organizational success. AISs are generally sets of information systems which deal with the whole of the related components that are working together to collect, store and disseminate data for the purpose of planning, control, coordination, analysis and decision making. An AIS is the set of the interrelated components that are put together to collect information, raw data or ordinary data and transform them into financial data for the purpose of reporting them to decision makers. The most important and oldest of the present systems in businesses is certainly the Management Information System. Management Information System (MIS) consists of many subsystems. Accounting Information System (AIS) is one of these subsystems and the oldest one.

Accounting information systems plays an important role in the process of managing an enterprise's operations. In the last ten years, there has been an intensive process of implementing AISs in the world. These systems were implemented in large industrial and small trade enterprises. Later, implementation of AISs started in other enterprises and state institutions. The implementation of AISs is quite an expensive investment project for most business enterprises and organizations. However, in practice, the decision on which AIS to actually implement is, in most cases, based on advertisement or the suggestions of associates. According to Flynn (1992) and Corner (1989), the effectiveness of AIS can be evaluated as added value of benefits. Gelinas, Oram and Wriggins (1990) consider the effectiveness of AIS as a measure of success to meet the established goals.

In Ghana, the development and implementation of AISs is necessary for the survival, competitive advantage and sustainability of businesses. Without effective and efficient AIS, many businesses could face serious financial turmoil and liquidity crises which are the result of weak internal controls perpetrated by the absence of AISs. The need for firms to integrate successful and proficient AISs into their business bottom–line is even more relevant at a period when the fierce competition within the Ghanaian business environment has made customer switching from firm to firm very easy, meaning that without the implementation of more pragmatic and robust financial accounting strategies and policies, some firms and organizations are on the verge of serious financial and operational tragedies.

Hence, it is an unblemished fact that without the implementation of properly functioning financial systems, which also strengthen the overall internal controls mechanisms, firms and organizations could be faced with several challenges, which in the short term, could reduce their customer base, reduce their market share and competitive position and in the long term, threaten and undermine their survival, profitability and sustainability.

Against this backdrop, this paper shows how a restaurant could go about developing and implementing an accounting information system (AIS). The Authors argue that a manual system needs to be firstly developed and implemented and subsequently, a computerized accounting system would need to be deployed.

### **1.3 Objectives of Paper**

The main objective of this paper is to develop an accounting information system (AIS) that could be implemented at a Restaurant. Specifically the paper seeks to:

- i. Identify the factors accounting for the lack of a financial accounting system at a restaurant.
- ii. Highlight the benefits and disadvantages of developing and implementing an accounting information system in an organization
- iii. Develop and propose accounting information system (AIS) model that best suits the operations of a restaurant and highlight its relevance
- iv. Isolate the advantages using of a computerized accounting information system over a manual system.

## **2.0 LITERATURE REVIEW**

### **2.1 Theoretical Literature**

#### **2.2. 1 Accounting Information System**

Accounting is the service function that seeks to provide the users with quantitative information. On the other hand, Accounting Information System (AIS) is an information system that is designed to make the accomplishment of accounting function possible. AIS processes data and transactions to

provide users with the information they need to plan, control, and operate their businesses (Romney et al., 1997, p.2). AIS can be a manual system, or a computerized system using computers. Regardless of the type, AIS is designed to collect, enter, process, store, and report data and information.

According to Munteanu et al. (n.d), the accounting information system is the set of postulates, principles, norms and evaluation rules of an organization by means of which the economic-financial operations are processed through accounting technical instrumentations. The accounting information system identifies correlates, calculates, analyzes, registers, and provides all information regarding transactions or events that took place in a management center, given a certain time period. This system allows identifying, analyzing, calculating, classifying, registering, and running back over events and transactions. The accounting information system is influenced by the nature of the activity and its operations, by its size, by the volume of processed data, and the management and external users' information necessities.

### **2.2.2 Manual Accounting System (MASs) versus Computerized Accounting Systems (CASs)**

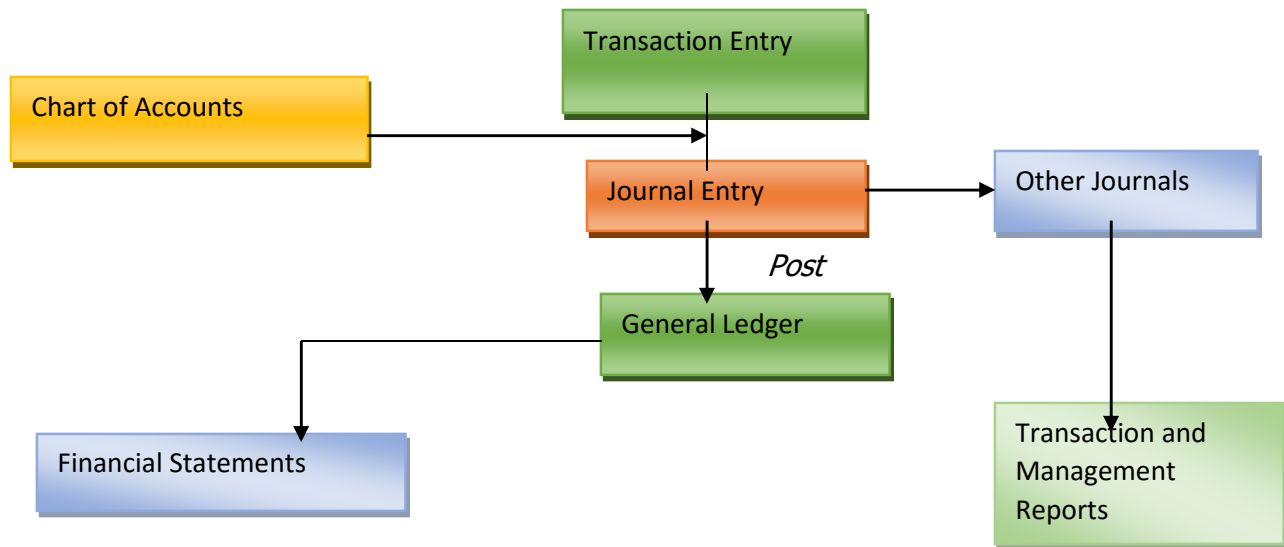
According to Weber (2010), accounting can be divided into two basic categories: those which apply manual accounting and those which prefer computerized accounting systems. Briefly, a system is a set of interdependent elements that together accomplish specific objectives. Manual accounting

system is an information system and Romney and Steinbart (2009) defined an information system as an organized means of collecting, entering, and processing data and storing, managing, controlling, and reporting information so that an organization can achieve its objectives and goals. Tanis and Dalci (2002) emphasised that, information system has the following components; Goals and objective, Inputs, Output, Data storage, Instructions and Procedure, Users, Control and Measures. Accounting systems as an "information system is a man-made system that generally consists of an integrated set of computer-based and manual components establish to collect, store, and manage data and to provide output information to users" (Gelinas, Sutton & Hunton, 2005).

Manual accounting implies that employees perform the whole accounting cycle manually on a periodic basis: they draft trial balances, journalize transactions, and prepare financial statements. Extensively, Waterfield and Ramsing (1998), highlighted that, accounting system can be a simple manual one based on the general journal (where transactions are recorded chronologically as debits and credits), general ledger (where the activity from the general journal is summarized by account number), and other journals required to manage the business, such as purchase, payment, sales, receipts, and payroll journals. (Because of the expense of maintaining multiple manual journals, institutions typically do not prepare all of these other journals.) They further stated that, a manual accounting system typically includes at least the following and thus presented in Figure 1 below:

Chart of accounts, General journal, General ledger, Subsidiary ledgers (accounts receivable, inventory, and fixed assets), Transaction reports and financial statements.

**Figure 1: A Manual Accounting System Model**



**Source: Waterfield and Ramsing (1998).**

At first look, it is not very difficult and it is so indeed, but when there are thousands or millions of transactions the situation dramatically changes. Lots of transactions that must be processed in the accounting cycle make this process routine and even a little mistake or inaccuracy can cost all the cycle from the very beginning in order to find and correct the mistake. "...in manual accounting systems, processing of data is slow and subject to error" (Grabski & Marsh, 1994).



Despite the advantages of manual accounting systems such as comparative cheap workforce and resources, reliability, independence from machines, skilled workers availability; the manual system disadvantages include: reduces speed, increases workload of accountants, relatively slower internal control reporting, routine work and some others such as the issue of backups.

In a study, Nash, Heagy and Courtney (1999) argued that with the improvements in technology, information systems have been computerized. Improvements in this technology have replaced manual bookkeeping systems with computerized ones, hence, accounting information systems that were previously performed manually are now performed by computers in most companies.

While accounting systems have been around for centuries, the introduction of business technology and Computerized Accounting Systems radically changes the playing field. Vitez (2010) reviewed that paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports. Computerized Accounting Systems follow the same logic of journal, ledgers, reports and statements in a manual system. Computerized systems simply consolidate posting functions and

other basic tasks into a "behind the scenes" system. Companies can also generate reports and financial statements easier, allowing for better performance management reviews.

Computerized Accounting System is therefore a computer based system which combines accounting principles and concepts as well as the concept of information system to record, process, analyse and produce financial information to its users for making economic decisions (Gelinias et al., 2005). The definition of a Computerized Accounting System from above shows that a Computerized Accounting System has the following components with an illustrative diagram in figure 2;

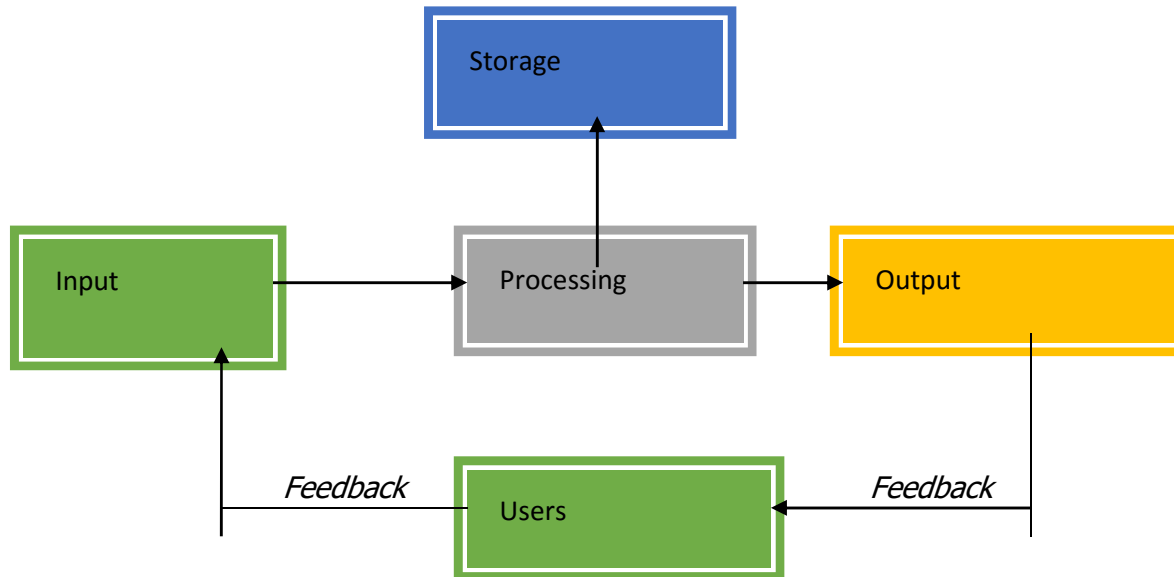
- **Input:** Data inputs are the facts that are collected and processed by the information system.

Data input includes capturing data from a source document such as a sales order or purchase order.

- **Processing:** In order to produce useful and meaningful information, the data captured must be processed and organized into a useful form.
- **Output:** Output is the meaningful and useful information produced by the information system. It is usually presented in the form of a report.
- **Feedback:** After the information has been presented in the form of a report, there is the need for a feedback. Feedback tends to serve as a source of input and also a control measure in the information system.

- **Storage:** It serves as the repository of relatively permanent data maintained over an extended period of time.

**Figure 2: A Computerized Accounting System Model**



**Source: Gelinas et al. (2005).**

### 2.2.7 The Information System Success Models

Three major theories relate to the success connected to the development information systems in organizations;

- The DeLone and McLeans's model (1982)
- Gable, Sedera, and Chan (2003) Model and

iii. The contingency Model

However, only the contingency theory is here discussed as it is the one which, in the view of the authors, might better relate the main objective of this paper.

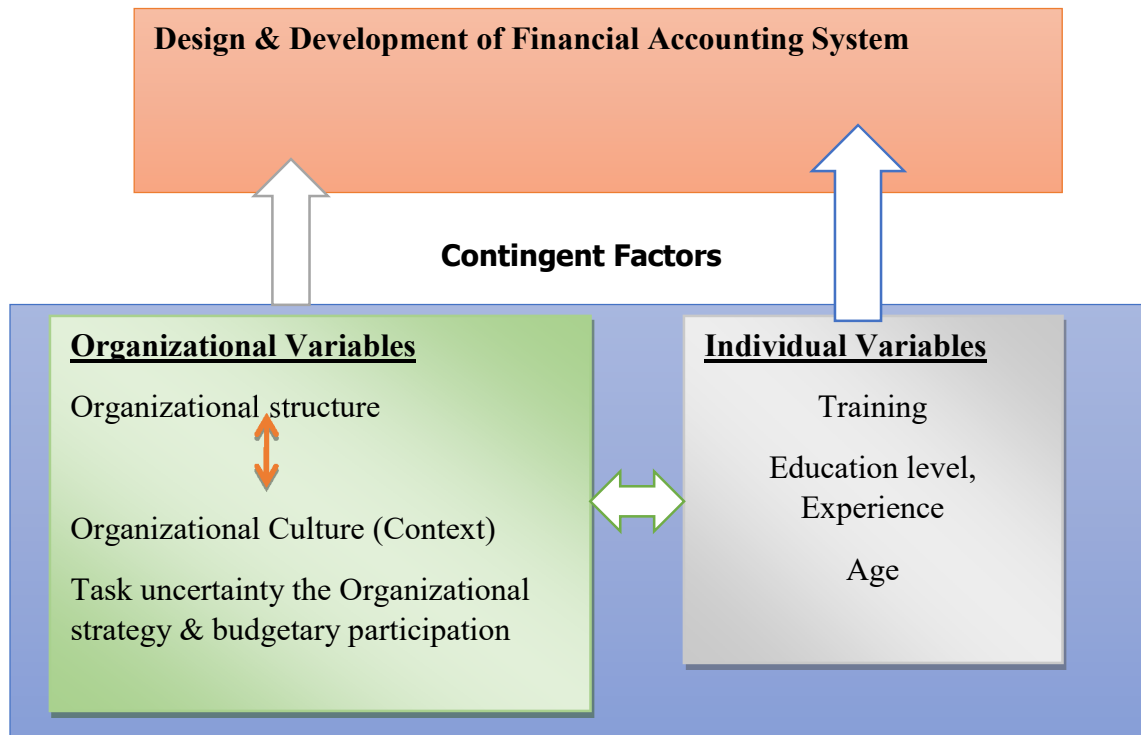
### **2.2.3 Contingency Theory**

Since its inception, contingency theory has proposed that organizational effectiveness results from the association between organizational characteristics and contingency factors. A literature review identified that some previous research has focused its interest on the study of organizational variables as contingent factors that may influence accounting information systems. Several researchers, such as Holmes and Nichols (1988), Chapellier (1994), Lavigne (2002), and Stepniewski et al. (2008) have identified a significant relationship between contingency factors, the complexity of the accounting information system and business performance.

Choe (1998) argued that the design of an accounting information system can be influenced by contingent variables. These variables are classified into two groups: organizational variables and individual variables. The organizational variables are related to the organizational structure (Chenhall & Morris, 1986; Gerdin, 2005), the task uncertainty (Chong, 1996), the organizational strategy (Naranjo -Gil, 2004) and the budgetary participation (Tsui, 2001). The individual variables refer to the factors related to some individual characteristics that may have effects on accounting information systems.

The literature review identified the studies by Chapellier (1994), Lavigne (2002) and Ngongang (2007), who selected factors relating to the training, level of education, experience and age of the leader. These factors have significant effects on accounting information systems. Contingency theory also proposes that organizational performance improves as a result of the interaction between organizational structure and context. In this context, a greater level of fit between the context and the structure leads to better organizational performance (Al-Omiri & Drury, 2007). Some studies opt for this view, which tests the interaction between the contingency factors, the accounting information system and the performance (Chong, 1996; Naranjo -Gil, 2004; Boulianne, 2007). These studies suggest that there is an interaction between the accounting information system and the factors that influence it. This assumes, however, that these factors are not independent of each other. Companies must allocate their resources in order to facilitate this interaction (See Figure 3 below).

**Figure 3: Factors Influencing the Development and Design of Accounting Information System under Contingency Theory**



*Source: Authors, 2016.*

### **3.0 DEVELOPING OF AN ACCOUNTING INFORMATION SYSTEM FOR A RESTAURANT**

The next sections following describe how to establish an accounting information system for a restaurant business.

### **3.1 Organizational Pre-conditions for developing and Accounting Information System**

Before implementing an accounting information system in a restaurant, management of the business must ensure that the following prerequisites are already in place:

#### **i. Presence of a Qualified Accountants Clerk**

Undoubtedly, the lack of a qualified financial accountant might partly explain why there is no accounting system (whether manual or computerized) and why a restaurant cannot perform basic functions related to the financial accounting cycle. It is a very serious issue for a restaurant to lack an accounting information system because it implies that financial data, as recorded by the organization currently, may not represent a true and fair view of the state of affairs of the restaurant, thus breaching standard accounting rules as prescribed by the International Accounting Standard (IAS), and International Financial Reporting Standards (IFRS).

#### **ii. Presence of Chartered Financial Accountant and Accounting Training for Treasurer**

Some Senior Managers of restaurants admit that their restaurants, usually operates without a chartered financial accountant as it is difficult to pay them. Instead, restaurants would prefer to use the services of a treasurer but it appears that such employees usually lack the requisite qualification, skill, knowledge and expertise to record the complex nature of transactions within the framework of a proper AIS. Moreover, as far as proper governance is concerned, it is always better

to separate the recording of financial transactions from handling or keeping of cash. For most small restaurants, the treasurer appears to be performing both functions with great difficulty. The Author, therefore, advises that every restaurant recruits a qualified financial accountant who would record all financial transactions. If that is difficult due to financial constraints, management of the restaurant can pay for the accountant's services on a part time basis and consider the option of giving some basic accounting training to the treasurer.

***iii. Management of the Restaurant must have proper Understanding and training on the significance of deploying a financial accounting system***

Hotel managers usually don't have adequate understanding about the role of an AIS in enhancing business profitability as many of them have never received any formal training on the subject. Owners or management of every restaurant business need to consider giving their general managers some basic accounting training.

***iv. There must be Management Support for AIS implementation***

General Managers of restaurants affirm how they often don't receive support from the top management of the restaurant they are managing. This is usually the case when the restaurant owners also engage themselves in management activities thereby limiting the extent to which the general manager could operate fully. This lack of proper management structure tends to affect effective decision making and particularly AIS implementation (even if it were proposed).



**v. The restaurant business must have well documented information on the Vision, Mission, Strategy, Organizational Structure and Administrative Support Staff**

**I. Development of a Corporate Strategy, Vision and Mission Statements**

Whittington, Scholes and Johnson (2008) define strategy as the direction and scope of an organization over the long-term, which achieves advantage in a changing environment through its configuration of resources and competences with the aim of fulfilling stakeholder expectations. Whittington et al.'s (2008) definition implies that organizations need to have a long-term direction, vision, and mission, if they would survive in today's competitive environment.

*Development of Mission Statement for Your Restaurant*

Restaurant Managers and owners need to call upon the expertise of business consultants to help them in the formulation of mission statements. This should be done after the consultant has taken time to study the business` operations and nature of business. A typical mission statement for your restaurant business could be as shown below:

**Mission Statement of A RESTAURANT**

To produce and offer highest quality food and drinks to our cherished customers, increase profits and maximize shareholder wealth (Developed by Author, 2017).

## **Vision Statement of A RESTAURANT**

An example of a Vision Statement a consultant to develop for a restaurant could be as stated below:

**Vision Statement:** To become the leading restaurant in West Africa that offers the highest quality of food and drinks at affordable prices to our cherished customers (Developed by Authors, 2017).

## **Development of Strategic Objectives for A RESTAURANT**

After studying the nature of your business, the Consultant could develop strategic objectives for your business such as:

- i. To offer the best and highest quality of food and services, to enhance stakeholder participation and increase collaborative relationships for the purpose of creating shareholder wealth and value in order to improve the long-term and sustainable performance of the restaurant.
- ii. To acquire, produce and market quality foods and drinks at affordable prices.

## **II. Development of an Effective Organizational Structure for a Restaurant**

Without a proper organizational structure for a restaurant, there would be no division of labor and to this will not only create role conflicts but also reduce productivity and efficiency. A major problem

with restaurants and indeed many small scale businesses is owner interference with management. However, business owners need to understand the need to separate ownership from management as art of proper corporate governance. To address this problem, the Author proposes the following Organizational structure for restaurants [Figure 8].

In applying this organizational structure, the business owner needs to focus only on strategic issues (that is if they choose to be a part of management). It is recommended that the owners, focused more on the strategic direction of the restaurant and allowed the senior manager full autonomy to operate and demand accountability from them instead.

Moreover, the senior manager needs assistance from other administrative staff. It is not advisable for the senior manager to be performing the functions of accounts clerk, customer relationship manager and sometimes even as a waiter (that is when some waiters absent themselves for no reason).

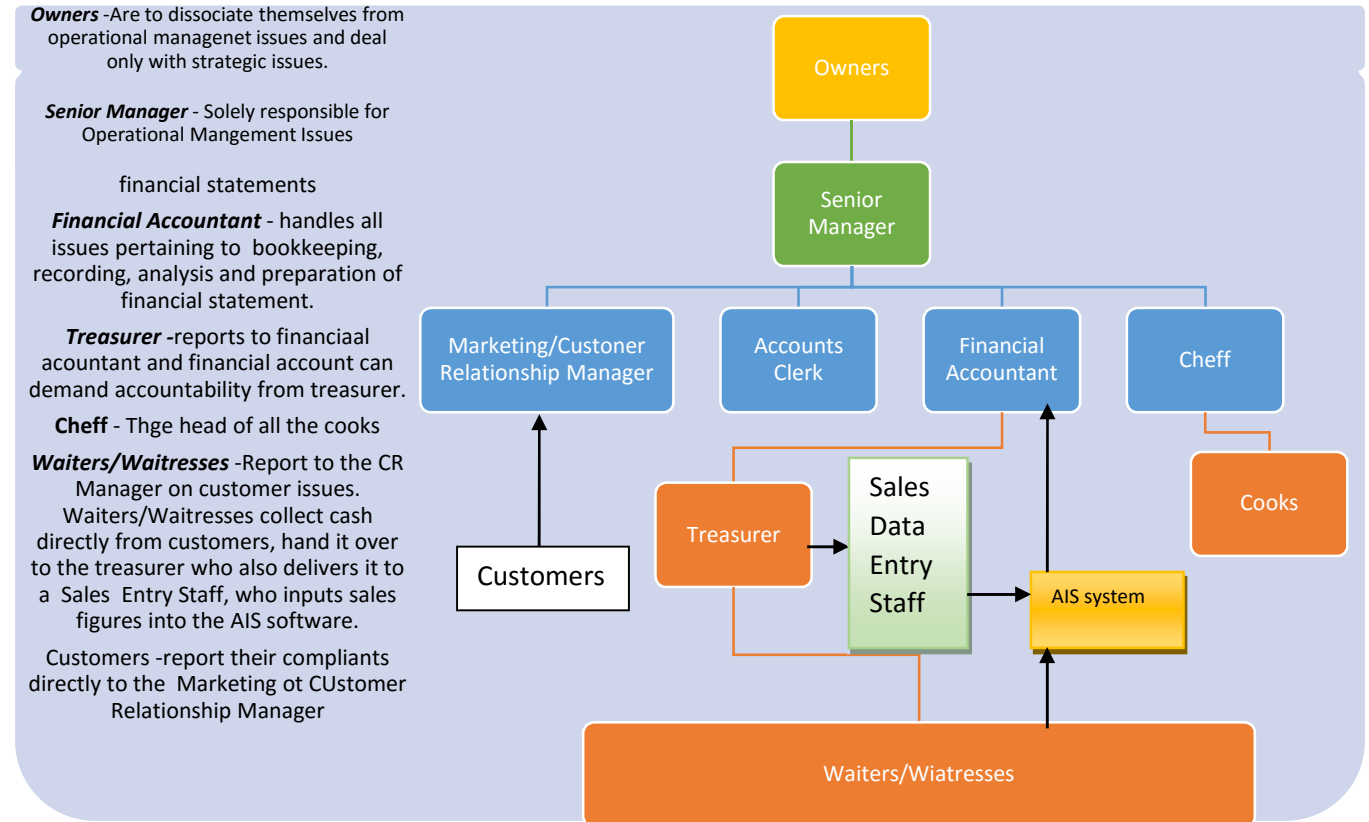
In deploying this organizational management model, the roles of accounts clerk, Marketing/CR manager and senior manager should be clearly separated to allow for effectiveness and efficiency in production, which is expected to have ripple effects on profitability through improvements in efficiency and productivity. Here, the accounts clerk, the CR manager, the Financial Accountant and the Chef all report to the senior Manager. Waiters and Waitresses render accounts to the Treasurer

in addition to serving customers but customers can report their complaints and concerns to the Marketing/CR manager. Cooks report to their Chef (who is in principle, the Chief cook) whose function is to ensure quality management in the food production process [see Figure 8 below].

Before applying this organogram, restaurant managements need to ensure they recruit additional administrative staff, such as, financial accountant, Accounts clerk, Marketing/Customer Relationship Manager, and Sales Data Entry Staff, to support the work of the general manager. With these personnel in place, each performing their unique roles, customer satisfaction would be maximized and accounting control systems improved to maximize sales revenue of the restaurant.

It must also be stated that this model is not a generalized one that could necessarily apply to all restaurants. It is always critical for restaurant management to contextualize it, and where they seem to have some difficulties they can always call on a consultant.

**Figure 4: A Sample Organizational Structure for RESTAURANT**



**Source: Author, (2018).**

### **III. Development of an Accounting Information System for a Restaurant**

To develop and implement an AIS for a restaurant, management needs to consider the possible implementations of both manual system and computerized systems. Yet, the decision to either deploy a manual or computerized system or a combination of the two, is dependent upon other contingent variables including organizational size, age, complexities of operations, organizational structure and culture, management support and budgetary participation etc. It needs to be emphasized that a restaurant must have certain basic pre-requisites before implementation of even a manual AIS would be possible. Such fundamental requirements included:

- ❖ *Recruiting well-qualified financial accountant*-Without a well-qualified financial accountant, the deployment of an AIS would be useless as there would be nobody to ensure its success.
- ❖ *Having a clearly defined corporate strategy that is synchronized with the AIS*- Systems do not work in isolation; they must be well fitted into overall business and corporate strategy.
- ❖ *Management Understanding and Support of AIS implementation* –No system could ever be successfully deployed in any organization without the support of Management. And management would not support the development and installation of any system that it does not understand.

Therefore, it is recommended to restaurant managers to understand the crucial significance of employing a qualified financial accountant. Not only that, management it is advised to also recruit additional administrative staff to help the General Manager become more effective. In addition, restaurant management is advised to develop some strategic objectives. If these things are in place, and management is convinced on the importance of developing and implementing an AIS, then the manual accounting system could be deployed first, and subsequently, a computerized one.

The basic manual AIS to be developed by Management with the help of external Consultants, to help the restaurant improve its business profitability is shown in Figure 9 below. An AIS like the one shown in Figure 9 below is necessary in helping the restaurant perform all the functions indicated in the accounting cycle. For such a system to work, Management must obtain appropriate books that have to be labeled and for easy identification and future references. This could be done with the help of a more competent financial accountant and not the treasurer as some restaurants are often found doing. In strict accounting terms, a treasurer keeps money and a financial accountant performs functions related to the accounting cycle. However, at quite a number of restaurants, it appears that treasurer attempts to perform these two functions which are not very good for the organization. Therefore, management is advised to segregate the role of treasurer from accountant to ensure integrity and truthfulness of financial reporting and to minimize the risk of financial fraud.

In addition, Management of the restaurants is advised to also purchase files to keeping all sources documents, including their duplicates. Cash books also need to be opened and there must be other books available for recording data on accounts receivables, accounts payables, stock/inventory etc. If the restaurant has branches, then it would need to also have separate books for all transactions involving all branches. Moreover, there must be books for recording account codes and for preparation of budgets and there must also be a general ledger. The ledger is important because in it all transactional information extracted from the source documents could be journalized. The ledger is also important because it helps in the preparation of the trial balance and the work sheet and in financial reporting.

The manual AIS consist of four components (sub-system) namely:

- i. Sales Transaction Processing System*-This sub-system will help restaurant process sales orders and issue bills. The system also allows the restaurant to perform period (daily, weekly, monthly and annual) analysis of sales performance.
- ii. Cash Receipts and Disbursements Transaction Processing Systems*-This sub-system allows the restaurant to record all transactions relating to accounts receivables, including cash receipts and disbursements.
- iii. Purchases Transaction Processing System*-This aspect of the system would enable the restaurant to keep track of all its purchases including processing inventory.



- iv. *Payroll Transaction Processing System*-This sub-system also helps the restaurant to keep proper track of all payroll details including names, index numbers, wages, salaries, and other incentives given to employees.
- v. *General Ledger and Reporting System*-Information from the three other sub-systems is sent into the general ledger which could aid in financial reporting. Financial Reporting can be defined as the process of presenting financial data about a company's financial position, the company's operating performance, and its flow of funds (Rose & Hudgins, 2008). Financial Reporting is thus, the presentation of a complete set of financial statements which consist of a:
- Statement of financial position at the end of the period
  - Statement of comprehensive income for the period
  - Statement of changes in equity for the period
  - Statement of cash flows for the period (Elliot and Elliot, 2006)
  - Notes and explanatory notes to the accounting policies used (Greuning, 2006).

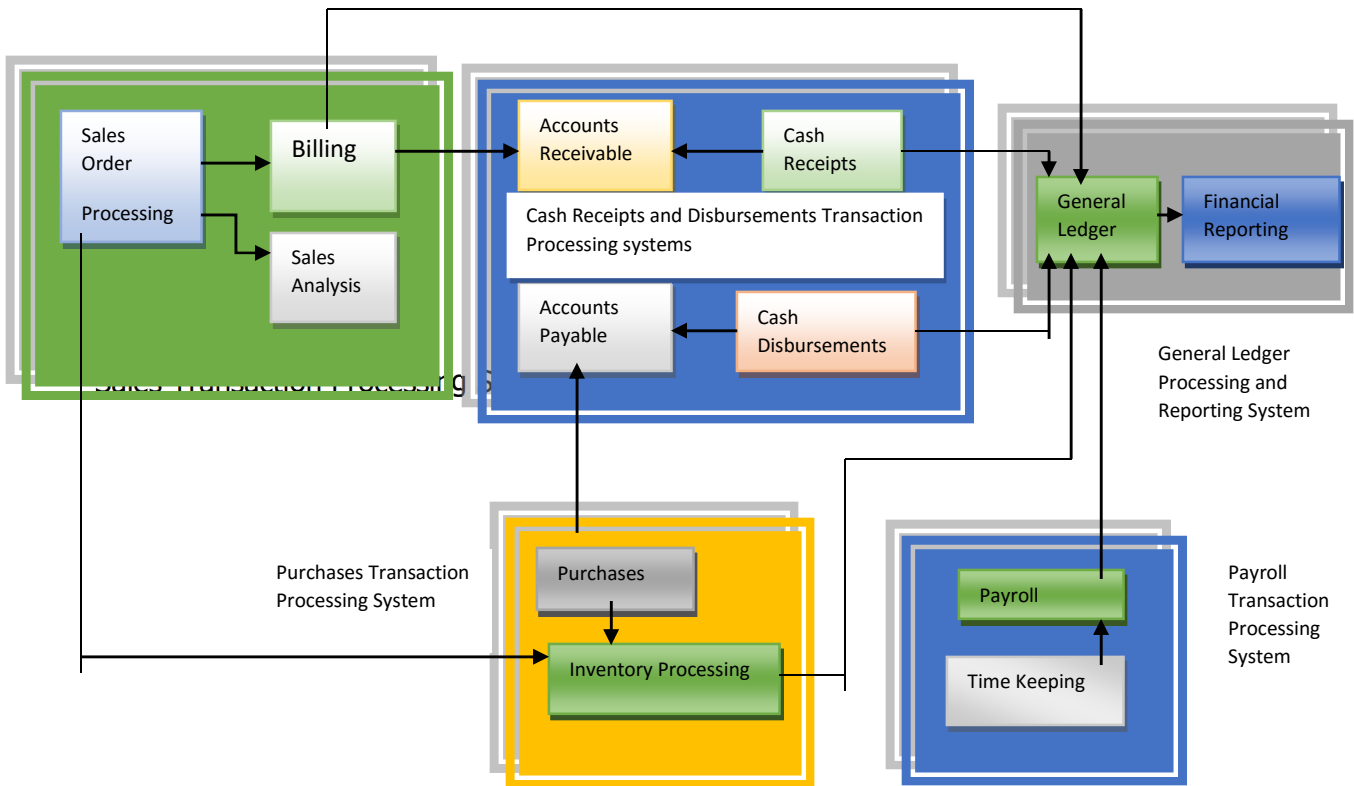
In effect, the development and deployment of the manual AIS (as indicated in Figure 9 above) would help any restaurant to perform the following functions:

1. Record business transactions in appropriate source documents such as cash register, tapes, sales tickets, bills, cheques, payroll etc.
2. Analyze and record business transactions, called journalizing into a journal.
3. Post or transfer information from copying the debits and credits of the journal to ledger and journal entries into the ledger accounts.
4. Prepare a trial balance, that is summarize each individual ledger account and list these accounts and their balances to test for mathematical accuracy in recording transactions.
5. Prepare a worksheet, a multicolumn form that summarizes accounting information to complete the accounting cycle.
6. Prepare financial statements including, Income/Surplus & Expenditure Accounts, Statement of Financial Position and Cash Flow Statements.
7. Journalize and post adjusting entries, that is, use figures in the adjustment columns of worksheet.
8. Journalize and post-closing entries, which includes using figures in the income statement and balance sheet sections of worksheet.
9. Prepare a post-closing trial balance to prove the mathematical accuracy of the adjusting and closing process of the accounting cycle.

10. Business Analytics-Performing analysis of business performance and roving summary reports on various transactions.

The restaurants managers are advised to see to the implementation of a manual FAS first. After they have applied it with significant success, they can now consider installation of a computerized system since it has more advantages over the manual system.

**Figure 5: Sample of Manual Accounting Information System for a Restaurant**



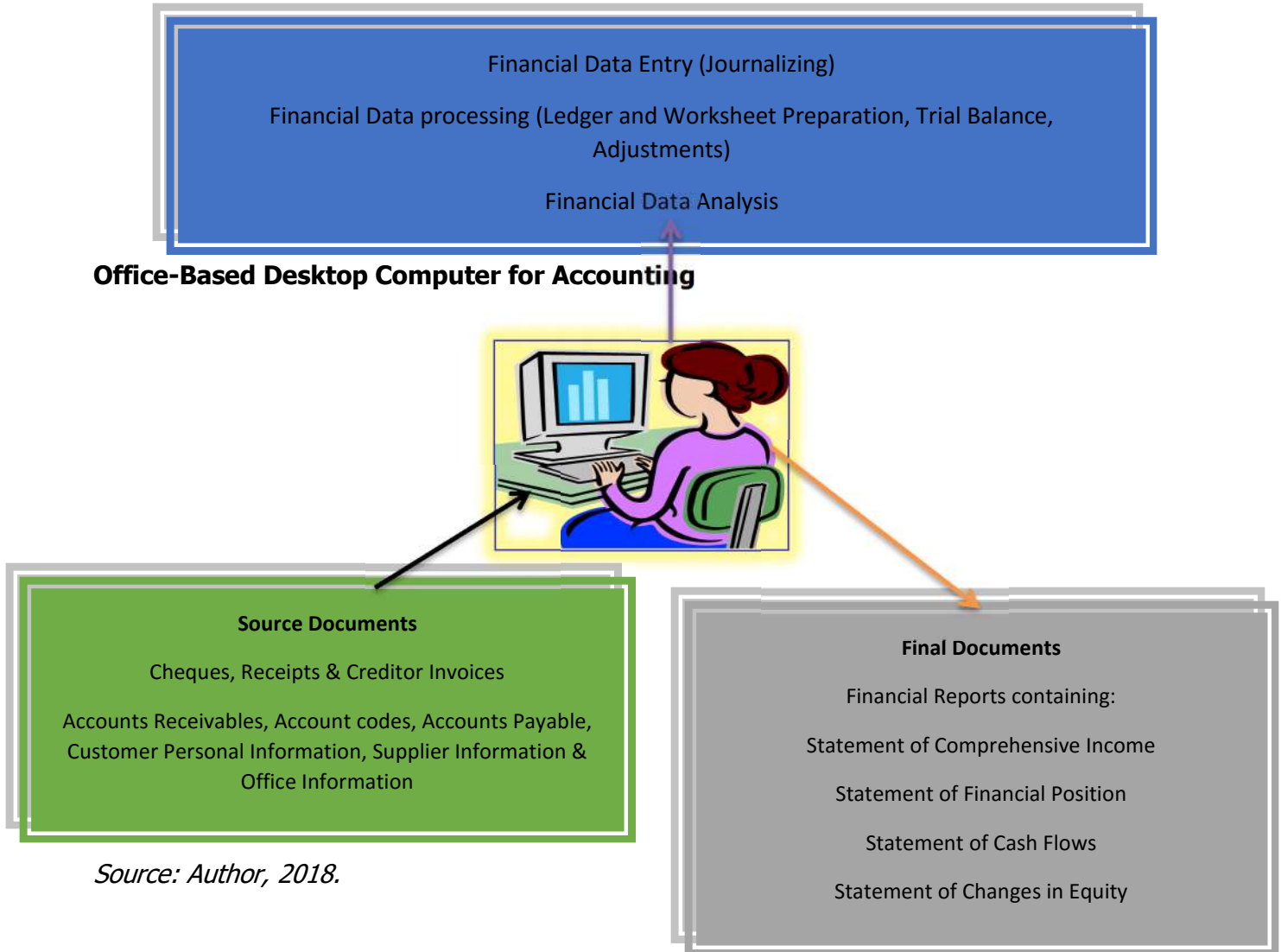
**Source: Developed by Authors for LA FIESTA restaurant (2016).**

## **I. Impact of Implementation Computerized Financial Accounting System**

There is the need to also for restaurant managers to appreciate the impact of a computerized accounting system on their business. This would encourage them to consider its implementation in the near future. It is useless implementing AIS when one is not sure of its impact organizational performance. Therefore, to develop and deploy computerized AIS for a restaurant, Consultants to be brought on board need to ensure that such a system would positively impact on the restaurant's operational performance. The Author finds that the establishment of computerized AIS for a restaurant is necessary because it will likely to boost operational performance. The lack of an effective manual AIS and complete absence of computerized AIS makes tracking of information on debtors, accounts receivables, stock/inventory, and preparations of budgets, financial accounts and analysis of financial performance very daunting. With the introduction of the Computerized IAS, all these problems would be resolved. Though the Author recommends a manual AIS as a first option for every restaurant, he seeks to draw the attention of Senior Management of restaurants on the need to consider the deployment of a computerized accounting system sometime in the future. A computerized accounting system would even further increase operational performance in terms of enhancing the accuracy, efficiency and analysis of transactions as well as improving financial reporting.

The Author proposes to Management of restaurants that a computerized accounting system such as the one shown schematically in Figure 6 below would be the best to ultimately employ. This is obviously after the manual system discussed above (see Figure 5) has been developed. In such a computerized system as shown in Figure 10 below, there is a desktop computer with the appropriate operating systems installed such as Windows Vista, Windows 7, and Windows 8 etc. Then, the appropriate accounting software could be installed. The commonest and most user-friendly accounting software is Microsoft Excel. However, other software is available in the market including Tally ERP, and Sage Accounts; these are pure accounting packages. Other packages which possess advanced statistical features include Oracle, EpiData and EpInfo. After installations of appropriate software, which is normally accomplished with the help of an expert/consultant, the organization would require an accountant or another person with good accounting, basic Information Technology (IT) and Statistics background to perform the functions of financial data entry (journalizing), financial data processing (ledger and worksheet preparation, trial balance, adjustments) and financial data analysis [Figure 6].

**Figure 6: Computerized Financial Accounting System Model**



*Source: Author, 2018.*

Thus, in a Computerized AIS, a human person with requisite knowledge is able to thoroughly examine source documents, extract the needed information and data and input them into an

appropriate database on a computer. The computers may be networked to enhance data sharing for larger organizations. Information gathered from source documents might include those found on cheques, receipts, creditor invoices accounts receivables, and account codes, accounts payable, customer personal information, supplier information and office information etc. The advantage of using a computerized accounting system over using manual AIS is that the computerized system enables the user to perform with efficiency, and speed such functions as:

- ❖ Financial Data Entry (Journalizing)
- ❖ Financial Data processing (Ledger and Worksheet Preparation, Trial Balance, Adjustments)
- ❖ Financial Data Analysis.

Moreover, with a computerized system, checking for errors, classification, sorting, coding, cleaning and analysis of data could all be done within the shortest span of time. In addition, with a computerized system, preparation of final reports could be done with ease. Final documents, which are the output from a computerized system normally includes financial reports capturing statement of comprehensive income, statement of financial position, statement of cash flows and statement of changes in equity if the entity is a profit-oriented organization. For a restaurants, final reports may be much simpler and might include ordinary income/surplus and expenditure accounts, statement of financial position and cash flow statement.



In summary a computerized accounting system, if implemented at a restaurant would offer the following advantages compared to a manual system (Baren, 2010):

*Advantages/benefits of computerized accounting systems*

- i. *Automatic ledger entries:* The general ledger accounting systems gets automatically updated once the entry in a subsidiary ledger is posted. For example, when invoicing a debtor through the Debtors Ledger there is an automatic entry made to the general ledger. This means if all entries are recorded the general ledger is up to date.
- ii. *Accounts always in balance (Debits = Credits):* Computerized systems recognize double entry bookkeeping where for every debit entry there is a corresponding credit entry made. The computerized accounting system accounts are always in balance. For example, when entering a payment, the system will not allow one to record a transaction unless one has allocated to an expense (or other) account.
- iii. *Accuracy and speed of automatic calculations (such as invoices):* Computerized systems have automatic calculations built in and therefore there is a slim chance of making mistakes calculating invoices. Invoicing is usually a breeze because all sales (*Quantity × price* is calculated automatically).
- iv. *Automatic production of a trial balance from ledger entries:* Computerized systems create a trial balance automatically. For example, when electricity is paid, the Bank

account (Asset) gets credited and Electricity (Expense) account gets debited. Both figures would be included if one were to run a trial balance. From a trial balance one could produce a Profit and Loss Statement and a Balance Sheet and both are generated in seconds.

- v. *Potential to create customized reports and provide additional analysis:* Computerized systems allow an organization to customize professional looking reports (which may include the company's details and logo). These reports provide additional analysis which may be needed by the bank, shareholders, suppliers and/or the owners. Far less time is spent creating reports than using a manual system.

Although computerized accounting systems have very useful and promising benefits, there are also some disadvantages associated with their use:

*Disadvantages of a Computerized Accounting system*

- ❖ Power failure, computer viruses and hackers are the inherent problems of using computerized systems;
- ❖ Once data been input into the system, automatically the output are obtained hence the data being input needs to be validated for accuracy and completeness, and the organization should be cognizant of the concept of GIGO (Garbage In(Input) Garbage out (Output) and

- ❖ Accounting system not properly set up to meet the requirement of the business due to badly programmed or inappropriate software or hardware or personnel problems can cause more havoc and
- ❖ Danger of computer fraud if proper level of control and security whether internal and external are not properly been instituted.

#### **IV. The need to consider Contingent Factors when Implementing Computerized Accounting Systems**

This paper, in sync with previous studies, also asserts that certain organizational contingent factors needed to be considered before an AIS could be successfully implemented in an organization.

According to Contingency Theory, which is the main theoretical underpinning for this study, the success of an Accounting Information System (AIS) depends on other factors. First, the development of an AIS should be part of the overall strategy of the restaurant. This is critical because strategy drives the future direction and performance of organizations. Several researchers, such as Holmes and Nichols (1988), Chapellier (1994), Lavigne (2002), and Stepniewski et al. (2008) have identified a significant relationship between contingency factors, the complexity of the accounting information system and business performance. Choe (1998), specifically, argued that the design of an accounting information system could be influenced by contingent variables which

he classified into two groups: organizational variables and individual variables. The organizational variables are related to the organizational structure (Chenhall & Morris, 1986; Gerdin, 2005), the task uncertainty (Chong, 1996), the organizational strategy (Naranjo-Gil, 2004) and the budgetary participation (Tsui, 2001).

Therefore, if Management of a restaurant needs to implement a computerized AIS, it must also take into consideration its organizational structure (Chenhall & Morris, 1986; Gerdin, 2005), the task uncertainty to be performed with the help of the system (Chong, 1996), its organizational strategy (Naranjo -Gil, 2004) and the budgetary participation (Tsui, 2001) (financial support management is willing and able to provide to support the implementation of the AIS). Without considering these contingent factors, the development and implementation of the AIS (both manual and computerized) would not be fully beneficial to the restaurant.

Apart from organizational contingency variables, individual variables also affect the success of accounting information systems in organizations. Individual contingency variables refer to the factors related to some individual characteristics that may have effects on accounting information systems. Studies by Chapellier (1994), Lavigne (2002) and Ngongang (2007) helped isolate factors relating to the training, level of education, experience and age of the leader as significant contingent factors influencing the success of accounting information systems. This implies that restaurant managers must also consider the need to conduct periodic training, including recognition of the

experience, age and other biographic characteristics of staff, management and all other stakeholders who would be likely affected by the development and implementation of the AIS.

## **V. Management Support**

No enterprise Resource Planning (ERP) system would succeed in an organizational setting without the support of Senior Management. Moreover, senior management is more likely not to support implementation of an AIS if they believe it is of no significance to their organization. To support the development and implementation of an AIS means that management should first understand the cost, benefits and impact the deployment of such a system on their organization. In addition, management should be willing to allocate financial resources, as part of budget preparation to facilitate the implementation of such an AIS (Tsui, 2001). Therefore, the Authors advise restaurant management to make some budgetary allocations to support the development and implementation of an AIS (including both computerized and manual).

### **I. Accounting Information Systems Can Enhance Survival and Profitability of restaurants**

A manual accounting system would impact a restaurant in the following ways:

- ❖ Help the restaurant perform all the functions indicated in the accounting cycle including extracting data from sources documents, journalizing this information and entering them into the appropriate ledgers, recording data on accounts receivables, accounts payables,

stock/inventory, and preparation of trial balance, making adjustments for these accounts and preparation of final accounts. Moreover, the system would enable the restaurant, if it has branches, to have separate books for all transactions involving all branches. In addition, the manual FAS would help the restaurant acquire books for recording account codes and for preparation of budgets and for serving as a general ledger. The ledger is important because in it all transactional information extracted from the source documents could be journalized. The ledger is also important because it would help in the preparation of the trial balance and the work sheet and in financial reporting.

With the implementation of the computerized AIS, the restaurant would enjoy additional advantages:

*i. Time and Cost Savings*

By using a Computerized Accounting Systems, restaurants would save time and money. The use of a computer makes inputting accounting information simple. Transactions are entered into the system and the system processes and posts transactions accordingly. The Computerized Accounting Systems would reduce staff time preparing accounts and reduce audit expenses as records are neat, up-to-date and accurate. Better use is made of resources and time; cash flow should improve through better debt collection and inventory control. More importantly, the system helps present financial reports on time to aid in the economic decision making process of external users.

*ii. Organisation and Accuracy*

The Computerized Accounting System would enable a restaurant to stay organized. When information is entered into the system, it makes finding the information easy. Employees can look up any financial information whenever it is needed. There is less room for errors as only one accounting entry is needed for each transaction rather than two (or three) for a manual system. Moreover, the accounting records are automatically updated and so account balances (e.g. customer accounts) will always be up-to-date.

*iii. Storage and Speed*

Storing information is vital to a business. After information is entered into the system, the information is stored indefinitely so that management of the restaurant could refer to anytime in the future. Moreover, the system would allow a restaurant to perform backups on the system regularly to avoid losing any information. The introduction of Computerized Accounting Systems provides the ability to see the real-time state of the restaurant's financial position.

*iv. Distribution*

In addition, the Computerized Accounting System would allow a restaurant to distribute financial information easily. Financial statements would be printed directly from the system and are distributed internally and externally to those needing the information. Moreover, reports can be produced which will help management monitor and control the business, for example the aged

debtor's analysis will show which customer accounts are overdue, trial balance, trading and profit and loss account and balance sheet.

In effect, the Computerized Accounting Systems enable financial statements to be prepared and presented to meet the relevance and faithful representation criteria of financial statements.

*v. Customer Satisfaction*

Again, through the computerized AIS, customer records could be tracked and a restaurant could focus on key customers by offering them special incentives such as discounts. The computerized system would also enhance effective communication between a restaurant and its customers, allow room for customer complaints, enhance customer stratification and minimize customer defection rates.

*vi. Customer Retention*

When customers become happy and satisfied with the quality of products and services offered them through their ability to communicate with the restaurant's management, they are more likely to remain loyal to the restaurant. Not only that, they could also influence their family and friends to patronize the restaurant's products.

*vii. Improved Competitive Advantage*

With customer defection rates minimized and loyalty increased, the restaurant stands a chance of being in at a competitive advantage over its competitors as customers are less likely to



patronize the products and service of competitors. The more customers are willing to remain loyal to the restaurant, the better the restaurant's competitive position.

*viii. Survival and Profitability of Restaurants*

Survival is directly related to competitive position. A firm which is at a competitive disadvantage is less likely to survive. Restaurants, through the deployment and implementation of the computerized AIS is likely going to increase its chances of survival due to the improvement win its competitive position that is associated with the use of the system. As its competitive position increases through increases in customer loyalty, sales revenues are going to increase. The increase in sales revenues, coupled with the reduction in transaction and operational costs associated with the implementation of the computerized AIS together would maximize profits of the restaurant [See Figure 7].

## **5.1 Conclusion**

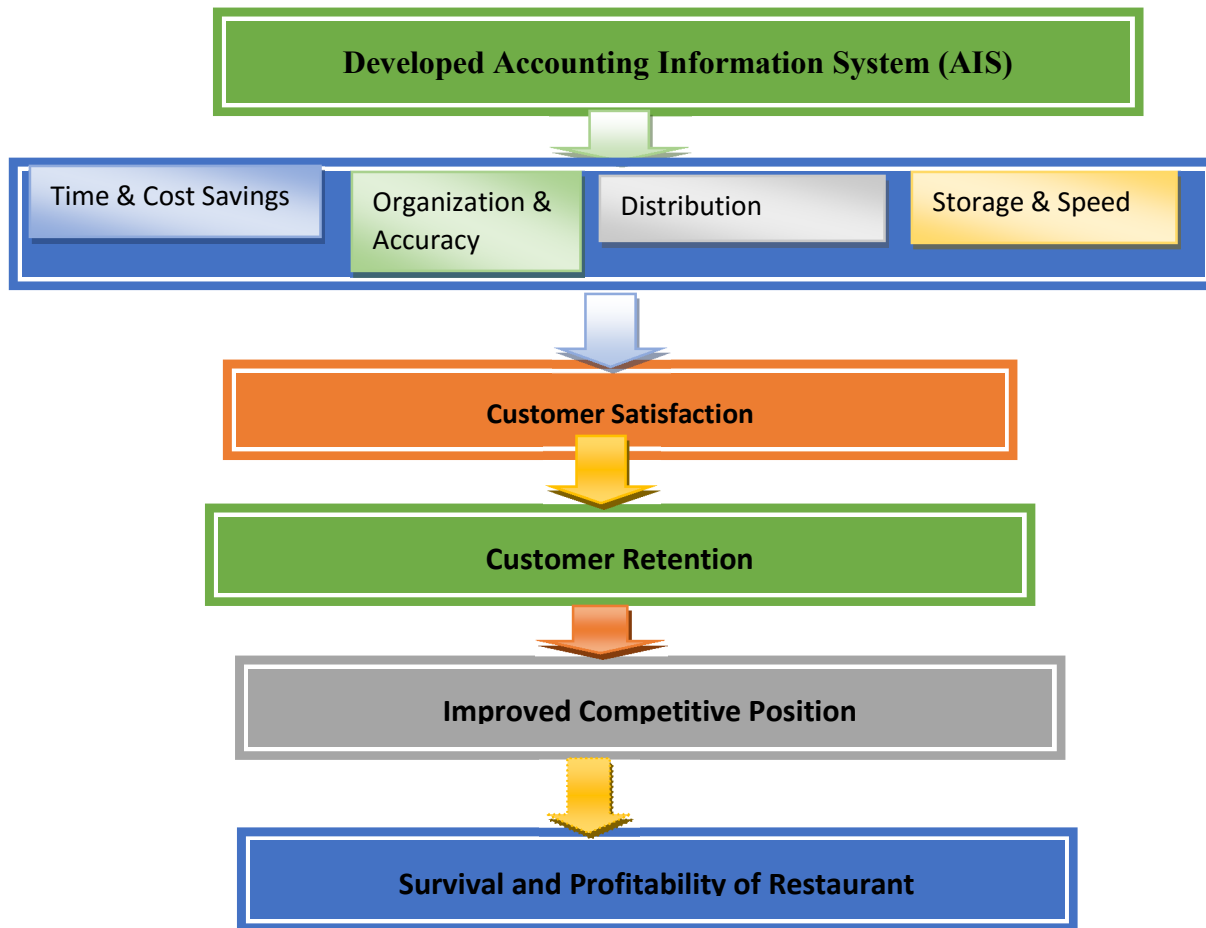
Globalization and technological change has constantly exerted normative and isomorphic pressures on organizations to embrace change and innovation. Today, many organizations, private, public, for-profit and not-for-profits organizations have no option but to respond to such external pressures. The adoption of financial accounting systems has become critical to the survival of many entities.

The main objective of this paper is to develop an accounting information system (AIS) that could be implemented at a Restaurant. Specifically, the paper seeks to:

- i. Identify the factors accounting for the lack of a financial accounting system at a restaurant.
- ii. Highlight the benefits and disadvantages of developing and implementing an accounting information system in an organization
- iii. Develop and propose accounting information system (AIS) model that best suits the operations of a restaurant and highlight its relevance
- iv. Isolate the advantages using of a computerized accounting information system over a manual system.

The results of the study provide empirical underpinning for the contingency theory of information systems adoption. It highlights the fact that the adoption of accounting information systems by restaurants is in indeed, influenced by contingency variables, which may be related both to the organizational context and/or the characteristics of individual stakeholders going to deploy the system. In effect, the benefits to be derived from or challenges to be encountered by an organization in relation to a financial accounting system are contingent upon the symbiotic interaction between the information system characteristics and organizational features and individual –specific variables.

**Figure 7: Impact of Developed AIS on Survival and Profitability of Restaurants**



***Source: Developed by Author (2018).***

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