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# The Use of Information Technology (IT) among Small and Medium Enterprises (SMEs) In Financial Reporting: Evidence from Ghana

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## Authors' contributions

Author EA designed the study and wrote the first draft of the manuscript. Authors CO and EA performed the statistical analysis. Author AS developed and coded the questions for the study whilst author JYO helped in coding the questionnaires and inputting of data into the SPSS software. Author IQ reviewed the first draft and formatted the paper to suit the journal's requirement. All authors were actively involved in the data collection process. The final manuscript was discussed, read and approved by all authors.

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## ABSTRACT

In today's world, the role of Information Technology (IT) has become an essential tool to the success of every business. A major strategy in ensuring cost reduction, security and remaining efficient and effective in today's modern business environment is the use of recently emerged IT in business. Better decision-making among businesses will elevate the danger of failure and instead remain competitive. This paper sought to assess the relevance of IT on accounting practices in

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relation to financial reporting by Small and Medium Scale Enterprises (SMEs) in Ghana; that is determining whether or not IT systems have better influence on accounting practices in relation to organizational performances. Majority of SMEs used in the study indicated that IT provide security with financial information, hence the result of this research showed positive correlation between IT and its usage in financial reporting. According to this study, the use of IT has a positive impact on the accounting practices which directly enhance performance of businesses. Business organizations are however encouraged to embrace IT systems in full capacity for their accounting practices to ensure fast track of their financial reporting to users of accounting information. It would be added advantage if government of developing countries will advocate and create more awareness on the importance of IT in business to ensure development.

*Keywords: Information Technology; SMEs; Financial Reporting; Firm Performance.*

## 1. INTRODUCTION

It is well documented in economic literature of the role Small and Medium Enterprises (SMEs) play as a catalyst for economic growth and development [1]. SMEs serves as engine of growth for national development to most developing countries [2-4]. However, they are often denied access to finance by formal financial institutions [4] [5]. One major factor accounting for the denial is the issue of poor financial reporting. Wild, Shaw and Chiapetta [6] defines financial reporting as the communication of information useful for making investment, credit and other business decisions. That is to ensure information to users possess good qualitative characteristics including timeliness, accuracy, comparability, reliability, relevance and understandability [7]. The manual accounting systems consisted of paper ledgers, typewriters and calculators, and human effort in keeping these accounting records [8,9]. With the advent of fast changing business world resulting from increased competition, globalization and rapid pace of technological changes, manual systems is not adequate enough in fast tracking needed information in these competitive era [10]. In other to improve business performance in today's world, majority of SMEs (manufactures, suppliers, retailers, and financial institutions) adopt business strategies such as information technology (IT) in achieving its goals. It has been noted that developing countries in which market failure is particularly diverse and widespread may require coordinated strategies, and as such IT adoption [11]. Technology, innovation and knowledge have become the key drivers of economic growth [12], and as such must be given the necessary attention by business organizations.

Contemporary firms are making significant investments in IT to align business strategies, enable innovative functional operations and

provide extended enterprise networks [13]. These firms have adopted IT to foster changes in managing customer relationships, manufacturing, procurement, the supply chain and all other key activities [14-16] and to enhance their competitive capabilities [17]. A number of information systems researchers have posited IT as an important ingredient of innovation development [18-20]. Accounting, unlike other information systems, was one of the first functional areas to benefit from computerization when computers were initially introduced to organizations [8]. Moreover, it is a known fact that accounting package is usually one of the first major computer packages that a company purchases and it is one of the two business applications often used, with word processing being the other [21]. This is due to the significant role accounting plays in the performance of organizations. The primary purpose of an Accounting Information System (AIS) is the collection and recording of data and information regarding events that have an economic impact on organizations and the maintenance, processing and communication of such information to internal and external stakeholders [22]. The information is used for the evaluation of the financial position of the organization and for decision-making purposes.

Computerization has enabled automation of the accounting information systems of business organizations to help streamline processes and brought improvement in efficiency and communication. Carr [23] noted that a number of studies have been undertaken to investigate the impact of IT on accounting. Clark and Cooper [24] found all but the smallest business has computerized accounting systems and that other functions depend on IT. Though IT is extensively used, the quality and mode of use is not always satisfactory. It has been observed that IT made book-keeping more comprehensive, accurate,

timely and frequent [25] [26]. While it is widely acknowledged that IT plays an important role (and increasingly so) in the field of accounting, the relationship between IT and accounting has been studied relatively little [27].

Zezhong Xiao et al. [28] had explored the relationship between IT and Corporate Financial reporting. The authors had put an effort to investigate of whether contingent factors can explain the degree and pattern of IT impact on CFR. The authors had described the contingency perspective, the hypotheses formulated on the basis of this perspective and the results of the tests of those hypotheses. It segmented the sample into sub-samples according to the specified contingent factors and examined the contingent relationships in subsamples. The authors suggested that the effect of IT use in accounting is not confined to accountants and individual organizations, but it requires monitoring and control at the communal level. In the discussion to prevent further increase in the information asymmetry between managers and external users, the authors suggested the financial reporting regulators to encourage companies to make greater use of IT to improve external reporting [29]. It is against this backdrop that this study has been undertaken to explore the use of IT in financial reporting by SMEs in Ghana by examining IT impact on accounting and organizational performances.

## **2. THEORETICAL BACKGROUND AND HYPOTHESES**

### **2.1 Effects of Weak IT Controls on Organizations**

In 2004, the Public Company Accounting Oversight Board (PCAOB) underscored the need for auditors to understand how IT affects the firm's flow of transactions and examine the use of IT within the processes and controls [30]. Haislip et al. [31] found that IT material weaknesses have more pervasive impact on the financial reporting process than non-IT material weaknesses since IT often permeates through the entire financial reporting structure. Consequently, firms with significant IT deficiencies are more likely to issue misstated financial statements (relative to firms with regular material weaknesses), further increasing the awareness of the importance of IT on the overall financial reporting system [32]. While material internal control weaknesses are associated with significant costs [33-35], it is likely that these

costs are particularly great for IT material weaknesses (relative to regular material weakness firms) [31].

Li et al. [36] revealed that weak IT internal controls produce low information quality, leading to management forecasts that are less accurate for firms with IT material weaknesses than for firms with non-IT material weaknesses. It has been suggested firms that report IT internal control material weaknesses proceed with other IT initiatives to improve financial reporting [31]. These initiatives include upgrading the IT financial reporting system, hiring an IT executive, adding a technology committee to the board, or increasing the importance of the role of the Chief Information Officer (CIO). The extant literature discusses how these different initiatives can improve financial reporting. For example, Hunton et al. [37] found that using IT for continuous monitoring can increase the level of real earnings as far as management of firms is concerned. Li et al. [36] further stated that better quality IT financial reporting systems provide higher quality information to management. Kobelsky et al. [38] established a positive association between IT budgets and firm performance and shareholder returns.

The implementation of technology especially in monitoring the effectiveness of internal controls decreases the likelihood of internal control material weaknesses [39]. Overall, this evidence suggests that improving IT can decrease the likelihood of material weaknesses, and therefore improve the quality of financial reporting [31]. Although introduction of technology has improved upon the system of accounting, one can conclude that, it is not devoid of error. Nevertheless, the importance of computerized accounting system override its demerits.

### **2.2 The Impact of IT on Accounting**

IT has grown to become a key component in meeting an organizational objectives. The shift in IT over the last decades to become an important part of how companies manage and control their resources [40] has gain great influence in our business world today. In this respect, IT plays a critical role in modern business, especially regarding the accounting function [41]. IT has radically transformed the nature of business and accounting practice [42], thereby helping organizations facilitating their accounting goals in more vibrant ways. Some of these technologies, with their widespread use, especially the Internet, have altered the way companies work and their

accounting organization [27]. Prior to the emergence of this environment, the presence of IT in the organization has typically taken the form of specific computer application systems, such as accounts payable and financial reporting systems, which either automate specific operational procedures or support certain managerial processes [40]. The first use of an information system was in relation to accounting [43]; because often IT was about the firm's financial ledgers and reporting systems [44]. While it is widely acknowledged that IT plays an important role in the field of accounting, the relationship between IT and accounting has been studied relatively little [27].

Although IT clearly plays an important role in accounting [41] and management control [45], there is a very limited knowledge about the impact of the most recent IT developments in the accounting field [27] because this relationship has not been studied enough. Existing research has focused mostly on the relation between IT investment and company performance [46] [47], notably in studies that attempt to measure the level of IT investment and company productivity [48] or even the financial return on IT investments [49,50]. But, empirical studies examining the relationship between IT and performance have reported mixed findings [46] [48]. As such more attention of research should be focused on this area. Effective internal controls which serves as engine to proper, fair and reliable financial reports is of critical importance to organizations and as such incorporate the use of accounting software's to generate their financial information [8] that is to help foster their operations. IT serves as the foundation of an effective system of internal controls over financial reporting [36] [37] [39]. IT provides the platform that integrates financial transactions and internal controls to increase the likelihood of a properly functioning financial reporting process. This leads us to our first hypothesis as:

H1: The use of information technology has direct effect on financial reporting.

### **2.3 The Impact of IT on Firm's Performance**

SME owners and managers need updated, accurate and timely accounting information to ensure their survival [8]. SMEs are encouraged to embrace new technologies, however,

experimenting with new technologies at the expense of the accounting data can be a risky proposition [51]. Companies used computers for the preparation of management accounting information [52], but usually not to their full potential [8], there is the need to extend IT use in financial reporting to match up with modern advancement in this competitive world. According to Crescenzi and Kocher [53], the rapid evolution of IT represents both an opportunity and a potential risk for the accountant. By avoiding the potential risk the accountants can use the new IT to enhance his role within the organization [50] which is geared to ensure effectiveness in presenting financial report.

The relationship between the use of IT and firm performance has widely researched over the recent years. The results have shown a significant and positive correlation between IT and firm performance [54-59]. Meanwhile the other researches have not been able to find such relationship [59-61]. In 2000, Bharadwaj [62] empirically tested the relationship between the IT capability of a firm and its performance by comparing the financial performance of firms rated as IT leaders to those of comparable firms. The list of IT leaders was obtained from Information Week and represented a set of firms chosen by a panel of industry experts as the most efficient and effective users of IT in the industry. Each of these IT leader firms was matched with another firm of similar size. The financial performance of the IT leaders and the matching firms were compared. The results indicated that the average financial performance measures of IT leader firms (hereafter referred to as leaders) were significantly better than those of the matched firms on several measures of financial performance. This provided support for the argument that those firms that develop an effective IT capability are able to obtain superior financial performance compared to those who do not develop an effective IT capability [63]. That notwithstanding, most SMEs neither employ IT systems at all nor effective ones in their operations. This research sought to establish whether or not the usage of IT in the operations of SMEs will enhance their performance. This leads us to our second hypothesis which is formulated as follows:

H2: There is a positive relationship between information technology and Small and medium scale enterprises performances.

### **3. RESEARCH METHODOLOGY**

#### **3.1 Research Design**

The researchers adopted the case study approach in the conduct of this study. The case study seeks to investigate a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident [64]. Since the case study design is conducted in a natural setting with the intention to comprehend the nature of current processes in a previously area [65], it allows the researcher to grasp a holistic understanding of the phenomenon under investigation [66,67]. Instead of seeking answers to questions such as “how much” or “how many,” case study design is useful for answering “how” and “why” questions [64,65]. Orlikowski and Baroudi [68] declared that, in the information systems research field, case study has demonstrated its appropriateness to generate a well-founded interpretive comprehension of human/technology interaction in the natural social setting. Consequently, from an interpretive perspective, the researcher can obtain sufficient material from the selected case(s) for subsequent analysis [69]. Within this case study design, the researcher was able to deduce the qualitative and quantitative approach that helped to acquire relevant information for the study.

#### **3.2 Data Collection**

The population of the survey constituted owners, management and account staffs of selected SMEs in Ghana. Purposive sample method was used in attaining the sample size. Purposive sampling enables the researcher to use his or her judgment to select cases that will best answer his or her research question(s) and to achieve his or her objective [4]. Therefore, the study used a sample size of six hundred and forty (640) respondents of which the researchers divided it equally among owners, management staff, account staff and IT staff of one hundred and sixty (160) SMEs. The researchers devoted adequate time to the distribution and the collection of the questionnaires which resulted in 614 retrieved out of 640 questionnaires of which 562 was fully filled and was finally used for the analysis by the researchers.

#### **3.3 Measurement of Variables**

##### **3.3.1 Impact of IT on accounting**

For purpose of this research, questions on impact IT on Accounting were asked and placed on a 5-point Likert scale ranging from Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) in the form of statement. The respondents were asked to indicate their level of agreement with each statement in relation to the impact of IT on Accounting by ticking the right choice of scale.

##### **3.3.2 The impact of IT on SMEs' performance**

For purpose of this research, questions that relate to SMEs' performance were asked and placed on a 5-point Likert scale ranging from Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1) in the form of statement. The respondents were asked to indicate their level of agreement with the statements in relation to SMEs performance by ticking the appropriate Likert scale.

#### **3.4 Validity and Reliability of Data**

The reliability of the data was used for empirical analysis and hypothesis testing. The reliability of the data was assured by the use of Cronbach's alpha (numerical value of 0.5 is considered appropriate to show consistency). For this research data, the alpha value for IT impact on Accounting is 0.69 and SMEs' performance at 0.74. The hypothesis formulated for the study was tested by cross-sectional data with the use of statistical software SPSS 20. Descriptive statistics and Pearson correlation were generated between the variables.

### **4. STATISTICAL ANALYSIS OF DATA**

#### **4.1 Gender and Number of Years of Operation**

The study revealed that, out of 562 respondents there was 53.13% of male in slight dominance over the female of 46.87%. Base on the years of working with the SMEs, it was realized that majority of respondent (61.37%) were found to be with SMEs within the period of twenty (20) years and above. This brings to the light that, higher percentage of the respondents has been with SME's for more than twenty (20) years. It was detected that 70.25% of respondent were

accounting professionals. This is an indicator that SMEs in Ghana are equipped with experience personnel's which is geared at boosting national development.

#### 4.2 The Impact of IT on Accounting

The dependent variable is Information Technology Awareness (ITA) and the following; Making Accounting Data and Information Security Safe (ADS), Reliability and Accuracy of Financial Statements (RA), Better and Extensive Analysis of Financial Reports (BEA), Convenience in Communicating Financial Reports (CC), represent the independent variables.

From Table 1, it shows that CC had the highest correlation coefficient with the dependent variable at 0.939 at P<0.01 (2-tailed), RA at 0.724 at P<0.01(2-tailed) and variables such as ADS and BEA had a correlation coefficient of 0.521 at P<0.01 (2-tailed) and 0.504 at P<0.01 (2-tailed) respectively. The findings showed that Small and Medium Scale Enterprises (SMEs) practice these policies because they are in line with their ethics and also accepted by the society in general. This finding satisfies our hypothesis (H1) which states the practice of information technology has a direct effect on financial reporting.

Furthermore, a multiple regression analysis was performed to test the model that had an influence on the relationship between the dependent variable and the independent variables as depicted in Table 2. The multiple regression equation used to test how the independent variables had an influence on the dependent variable is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n$$

The dependent variable can be projected as:

$$Y = \beta_0 + 0.69 X_1 + 0.55 X_2 + 0.53 X_3 + \dots + \beta_n X_n$$

**Table 1. Descriptive statistics and Pearson correlation of IT impact on accounting variable**

Variables	N	Mean	SD	2	3	4	5
1.ITA	562	3.19	1.125	0.521**	0.724**	0.504**	0.939**
2. ADS	562	3.67	1.125		0.690**	0.939**	0.099**
3.RA	562	3.37	1.474			0.251**	0.525**
4.BEA	562	3.86	1.320				0.291**
5.CC	562	3.47	1.038				

\*\* Correlation is significant at 0.01 levels (2-tailed)

Where: Y= Information Technology Awareness (ITA) is the dependent variable is and the following were the independent variables;

- X1= Making Accounting Data and Information Security Safe (ADS)
- X2= Reliability and Accuracy of Financial Statements (RA)
- X3= Better and Extensive Analysis of Financial Reports (BEA)
- X4= Convenience in Communicating Financial Reports (CC)

Also  $\beta_0$  is the constant of the regression equation, and  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are the co-efficient of X1, X2, and X3 respectively.

#### 4.3 The Impact of IT on SMEs' Performance

The dependent variable is Performance of IT on SMEs (PIT) and the following; Fast and Timely Presentation of Financial Reports to SME's (FTP), Promoting Better Comparability among SMEs (PBC), Reducing Cost Associated with SMEs (RCA), Improving employee Satisfaction and Efficiency(ISE) and Easy Access to Accounting Information (EAI) represent the independent variables. From the Pearson correlation in Table 3, it shows that EAI had the highest correlation coefficient with the dependent variable at 0.936 at P<0.01 (2- tailed), RCA at 0.907 at P<0.01(2-tailed), and ISE at P<0.01 (2-tailed). Moreover, variables such as FTP and PBC had a correlation coefficient of 0.865 at P<0.01 (2-tailed), and 0.099 at P<0.01 (2-tailed) respectively.

The findings showed that SMEs adoption of IT has a positive effect on their performances. This finding satisfies our hypothesis (H2) which states there is a positive relationship between information technology and SMEs' performances.

Furthermore, a multiple regression analysis was performed to test the model that had an influence on the relationship between the dependent variable and the independent variable as depicted in Table 4. The multiple regression equation used to test how the independent had an influence on the dependent variable is:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n$$

The dependent variable can be projected as:

$$Y = \beta_0 + 0.32 X_1 + (-0.43 X_2) + 0.47 X_3 + \dots + \beta_n X_n$$

Where: Y= Performance of IT on SMEs (PIT) is the dependent variable and the following were the independent variables;

X1= Fast and Timely Presentation of Financial Reports to SME's (FTP)

X2= Promoting Better Comparability among SMEs (PBC)

X3= Reducing Cost Associated with SMEs (RCA)

X4= Improving employee Satisfaction and Efficiency (ISE)

X5= Easy Access to Accounting Information (EAI)

Also  $\beta_0$  is the constant of the regression equation, and  $\beta_1$ ,  $\beta_2$ , and  $\beta_3$  are the co-efficient of  $X_1$ ,  $X_2$ , and  $X_3$  respectively.

### 5. DISCUSSION AND MANAGERIAL IMPLICATION

It is evident from the analysis that Information Technology (IT) has direct influence on the accounting practices and performances of Ghanaian SMEs in relation to financial reporting, though not all SMEs agree to the fact that IT provide information security and accuracy. However, majority of SMEs' used in the study agreed to the fact that IT is very convenient in the timely output of financial reports and has

**Table 2. Regression analysis of IT impact on accounting variables**

Model	R-square	Unstandardized coefficients		Standardized coefficient	t-value	Sig.
		Beta	Standard Error	Beta		
ADS	0.511	0.320	0.086	0.699	3.872	0.000
ADS, BEA	0.623	-0.027	0.116	0.554	3.566	0.000
ADS, BEA, CC	0.710	-0.183	0.097	0.532	-2.060	0.041
ADS, BEA, CC, RA	0.887	0.007	0.035	0.511	3.023	0.009

**Table 3. Descriptive statistics and Pearson correlation of SMEs' performance variables**

Variables	N	Mean	SD	2	3	4	5	6
1.PIT	562	3.40	1.160	0.865**	0.099**	0.907**	0.895**	0.936**
2. FTP	562	2.94	0.870		0.079**	0.927**	0.876**	0.888**
3. PBC	562	3.28	0.992			0.203**	0.106**	0.277**
4.RCA	562	3.80	1.072				0.867**	.923**
5.ISE	562	3.09	1.092					0.901**
6.EAI	562	3.54	1.141					

\*\* Correlation is significant at 0.01 levels (2-tailed)

**Table 4. Regression analysis of SMEs' performance variable**

Model	R-square	Unstandardized coefficients.		Standardized coefficient	t-value	Sig.
		Beta	Standard Error	Beta		
FTP	0.764	-0.456	0.053	0.324	-8.556	0.000
FTP, PBC	0.830	-0.502	0.039	-0.429	-12.961	0.000
FTP, PBC, RCA	0.913	0.518	0.045	0.479	11.551	0.000
FTP, PBC, RCA, EAI	0.929	0.069	0.035	0.065	1.986	0.048
FTP, PBC, RCA, EAI, ISE	0.929	0.372	0.039	0.366	9.648	0.000

influenced the decision of most SMEs into the usage of IT in their day-to-day financial operations. This change could be attributed to the recent technological advancement and the role of IT in today's business environment. The findings of this study attest to the fact that IT ensures efficiencies and effectiveness to the business organizations. IT being cost effective and efficient serves as motivation factor for its adoption and implementation.

In relation to organizational performances, though there is conflicting results in the relationship between IT investments and firm performance [70], the result of this research shows a positive relationship between IT and organizational performances among Ghanaian SMEs. Although recent studies show that 60% of the SMEs fail within the first five years of operation [71], this could be avoided if managers make it a point to foster the use of IT through effective training. These will help SMEs and other adopters to be more efficient in their financial reporting to the users of this information. The success of SMEs like any other business needs a smooth convenient environment to remain competitive. The core objective of every business is to meet its stated objectives and as such efficiency and effectiveness is required. IT accounting which have gained grounds in modern business has outweighed the manual accounting system in ensuring effectiveness and efficiency in meeting business objectives.

The findings of this research provide guidelines for managers in developing strategies for gaining competitive advantage. It will be added advantage for owners, managers and decision makers to strategize and control IT in their day-to-day operations.

## 6. CONCLUSION AND FUTURE RESEARCH

SMEs use of IT in their financial reporting is a convenient strategy among other strategies in gaining competitive advantage. An effective implementation of IT in financial reporting by management will eventually position the organization above its rivals. Moreover, IT application in SMEs like any other business calls for the need of IT expert and IT training. The use of IT accounting software depends on the conveniences of the business environment.

Although IT plays very important role in meeting business objectives, issues concerning adoption

challenges (example; system failures, electricity failures) should be taken into consideration. The researchers interview with some respondents indicated that load schedule of electricity supply in recent days in Ghana is hindrance to them in the adoption of IT in financial reporting. In other to avoid this inconveniences, it is recommended that adopters of IT should have back up of electricity supply. In view of this, the researchers suggest a further study into the erratic electricity supply and its effect on the Ghanaian SMEs' in relation to IT adoption in financial reporting. There is also the need to carry out similar research in other countries for comparison purposes, the finding of which will serve as a guide to SMEs in their attempt to embrace IT in full capacity to enhance their operations.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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