



## THE IMPACT OF ACCOUNTING INFORMATION SYSTEM ON THE SMEs PERFORMANCE IN LIBYA

Abdulfatah Juma M Brrim<sup>1</sup>; Siti Khalidah Binti Md Yusoff<sup>2</sup>, **S. M. Ferdous Azam<sup>3</sup>**

<sup>1</sup>Postgraduate center, Management & Science University, Malaysia, Email: ([abdo.prem@yahoo.com](mailto:abdo.prem@yahoo.com))

<sup>2</sup>Business management Department, Management & Science University, Malaysia, Email: ([Khalidah@msu.edu.my](mailto:Khalidah@msu.edu.my))

<sup>3</sup>Business management Department, Management & Science University, Malaysia, Email: ([drferdous@msu.edu.my](mailto:drferdous@msu.edu.my))



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### ABSTRACT

**Purpose:** The rapid development of the business environment and relying more on information as a resource make it depend on-time more on the quality and speed of information when decisions are made. The Libyan SMEs suffer a lack of performance tied to ineffective information availability. This study aims to identify the impact of accounting information systems on SMEs performance in Libya.

**Design/ Method/ Approach:** This research has used the quantitative approach. The data source was primary data for this research. This research has used the questionnaire instrument to be the tool to collect the data. These questionnaires were distributed to the research samples, 384 employees, owners, and individuals who work in Libyan SMEs.

**Findings:** The study has found positive and significant relationships between (tangibility, reliability, responsiveness, and assurance) and SMEs performance in Libya. The highest impact was found from the tangibility of AIS toward the SMEs performance.

**Research limitations:** This study was limited to SMEs in Libya. It is also limited to the respondents' perceptions of employees, owners, and individuals who work in Libyan SMEs. The model constructed of this study was adopted from the SERVQUAL model.

## 1. Introduction

The importance of Small and Medium Enterprises (SMEs) globally is evidenced in their participation in the generation of employment and their flexibility to adapt to the environment swiftly. SMEs are at the centre of the proposals for policies that are debated in the countries of Africa. Notably, in Libya, the application of the so-called opening policies and conditions that characterise the productive apparatus regional mean factors should be considered to guarantee the stability of the SME (Abeygunasekera, Bandara, Wynn, & Yigitbasioglu, 2018). This situation is an obvious opportunity to take advantage of its strengthening. This business segment has benefits of immeasurable value, such as developing relatively non-specialised technologies that make production and small-scale service provision; what Rate the social assessment (A. H. Al-Dmour, Abood, & Al-Dmour, 2019). The SME, through history, has been characterised by an administration that rests on the vision of its sole shareholder and supplier of own funds: its owner, not yet convinced of the importance of innovation and the need to increase the technological capacity in terms of management modes (Ahn & Jacobs, 2019). It is necessary that the SMEs put into practice that ability to adapt exceptionally to the changes in the environment and challenge old managerial paradigms. These are times of significant changes for Libyan companies (Khalifa, Dabab, & Barham, 2019). Companies will adopt new approaches and new ways to operate to meet the unique demands of the country. On the one hand, the challenge implies modernising and developing competency skills, and on the other, integrating all the aspects that mean strengths, strategy, and business objectives (A. Al-Dmour, Zaidan, & Al Natour, 2021). This cannot be improvised; it requires a planned action that must be based on two fundamental pillars: the link between the university world and the SMEs, to meet the real needs of managerial training; and the systems approach management that takes shape in a new vision in the direction of companies (Abu Afifa & Saleh, 2021). Within these is the accounting information, which constitutes a large part of the companies' information system and, therefore, of the process of taking managers' decisions today. Little is what a finance department can do modern and emerging in a company where executives do not use information widely accountant (Hank C. Alewine & Stone, 2017). This study aims to identify the impact of accounting information system (AIS) dimensions (tangibility, reliability, responsiveness, and assurance) on SMEs performance in Libya. The remaining sections of this research are designed as follows: Section 2 defines the literature review used in the current study, including literature, definitions, and theoretical background. Section 3 focuses on the model used in the study by highlighting previous studies regarding the research variables and containing the hypotheses development. Section 4 presents the methodology used to collect the data and the study sample. Section 5 includes analysing the collected data and showing the results. Section 6 discusses the results and highlights the implications of the results. Finally, section 7 represents the conclusion which includes future research directions.

## **2. Literature Review**

### *2.1 Theoretical Framework*

When referring to organizations, it is essential to address the aspect of the “environment” and, therefore, that of technology in its different meanings; one, in particular, the “information technology” (Chiu et al. 2019). It is often stated that the company environment is changing, and consequently, the company itself. It interacts in turbulent environments of uncertainty, which leads to an endless search for those positions of competitiveness that are desired and necessary for the sustainable development of the organization. Thus, the company constantly moves from chaos to order for the sake of balance. There is the dynamic under which scientific and technological development occurs in this spiral cycle. This leads to an inexorable “increase in the forms assumed by the complexity of the organizational system.” (Chaudhry and Sam 2018). To have a complete idea of the events in the organizations, the effect of the globalization processes is considered in implementing information systems, whose primordial feature is the demand for incorporating a new paradigm of efficient work (Alsharari and Youssef 2017). This highlights the deficiencies in the management of small and medium enterprises and, consequently, the urgent need to generate theoretical proposals, models, methods and instruments with which it is intended, on the one hand, to interpret the phenomena present in the environment and, on the other, respond to the expectations of the users of the information. Likewise, the search for accounting information systems that allow a more efficient operation of the different organizational units is intensified (Thoa and Nhi 2021). Considering these premises, the fundamental intention of the research is to propose an accounting information system for small and medium enterprises, which involves categories associated with the demands of users and technology characterized by the complexity and speed of response to constant changes (Cho and Kang 2019). In other words, an information system that adapts to the needs of an organizational structure in transition, characterized by its constant adaptation to the environment. For this reason, answers are presented to concerns related to : (Lotfaliei and Lundberg 2019) The aspects that characterize the accounting information system in small and medium enterprises; (2) The elements of the accounting information system considered ideal. (3) The divergences between the bases of operation of the accounting information system implemented in small and medium enterprises and the categories of an ideal accounting information system.

### *2.2 Classic Theory*

An accounting system consists of the following parts: the first one relates to the design and operation of the internal vouchers, documents, or forms such as vouchers and receipts, invoices and sales slips, check stubs, credit and debit notes, etc., which serves to carry out an operation or to report on the operation already executed. Then follow the essential accounting records in which these vouchers are transferred, analyzing the procedures performed and the impact on Asset, Liability, and Equity (Boell & Hoof, 2020). Third, there are the elderly, records that summarize accounts, the information presented in the Daily Book. Finally, and due to these records, reports are arrived at, designed according to the company’s information needs. The founder of the classical theory was the Engineer Henri Fayol (Constantinople 1841- Paris 1925). Fayol made great contributions to the different administrative levels: systematized managerial behaviour, established the fourteen principles of management and divided industrial and commercial operations into six groups called basic functions of the company. The classical theory emerged shortly after the Industrial Revolution due to the accelerated growth of companies (Lotfaliei & Lundberg, 2019) and the need to increase the efficiency and competence of organizations (2).

1. The accelerated and disorganized growth of the companies produced a complexity in their administration and demanded a purified scientific approach to replace empiricism. With the company of wider dimensions, the initial conditions of long-term production planning arise, reducing instability and improvisation.
2. The need to increase the efficiency and competence of organizations in order to obtain a better performance of their resources and to face competition, which was growing among companies. Thus arises the division of labour.

#### *2.2.1 Principles of Classical Theory*

The science of administration, like all science, must be based on laws or principles. Fayol adopts the denomination principle, departing from any idea of rigidity, as nothing is rigid or absolute in administrative matters. Such principles, therefore, are flexible, adapting to any circumstance, time or place (Abduljalil & Zainuddin, 2015). They are:

1. Division of Labor: For better job performance, specialization is essential. The more the employee is specialized, the better their efficiency will be.
2. Authority: Managers have to give orders; they will not always obey if they do not have personal authority (leadership).
3. Discipline: The members of an organization have to respect the rules and agreements that govern the company.
4. Management Unit: Operations have the same objective and must follow a plan. The departments must assist others in achieving the tasks and projects assigned to each one instead of denying help. There must be a coordinated plan for this, approved and authorized by the managers involved.
5. Command Unit: instructions on a particular operation are received only from one person.
6. Subordination of individual interest to the common good: In any company, the employee must have a primary concern for the organization.

7. Compensation: Compensation for work must be equitable for employees and employers. For equal work, equal wages.
8. Centralization: Fayol believed that managers have final responsibility, but employees must have sufficient authority to perform their work adequately.
9. Scalar chain: The line of authority in an organization is in order of ranks from top management to the lowest levels of the company.
10. Order: Each individual must occupy the most convenient position for him.
11. Equity: Administrators must be friendly and equitable with employees. Firm but fair.
12. Stability of the staff: For efficient functioning in the organization, the low turnover of the personnel is the most convenient.
13. Initiative: Employees must be free to express and carry out their ideas, even when mistakes are sometimes made.
14. Team spirit: Promoting team spirit will give the organization a sense of unity. All departments within the company must work together and support each other when necessary, to achieve a joint venture.

### 2.3 General System Theory

Ludwig Von Bertalanffy proposed it in the 1940s to provide a practical framework for the sciences in general. It is defined as a meta-theory since by itself it does not show any practical case, but tied to other branches of science allow its investigation itself (Bens, Monahan, & Steele, 2018). Sanz (2012) indicates that “This theory defines the system as a set of elements that interact with a structural and functional component based on boundaries, elements, communications network and information.” On the other hand, the system can be defined as entities that present certain attributes that relate to themselves and are united by the same environment fulfilling a specific objective. This in turn, can have subsystems defined as a set of elements and specialized relationships within a higher system; in general, they must have the same system characteristics (Bai, Koveos, & Liu, 2018). Starting from the principles of systems, it can be started with a practical analysis about what is evident with the accounting information systems considering that is tied to accounting practice, to the information itself and that considering the definition of systems. Theory is linked thematic that interacts to obtain a thematic axis of research or study (Alamin, Yeoh, Warren, & Salzman, 2015). A system in general and a particular accounting system has three streams, one the input current, then the processing current and the third, the output current.

- In the input stream, the economic factors of the medium are captured, which are related to the company and are quantifiable.
- In the processing stream, the information is recorded, summarized and classified.
- The third and last part or stage of an accounting system is the output current, where the information goes to the medium to be used by the users that require it.

The systems theory or general systems theory (GST) is the interdisciplinary study of systems in general. Its purpose is to study the principles applicable to systems at any level in all research fields. A system is defined as an entity with limits and interrelated and interdependent parts whose sum is greater than its parts (Asatiani, Apte, Penttinen, Rönkkö, & Saarinen, 2019). The change of one part of the system affects the others and, with this, to the whole system, generating predictable patterns of behaviour. The growth and adaptation depend on how well it fits its environment. In addition, systems often exist to fulfil a common purpose (a function) that contributes to maintaining the system and preventing its failures. The objective of systems theory is the systematic discovery of the dynamics, constraints, and conditions of a system. Principles (purposes, measures, methods, tools, etc.) can be discerned and applied to plans at any nesting level and in any field to achieve an optimized equifinality (Ahn & Jacobs, 2019). The general theory of systems deals with concepts and principles of comprehensive application, contrary to those that apply in a particular domain of knowledge. Distinguishes dynamic or active systems from static or passive systems. The former are structures or components of activity that interact in behaviours or processes, while the latter are structures or components that are being processed.

### 3. Research Model and Hypotheses

Hank C Alewine, Allport, and Shen (2016) have separated up AIS into three noteworthy subsystems as pursues: accounts receivable (or deals record) records every single budgetary exchange and sums that customer owe to the association; creditor liabilities (or buy record) store budgetary exchange subtleties and sums owed to providers by the association; and the general record records subtleties of every single budgetary exchange over the association. The records receivable framework and the creditor liabilities framework are major to deal with the organization’s income. Ali, Omar, and Bakar (2016) characterized AIS as “the mix of the work force, records, and systems that a business uses to meet its normal requirements for financial information. Since every business has unique data requests, every utilization an alternate bookkeeping data framework custom-fitted to precise needs”. The fundamental role of AIS, at that point, is to deliver the financial reports and other reports utilized by inside clients such as administrators, and outer clients, for example, leasers and intrigued individuals. It additionally produces helpful data to non-bookkeepers, for example, people working in fund, showcasing and human relations. Bravo, Quintana, and Albuerno (2017) state that to produce products or services, it is necessary to acquire and make available to the production process three elements that are linked to transforming a product available for sale. To facilitate the administrative control and the accounting management of the items that make up the

cost of an item, the elements of the cost of production have been grouped as follows: Maziotis, Saal, Thanassoulis, and Molinos-Senante (2015) is the necessary materials for the preparation of an article and are perfectly measurable and loadable to the identified production. They are identified with a finished article that takes the name of direct materials. Their cost is determined without difficulty and applied to the total cost of the article, which are a direct part of the cost of production, since the indirect materials are assigned to indirect manufacturing costs. Chen, Delmas, and Lieberman (2015) is added to the unit cost with printing because it is not convenient to establish their total participation due to the minimum importance that has its value within the final cost of the article. Direct labour is necessary to prepare an article whose salaries can be assigned to an identified production unit. The volume that companies pay for labour varies according to the product that will be elaborated. Indirect labour is the compensation of the workers who contribute to the worker to perform a more efficient and productive task. Indirect manufacturing costs benefit the set of different manufactured articles or the different services provided because they cannot be charged to a defined production form (Yilmaz, 2017). The result of all expenses that prevent the product or service from complying with the requirements established by the client; it represents the difference between the actual cost and what its reduced cost would be if there were no faults or defects in its production. Some authors distinguish two types of quality costs: 1) Efforts to manufacture a quality product, and 2) Those generated by not doing things are correctly called non-quality costs, he mentions (Hansen, Mowen, & Guan, 2007). The need for management accounting is at the service of the organizational strategy, from planning to evaluation, which requires breaking the paradigms on the role that has played in Colombia, where it states that companies have systems of incomplete costs (de Freitas Grupioni, Santos, Fernandes, Valente, & de Carvalho Pinto, 2018).

According to Halpern, Koren, and Szeidl (2015), voluntary or involuntary activities within the organization generate economic impacts that affect financial results in achieving their strategic objectives. Causing “dysfunctions”, known as hidden costs, are results of the actions that must be put in place to counteract the effects above. According to Hirsch (2017), the hidden costs are not hidden by chance because there is no appropriate tool for measuring them. The concept was developed in 1973 by Savall and Zardet (2015). Several scholars from different countries have joined the research, which allowed the ISEOR (Institute of Socioeconomics of the Companies and the Organizations). In 1975, the same one proposed that a cost to be hidden must fulfil three conditions: continuous control system, name and measure (Islam et al., 2018). The method of hidden performance costs arise from two ideas: the change strategies, as a need for companies and rely on human potential, and the change needs an economic evaluation, then the economic calculation has to be renewed in consequences. This method seeks reconciliation between the economic dimension and the social dimension, Social and Economic Performance, establishes six sensitive points in an organisation's performance: working conditions, work organization, communication, and coordination (Renzetti & Dupont, 2018).

It is considered a social cost because human talent complains about the physical conditions of work. No attention is paid to the interests and needs of the client; this consumes resources and is called hidden costs. They are the result of losses, which causes increased risk in organizations. An agreement, time management, integrated training and the implementation of the strategy, if it identifies them at the root, can improve the integral quality of the company, which consists of three levels: quality in management, quality in products and quality of operation. It measures the level of satisfaction of the related parties. Improve social and economic performance, guarantee immediate results and their short-term survival. According to Ramanathan (2014), hidden costs are not registered in traditional information systems, that is, in accounting systems, consisting of four components: the first three are the costs that the company can avoid. The last component has a particular nature since it is only a product, where it is the owner of the production; it is related to the opportunities in the realization and sale of products. They can be assessed through the different indicators proposed by the Socio-Economics Institute of Companies and Organizations: absenteeism, work accidents, personnel turnover, lack of quality and direct performance are difficult to verify in the accounting records of organizations (Chardine-Baumann & Botta-Genoulaz, 2014). The services have a differential characteristic of the products when managing their market, which is intangible. Unlike physical goods, services cannot be perceived by the senses. Thus, for example, the person who is going to have a massage cannot see the results before the service, unlike purchasing a car that can see it (Noori Hussain Al-Hashimy & Yusof, 2021). Therefore, to reduce uncertainty, the buyer will look for signs showing the same quality. It will then conclude the place (location, decoration), the people, the available equipment, the logo, colours, etc. Therefore, the function of marketing, in this case, will be primarily to make the “evidence” visible, that is, “making the service tangible” or “making the invisible tangible”. Unlike when it does market for products, it adds “values” or abstract ideas to the product; in service marketing, the process is the reverse. It has to add physical evidence about invisible offers. As an example, that could illustrate this, it can see the tremendous evolution banks have had in their visual style. In another order and with other objectives and circumstances, this example could be applied to any company or product to boost sales and profits (Noori Hussain Al-Hashimy & Yusof, 2021).

In the 20s, there was an industrial and commercial environment in which the pace of change was accelerating, almost all companies were engaged in gigantic construction plans, and the strength and safety of a bank wire for the culture of the user are of the most appreciated characteristics when choosing a bank. At this time, it was not enough for the central offices to look “strong” and to some extent “rich”, but all the branches were designed and built in a way that seemed strong and rich to encourage the most affluent to enter and the poorest to stay outside (Chiu et al., 2019).

This observation would seem less crude in the current marketing jargon, which talks about niche markets and socioeconomic groups A, B, C1. Still, they were projected to look respectable, wealthy, and conservative in any case.

Both in the big cities and the small towns, they cultivated an air of moral and stretched opulence. This style affected the buildings and was also projected on the graphic motifs and other materials. Almost all the financial institutions gave themselves over to the cultivation of heraldry that was highly prized in those years and distributed their symbols with prodigality by letterheads, checks and even tableware and tableware (Asatiani et al., 2019). Therefore, the current research hypotheses are the following:

*H1: There is a significant impact of AIS Tangibility on the SMEs performance in Libya*

Reliability refers to the consistency of the results. In the reliability analysis, the results of a questionnaire are matched with the same questionnaire on another occasion. If this happens, it can be said that there is a high degree of reliability. Reliability is also discussed when two or more evaluators evaluate the same student on the same material and obtain similar scores (Huy & Phuc, 2020). In terms of reliability, what matters is the consistency of the results. Reliability is needed to talk about valid results since it is impossible to evaluate something that changes continuously. However, it is possible that a questionnaire is reliable since its effects are consistent but does not measure what it is expected to measure. In that case, it has a clear example of a questionnaire with reliability but lacking validity. It is said that reliability is a necessary condition but not sufficient for truth. Evidence of validity must always go hand in hand with proof of reliability. Reliability indicates the degree of consistency, but it does not say whether the inferences made and the decisions made based on the questionnaire are defensible (Kopel, Riegler, & Schneider, 2020). The best estimate of reliability would come from taking two groups of measurements in identical conditions and then comparing the results. But this is not possible either because the conditions can never be the same. Therefore, the main function of the reliability studies and what gives them quality is the effort to minimize the effect of all the conditions that would make the taking of different measures in the two occasions that this is done (Le, Nguyen, & Hoang, 2020). (Liu, Sun, Hu, & He, 2019) mention that since it is impossible to be attentive to all the elements that hinder reliability studies, it is better to be alert to those that can cause the most damage to the intended use of the questionnaire results. All the methods that can be used include comparing two groups of measurements. The correlation coefficient used to determine reliability is calculated and interpreted in the same way as the one used to estimate validity. Therefore, the current research hypotheses are the following:

*H2: There is a significant impact of AIS Reliability on the SMEs performance in Libya*

Responsiveness as a concept of computer science refers to the capacity of a framework or functional unit to complete the assigned commitments within a certain time. For example, I would allude to the capacity of a framework of consciousness created by man to understand and complete his commitments conveniently. It is one of the criteria under force guidance (of rule v). The other three are discernment, resilience and fulfilment of the assignment (Poljašević, Vašiček, & Kostić, 2021). Numerous components can affect the responsiveness of a communication framework, for example, a poor structure, an inappropriate contribution from customers, problems with the framework or the system. It is generally a decent practice to have framework designers take over the client's work and run diagnostics to decide if they cause excessively long deferrals. This will allow them to influence the progressions that must be made before the framework becomes familiar with customers worldwide, in this sense, avoiding those issues earlier in the frames' life cycle (Bai et al., 2018). Lengthy postponements can be a significant reason for customer dissatisfaction. They can lead the client to accept that the framework does not work or that an address or movement of information has been overlooked. This way, responsiveness is considered a fundamental convenience problem for the human-PC connection (HCI). The basis behind the response capability guide is that the framework must convey the consequences of a task to clients in a timely and determined manner (Bens et al., 2018). Therefore, the current research hypotheses are the following:

*H3: There is a significant impact of AIS Responsiveness on the SMEs performance in Libya*

The assurance is a contract through which it is intended to provide greater security to the payment of a debt. Assurance is essential for consumers. They allow being certain that, in case of defects or defects that affect the product's correct functioning, those responsible will take charge of their repair so that the product will once again meet the optimal conditions of use. The producers, importers, distributors, and sellers of the product are responsible for granting and fulfilling the legal assurance (Boell & Hoof, 2020). If the product must be moved to the factory or workshop for repair, freight and insurance costs or any other that requires transportation is the person responsible for the guarantee. Unless it is expressly provided for in the guarantee, in case of malfunction, it is not appropriate to demand the exchange of the product with a new one; the supplier's obligation is to repair the thing and leave it in perfect working order. Certificates of guarantee for products and services marketed in Mercosur must meet certain conditions: be written, be in the language of the country of consumption, Spanish or Portuguese -and may also be in other languages-, be easy to understand with clear words and legible and inform the consumer about the scope of the guarantee (Brusilovsky, Oh, López, Parra, & Jeng, 2017). Therefore, the current research hypotheses are the following:

*H4: There is a significant impact of AIS Assurance on the SMEs performance in Libya*

Based on the above arguments, the current study proposes the following conceptual framework:

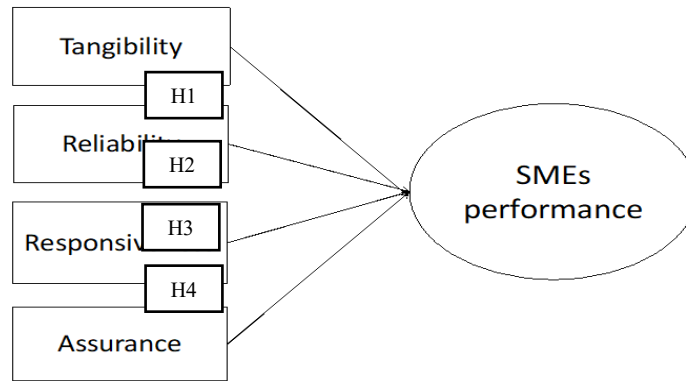


Figure: 1 Research conceptual model.

#### 4. Methodology

##### 4.1 Sampling

The population of this research will be all the small and medium enterprises stakeholders. The sample is a small part with all the characteristics of the whole, representing them. The selected samples were 384 Libyan owners, managers, and employees of the SMEs.

##### 4.2 Measurement

The current study has used the analytical study type and as well as the cross-sectional analysis in the descriptive study. This research has used the quantitative research approach to collect the data from the samples. This research has used a questionnaire survey to be distributed the research samples. This research has used a popular software program to analyze the collected data, and this program is called SPSS.

#### 5. Data Analysis and Results

For the current research, the SPSS program is used to analyze the collected data from the respondents. The tests conducted were the respondents’ profile, normality test, reliability test, descriptive statistics analysis, convergent validity, and correlation test (direct effect test).

##### 5.1 Respondents’ Profile

Table 1 shows the respondents’ profiles for those participating in the study. As shown in table 1, 62.3% of the participants belong to the male gender category (n=239), while 37.7% of the participants belong to the female gender category (n=145). The age levels of the participants were divided into four categories, where 52.5% ranged between 17-25 years of age with n = 201, 37.4% ranged between 26-30 years of age with n = 143, 8.5% ranged between 31-35 years of age with n = 32, and 1.6% ranged between 36-40 years of age with n = 8 from the sample. Most of the participants hold a postgrad degree with 52% with n = 200, for diploma degree 3.4% with n = 13, and for the bachelor level 44.6% with n = 171. The experience of the participants ranged between 1 to 9 years, 86.7% of the participants had an experience from 4 to 6 years with n = 333, 12.2% had experience from 1 to 3 years with n = 46, and only 1.1% had an experience from 7 to 9 years with n = 5.

Table: 1 Profile of Respondents (N = 384)

	n	%		n	%
Gender			Education Level		
Male	239	62.3	Diploma	13	3.4
Female	145	37.7	Bachelor	171	44.6
			PhD	200	52
Age			Experience		
17-25 years	201	52.5	1 to 3 years	46	12.2
26-30 years	143	37.4	4 to 6 years	333	86.7
31- 35 years	32	8.5	7 to 9 years	5	1.1
36- 40 years	8	1.6			

##### 5.2 Normality Test

The normality test is a method of testing whether the distribution of data is normally distributed, and the test is usually performed at the significance level of 0.05. The current study uses the Skewness and Kurtosis values. According to (Hair, Sarstedt, Ringle, & Mena, 2012), the Skewness values should be ranged between -3 and +3, while the Kurtosis values should be ranged between -5 and +5. Table 2 shows that the variables (tangibility, reliability, responsiveness, assurance, and SMEs performance) have Skewness values ranging between - 1.162 and - 0.548. In the same line, the variables have got Kurtosis values ranging between 0.520 and 3.240. The found results all the constructs normality within the accepted range.

Table: 2 Skewness and Kurtosis for Normality Test

	N	Skewness	Kurtosis
	Statistic	Statistic	Statistic
Tangibility	384	-0.701	0.965
Reliability	384	-0.706	1.016
Responsiveness	384	-0.796	1.386
Assurance	384	-0.548	0.520
SMEs performance	384	-1.162	3.240

### 5.3 Reliability Test

This method of internal consistency based on Cronbach’s Alpha allows estimating the reliability of a measurement instrument through a set of items that are expected to measure the same construct or theoretical dimension. This measure of reliability assumes that the items (measured on a Likert scale) measure the same construct and are highly correlated (Hair et al., 2017). The closer the alpha value to 1 is, the greater the internal consistency of the items analyzed. To achieve “Internal Consistency Reliability”, the composite reliability should be 0.70 and above (Hair et al., 2017). In addition, the indicator reliability or the outer loading numbers (factor loadings) should be 0.50 and above. The Cronbach’s alpha must be 0.70 and above as well. Following table 3, it found that all the variables’ (tangibility, reliability, responsiveness, assurance, and SMEs performance) items got acceptable Cronbach alpha values above 0.7, which means that all the variables are correlated and reliable. The values of Cronbach alpha were ranged between 0.724 and 0.774, while the values of the composite reliability were ranged between 0.798 and 0.844.

Table: 3 Reliability Test

Constructs	Cronbach’s alpha	Composite Reliability
Tangibility	0.772	0.840
Reliability	0.724	0.844
Responsiveness	0.736	0.834
Assurance	0.752	0.840
SMEs performance	0.774	0.798

### 5.4 Descriptive Statistics Analysis

Descriptive statistics aims to determine the mean and standard deviation of the study’s variables. According to table 4, the mean statistics for the variables (tangibility, reliability, responsiveness, assurance, and SMEs performance) were 3.436, 3.219, 3.983, 3.098, and 3.990, respectively. These results mean that respondents are in average agreement with the items stated for each variable in the questionnaire. Therefore, the respondents confirm the role of the independent variables on the dependent variable. Furthermore, the standard deviation for the same variables were 0.210, 0.669, 0.580, 0.273, and 0.563 respectively.

Table: 4 Descriptive Statistics for Study Variables

	N	Min	Max	Mean	Std. Deviation
Tangibility	384	1	5	3.436	0.210
Reliability	384	1	5	3.219	0.669
Responsiveness	384	1	5	3.983	0.580
Assurance	384	1	5	3.098	0.273
SMEs performance	384	1	5	3.990	0.563

### 5.5 Convergent Validity

Convergence validity refers to the degree to which two construct measures that should theoretically be related are actually related. In contrast, discriminatory validity tests whether a concept or measure considered unrelated is actually unrelated.

For the current research, the value used to test the convergent validity is the average variance extracted (AVE). When the value of AVE should be greater than 0.5 then the variable shows good construct validity. Table 5 shows that all the variables (tangibility, reliability, responsiveness, assurance, and SMEs performance) have got acceptable AVE values, which were ranged between 0.514 and 0.597.

Table: 5 Convergent Validity

Constructs	AVE
Tangibility	0.514
Reliability	0.644
Responsiveness	0.519
Assurance	0.569
SMEs performance	0.597

### 5.6 Direct Effect Test

This section presents the result of hypotheses testing for direct effect. The results are presented in table 6, followed by some conclusions.

Table: 6 Hypotheses testing for direct effect

Paths	Beta	Standard Deviation	T Values	P Values
TAN -> SMEP	1.181	0.146	8.087	0.000
REL -> SMEP	0.298	0.098	3.334	0.001
RES -> SMEP	0.197	0.096	2.846	0.007
ASS -> SMEP	1.155	0.131	8.838	0.000

Where: TAN: tangibility, REL: reliability, RES: responsive, ASS: assurance, and SMEP: SME performance

The direct effect test has revealed the following:

- There is a positive and significant relationship between tangibility and SMEs performance in Libya with beta = 1.181, t value = 8.087, and significant level = 0.000.
- There is a positive and significant relationship between reliability and SMEs performance in Libya with beta = 0.298, t value = 3.334, and significant level = 0.001.
- There is a positive and significant relationship between responsiveness and SMEs performance in Libya with beta = 0.197, t value = 2.846, and significant level = 0.007.
- There is a positive and significant relationship between assurance and SMEs performance in Libya with beta = 1.155, t value = 8.838, and significant level = 0.000.

Table 7: Summary of Hypotheses Testing

Hypotheses	Direct Relationships	Result
H1	There is a significant impact of tangibility on the SMEs performance in Libya	Supported
H2	There is a significant impact of reliability on the SMEs performance in Libya	Supported
H3	There is a significant impact of responsiveness on the SMEs performance in Libya	Supported
H4	There is a significant impact of assurance on the SMEs performance in Libya	Supported



## 6. Discussion and Implications

This study has used the direct effect tests and it found that there are positive and significant relationships between (tangibility, reliability, responsiveness, and assurance) and SMEs performance in Libya. These results came in the context of the effects of previous studies, where Bravo et al. (2017) state that to produce products or services, it is necessary to acquire and make available to the production process three elements linked to transforming a product available for sale. To facilitate the administrative control and the accounting management of the items that make up the cost of an item, the elements of the cost of production have been grouped as follows: Maziotis et al. (2015) is the necessary materials for the preparation of an article and are perfectly measurable and loadable to the identified production. They are identified with a finished article that takes the name of direct materials. Their cost is determined without difficulty and applied to the total cost of the article, which are a direct part of the cost of production, since the indirect materials are assigned to indirect manufacturing costs. Chen et al. (2015) is added to the unit cost with printing because it is not convenient to establish their total participation due to the minimum importance that has its value within the final cost of the article. Direct labour is necessary to prepare an article and whose salaries can be assigned to an identified production unit. The volume that companies pay for labour varies according to the product that will be elaborated. Indirect labour is the compensation of the workers who contribute to the worker to perform a more efficient and productive task. Indirect manufacturing costs benefit the set of different manufactured articles or the different services provided because they cannot be charged to a defined production form (Yilmaz, 2017).

## 7. Conclusion

This research was developed to determine the impact of accounting information systems (tangibility, reliability, responsiveness, and assurance) on Libyan SMEs' performance. The speed of business depends on each time more than the quality and speed of information when decisions are made. However, mainly in SMEs, an aversion to the handling of information accounting, which they perceive as an obligation rather than as a tool necessary for management. This suggests that the obligatory nature of information accounting, regulated by rules and laws mainly for tax purposes, has made the accounting results are substantially distant from the users of the company, leaving its usefulness for purely normative purposes and taxes, without reflecting that potential of the company that should be implicit in her. This research has used the quantitative approach. The data source was primary data for this research. This research has used the questionnaire instrument to be the tool to collect the data. This research has been located at Tripoli city (the capital city in Libya); because most small and medium enterprises are located there. These questionnaires were distributed to the research samples, 384 employees, owners, and individuals who work in Libyan SMEs. The study has found positive and significant relationships between (tangibility, reliability, responsiveness, and assurance) and SMEs performance in Libya. It was recommended that businesses with effective and efficient accounting information systems would have a high chance of success.

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