

Financial Management in SMEs in the Federal District, Mexico

MARIA LUISA SAAVEDRA-GARCIA^a

BLANCA TAPIA-SÁNCHEZ^b

MARÍA DE LOS ÁNGELES AGUILAR-ANAYA^c

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RESUMEN El objetivo de este artículo consiste en mostrar un diagnóstico sobre el uso de los sistemas de información y gestión financiera en las pymes del Distrito Federal (México). Para ello se realizó un trabajo descriptivo transversal, con una recolección de datos a través de un trabajo de campo, aplicando una encuesta estructurada a una muestra de 300 empresas.

Los principales hallazgos de esta investigación demuestran que los sistemas de información financiera se utilizan de modo incipiente, sobre todo en las empresas de tamaño micro. También se encuentra que existe relación entre el nivel de estudios del empresario y algunas prácticas como la adopción de un sistema de información contable y el uso del análisis financiero. Del mismo modo se halló que la gestión financiera es escasa en este tipo de empresas, en especial en lo concerniente con la elaboración de pronósticos y análisis financieros.

PALABRAS CLAVE análisis financiero, financiamiento, gestión financiera, sistemas de información.

HISTORY OF THIS PAPER

The original version of this paper was written in Spanish. This English version is published in order to reach a wider audience. To cite this paper, please refer to its original version, as follows:

HOW TO CITE THIS ARTICLE?:

Saavedra-García, M.L., Tapia-Sánchez, B. & Aguilar-Anaya, M.A. (2016). La gestión financiera en las pymes del Distrito Federal, México. *Perspectiva Empresarial*, 3(2), 55-69. <http://dx.doi.org/10.16967/rpe.v3n2a5>

RECIBIDO: 1 de diciembre de 2015

APROBADO: 4 de junio de 2016

CORRESPONDENCIA:

María Luisa Saavedra García, Universidad Nacional Autónoma de México, Facultad de Contaduría y Administración, División de Investigación, Circuito exterior s/n, Ciudad Universitaria, Col. Santo Domingo, Delegación Coyoacán, México, D.F. C.P. 04510, México.

a PhD, full - time Professor at the National Autonomous University of Mexico, Mexico ("Universidad Autónoma de México, México"). E-mail: maluisasaavedra@yahoo.com

b PhD, full - time Professor at the National Autonomous University of Mexico, Mexico ("Universidad Autónoma de México, México"). E-mail: btapia@fca.unam.mx

c PhD, full - time Professor at the National Autonomous University of Mexico, Mexico ("Universidad Autónoma de México, México"). E-mail: Maguilara@cenapyme.fca.unam.mx



Financial management in SMEs in the Federal District, Mexico

ABSTRACT This paper undertakes to show a diagnosis on the use of information and financial management systems by SMEs in the Federal District (Mexico). To this effect, we conducted a cross-sectional descriptive study with fieldwork-based data collection, and with the administration of a structured survey on a sample of 300 companies.

The main findings of this research show that the financial information systems are used incipiently – especially by micro-sized enterprises. We also found a correlation between entrepreneurs’ schooling level and practices such as the adoption of an accounting information system and the use of financial analysis. Similarly, it was found that financial management is scarce in this type of enterprises, particularly with regard to the preparation of forecasts and financial analyses.

KEYWORDS financial analysis, financing, financial management, information systems.

HOW TO CITE THIS PAPER?

¿CÓMO CITO EL ARTÍCULO?

CHICAGO:

Saavedra-García, María Luisa, Tapia-Sánchez, Blanca y Aguilar-Anaya, María de los Ángeles. 2016. “La gestión financiera en las pymes del Distrito Federal, México”. *Perspectiva Empresarial* 3(2): 55-69. <http://dx.doi.org/10.16967/rpe.v3n2a5>

MLA:

Saavedra-García, María Luisa, Tapia-Sánchez, Blanca y Aguilar-Anaya, María de los Ángeles. “La gestión financiera en las pymes del Distrito Federal, México”. *Perspectiva Empresarial* 3.2 (2016): 55-69. Digital. <http://dx.doi.org/10.16967/rpe.v3n2a5>

A Gestão financeira nas PMEs do Distrito Federal, México

RESUMO O objetivo deste artigo consiste em apresentar um diagnóstico sobre o uso dos sistemas de informação e gestão financeira nas PMEs do Distrito Federal (México). Assim, fez-se um trabalho descritivo transversal, com uma coleta de dados através de um trabalho de campo, aplicando uma enquete estruturada a uma amostra de 300 empresas.. Os principais achados dessa pesquisa mostram que os sistemas de informação financeira são utilizados ainda de maneira incipiente, sobretudo nas microempresas. Discute-se também a relação entre o grau de instrução do empresário e algumas práticas, como a adoção de um sistema de informação contável e o uso da análise financeira. Além disso, demonstra-se que a gestão financeira é pouco desenvolvida nesse tipo de empresas, em especial no que diz respeito à elaboração de prognósticos e análises financeiras

PALAVRAS CHAVE análise financeira, financiamento, gestão financeira, sistemas de informação.

Introduction

Micro, small and medium - sized enterprises (SMEs) in Mexico¹ are of vital importance, as they account for 99.8 % of all businesses, generate 71 % of employment and provide 52 % of the Gross Domestic Product (GDP) (Inegi, 2015).

Palomo (2007) noted that some of the main internal problems of SMEs, which limit their development, are the lack of proficiency in the management of their processes and the lack of long - term vision of their business. Information systems are part of the management aspects – they carry out the measurement and control of critical points on the activity in a systematic fashion. Its importance lies in the fact that these systems that were previously out of reach for the most of small businesses, now can easily be used to help assess the effects of the business decision – making process. Therefore, without the implementation of this system, SMEs are forced to work by trial and error, as stated by Palomo (2007), thereby having a negative impact on the development of the long – term vision and in the management proficiency of their processes. Also, according to Zhongsheng, Yu, Xiaoyan, Bin & Liang (2007), a recognized cause of failure is financial mismanagement; on the other hand Cassar (2002) pointed out that the way a company obtains initial financing is essential to determine an appropriate financial performance and a low failure probability.

Therefore, the asked research question is: To what extent do Federal District SMEs use information systems and financial management? The following question is added: What is its relation with the size of the company and the entrepreneur's level of education?

¹ Micro, small and medium - sized enterprises. According to the latest classification of the Secretariat of Economy (*Secretaría de Economía*), micro enterprises are the firms in all sectors that have up to 10 workers and a range of annual sales of up to 4 million Mexican pesos, small enterprises are those who have between 11 and 30 workers for the trading sector, and between 11 and 50 workers for the industry and service sector and having annual sales revenues of between 4.01 up to 100 million Mexican pesos. Medium enterprises are the firms that have between 51 to 250 workers for the industry sector, between 51 to 100 workers in the service sector and between 31 to 100 workers for the trading sector, and have annual sales revenues of between 100.01 up to 250 million Mexican pesos.

Thus, the objective of this research was to carry out faultfinding on the use of information systems and financial management in SMEs in the Federal District for their later description. To this end, a descriptive study and a transverse correlational analysis were conducted. The data were collected through fieldwork, applying a structured survey to a sample of 300 companies that offered to cooperate with this research.

This work consists of three parts:

- **Theoretical Framework:** in this section the issues of financial information systems and financial management in SMEs are developed.
- **Methodology:** This section describes sample determination, the measurement instrument and definition of the variables, and
- **Findings:** The last section, which presents the research main results, describing and interpreting the data, so as to finally expose the conclusions of this study.

Theoretical Framework

Financial Information Systems in SMEs

The importance of financial information systems in SMEs lies in the fact that accounting information – as part of financial management in enterprises – is essential for the decision-making process (Bojórquez & Pérez, 2012). The latter authors also suggest that with no information knowing what the actual situation of the company is more difficult, as well as setting out where it should be addressed; claim that coincides with the statements of García, Arias & Machado (1999), who highlighted the importance for the SMEs to have information systems as a strategic tool for the decision – making process, and recommended the implementation of the Balanced Scorecard.

However, Bertolino, Judais, Mileti, Vázquez & Veron (2000) stated that there are no specific provisions in developing countries for financial reporting in the case of SMEs. This means that – in most cases – entrepreneurs in this sector do not give importance to financial reporting for the purposes of control and decision-making process. The aforesaid authors also indicated that SMEs lack infrastructure and qualified personnel to handle these controls. On the other hand, even if they had no such difficulties, they claim that many would

be reluctant to keep accounts organized due to the fear to disclose their information, with the consequent taxation. The foregoing, without considering that an organized and timely accounting information would allow them to obtain better management, easier access to credit and accurate tax calculations.

In an empirical study, Pesce, Briozzo & Vigier (2011) found that 33% of SMEs have an advanced accounting information system, 44% an intermediate system and a 23% have a basic system. Companies with an advanced accounting information system are older, having relationships with greater magnitude customers and suppliers, larger size, a legal way that involves limited responsibility, legal requirement to submit periodical financial statements, a professionalized and qualified administrative structure, tendency to seek business-type targets (value creation, increased market share, etc.), in *comparison with* individual and family SMEs property of their owners and managed by them. Said qualified administrative structure should have direct control over the accounting information processing, increased access to and utilization of bank financing, financial decision-making process considering the term, external advice on sources of financing and know-how about promotional credits for the sector.

On the other hand, companies that outsource the accounting information services, in accordance with Pesce *et al.* (2011), are on average younger and smaller in size, with owners without a college education and with legal forms without limited liability. These authors classified the companies in three levels of outsourcing: 27% has the advice of a certified public accountant and processes the information in an internal manner (low outsourcing); 38% combines external public accountant with the internal information processing (median outsourcing), and the remaining 35% outsources the processing service and has an external public accountant (high outsourcing).

At this point, it is interesting to determine the features of the financial information system SMEs must have. In this regard, Bertolino *et al.* (2000) indicated that this system should be:

- Simple and agile
- Useful information producer for corporate management
- As consistent as possible

- Flexible enough to adapt to the business growth
- Suitable for the application of International Financial Reporting Standards (IFRS)
- Easy to use for tax purposes
- Adaptable to the environment in which SMEs operate.

Fernández & Plata's (2006) findings show that only 25% of SMEs use technology in their management information systems. This is because they do not have software designed for their specific needs, and by the lack of importance that entrepreneurs give to these systems, while focusing their attention on survival. This is also the reason 80% does not take into account the management information systems to adopt strategies, and therefore they do not need to generate this information. With regard to the software, Colomina (1998) found that software is usually developed in a tailored manner; however, it is performed by external staff, and SMEs do not usually hire qualified staff that can take better advantage of these tools, so it is used only to meet basic information needs.

In addition, Dapena & Dapena (2003) found that 91% of SMEs did not develop three-year budgets, 49 % did not develop annual budgets, 70% do not perform an annual flow of funds, 31% do not perform monthly flow of funds and considered that accounting information does not provide useful information to the decision-making process. In other words, entrepreneurs do not have a long-term vision of their companies and are solely concerned with the day to day dynamics.

Moreover, Saavedra (2010), in an empirical research conducted in SMEs from five states in Mexico, found that 70% of the companies said they have an accounting information system, 65% carries out budgets, 78% of companies have a decision-making process based on financial information; in addition, only a 58% usually carries out financial projections before a long-term investment decision-making process, and the rest of the companies would be risking their stability by not projecting future scenarios that allow them to anticipate decisions.

Accounting Information Systems

An accounting information system is the combination of personnel, procedures and records

used by companies to process and submit their financial data (Horngren, Harrison & Bamber, 2003).

The accounting information system is responsible for the preparation of financial statements for external users. It is based on events of economic data clearly specified as inputs, and its processes are subject to certain rules and conventions, which are defined by the *Financial Accounting Standards Board* (FASB); these arise in an effort to find the convergence of International Financial Reporting Standards (IFRS), also known as the *International Accounting Standards* (IAS). In the case of Mexico, they referred through the *International Financial Reporting Standards* (IFRS). Among these system products, one can find the state of financial position, income statement and cash flow statement (Hansen & Mowen, 2007).

The design and capabilities of the accounting information system vary greatly from one organization to another. In a small business, the accounting information system can consist of a little more than a cash register, a checkbook and a report for the income tax payment; in large enterprises, the accounting system includes computers, trained personnel and accounting reports that reflect the business operations (Meigs, Williams, Haka & Bettner, 2010). An accounting information system is useful for large enterprises seeking to obtain added value, by providing them with information; however, there is little evidence of how SMEs take advantage of this information (Levy, Powell & Yetton, 2002). Nor has it been able to verify the relationship that exists between the use of an accounting information system and productivity (Urquía, Pérez & Muñoz, 2011), since the latter is a more complex concept that involves a broader range of phenomena of the company.

Many SMEs use *Accounting Information Systems* (AIS) aimed to gather more information to assist the decision - making process, which ultimately leads to improved efficiency and shall have an impact on the performance. Studies showed that the SMEs who acquire broad AIS resources are able to create a competitive advantage (Harash, Al - Timimi & Hussein, 2014).

INTERNAL CONTROL SYSTEM

Internal control is a system that has the following objectives (Horngren, Harrison & Bamber, 2003):

- Safeguard assets

- Promote compliance with established policies for this purpose
- Promoting operational efficiency (to achieve the best results at the lowest cost)
- That the accounting records be accurate and reliable.

Internal control system is most effective when all employees take the objectives and the ethical standards of the Organization, which must be notified from senior managers to employees.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) has proposed a model of internal control which consists of five components: 1) risk management; 2) environment control; 3) activities control; 4) information and communication, and 5) monitoring. This model has been adapted by IMEF (2014), for its application in SMEs.

COST CONTROL SYSTEM

It is a system designed for allocating costs to each of the products and services according to the specifications of the Management; i.e. it identifies, collects, classifies, measures and reports useful information for the decision-making process. This cost allocation allows to evaluate the inventories and to determine the cost of sales. In addition, these allocations must be adjusted to the rules and conventions established by the *Securities and Exchange Commission* (SEC) and the *Financial Accounting Standards Board* (FASB) (Hansen & Mowen, 2007).

In Mexico, the findings of Lopez & Marin (2010) report that SMEs mainly used traditional costs control systems, some of the more significant ones are direct costs, standard costs and the total costs - yet still incipient the use of costs by activities (usually known as ABC costs).

INTERNAL AND EXTERNAL SYSTEMS OF FINANCIAL INFORMATION

Internal financial information systems - mostly known as management control systems - constitute an administrative tool designed and implemented by the management of the company in order to obtain reliable and timely information both for the both operational and strategic decision-making process (Robert & Govindarajan, 2001).

Management control systems are reflected mainly in the budgets, among which we highlight: sales, production, procurement, indirect costs, direct labor, capital, inventories, products in process and finished products, and the cash budgets (Welsch, Hilton & Gordon, 1990). Also, cost control is included in this type of systems.

External systems of financial information, or financial accounting, are designed in accordance with the Financial Information Standards, and are aimed at preparing financial statements describing the economic and financial position of the entity and its evolution in time, primarily based on transactions data that the entity carries out along with other economic units. The basic financial statements deriving from this system are: the state of financial position, the income statement and the statement of changes in financial position (Deniz, Bona, Pérez & Suárez, 2008).

Financial Management in SMEs

Álvarez & Abreau (2008) explained the importance of determining financial strategies in SMEs. The main strategies proposed include the following: assessing the financing options and determining the monthly weighted average cost of capital, as well as calculating each month the financial reasons to go by measuring the financial performance of the company.

In a sample of exporting SMEs, Cardona (2010) found that their priority financial goals were, by 29 %, revenue maximization; by 14 %, reduction of financial costs, and by 12 %, increase in company value. However, most of them have a high commitment to raising funds, budgets, preparing financial information for the decision – making process and in raising funds for operation and investment, showing with this the need to stay as healthy companies financially, in order to remain competitive.

As for the SMEs financing, in accordance with Jaramillo & Valdivia (2005), the cost of credit for SMEs is very expensive, even compared with the commercial credit; as evidenced by the studies, where the existing gap between microfinance institutions and the multiple banking is considerable.

This should be due to what Mayorga (2011) noted, who – quoting Stiglitz and Salloum & Vigier – sum up the obstacles faced in an SME when requesting bank financing: 1) lack of information in the SMEs sector, which complicates evaluation of projects (*screening* problem); 2) increase in the

financing cost as a result of the cost of obtaining information (asymmetric information problem); 3) lack of mortgage guarantees, little interest of banks by the collateral (problem signaling); 4) are perceived as more high risk (*moral hazard* problem); 5) interest rate is determined in an exogenous manner, given the supply and demand characteristics, so that there will be a balance with the rationing, joined to the imperfection of the capital market affects the smaller companies (problem of rationing). In spite of all these problems, IFC (2009) noted that providing services to SMEs is rentable and profitable for some banks, and help them to grow shall benefit national economies, as evidenced by an empirical study, developed by this entity, where it was found that the banks get 35 % higher operating income in the SME segment that in the other segments.

In this regard – also in an empirical study – Álvarez & Abreau (2008) found that SME enterprises prefer mainly credit of the suppliers and the reinvestment of profits as funding sources; this, in addition to the fact that most entrepreneurs do not know any institution or program of support for SMEs. This coincides with the theory of the *Pecking order* or hierarchy of preferences, which points out that entrepreneurs prefer to be financed in the first instance with domestic financing sources (Myers, 1984). On the other hand, financial reports that are mainly used to assess the company situation are the income statement (70%) and the cash flow (50%); with regard to the financial reasons knowledge, only 30% answered that they know them.

However, Pesce *et al.* (2011) found that 49% of SME enterprises have their own equity as main financing source. With regard to external financing, 29% used operating liabilities, in particular, credit from suppliers, and only 20% use financial liabilities, being the *leasing* (rental) the most commonly used methodology. External financing is used to cover operational needs and indebtedness, which allows them to deduct the lack of short and long-term planning. In terms of the ease in obtaining bank financing, 51% of the entrepreneurs obtained credit whenever requested, 12% obtained it sometimes and 1% never obtained it, while 82% got the full amount requested. On the other hand, with regard to credit rationing, it was found that the older the enterprise, the less it affects the rationing, and on the other hand, companies with legal form without limited liability have the most negative impact.

Meanwhile, Mayorga (2011) found – as a result of a research conducted on funding sources used by industrial SMEs in Bogota – that SMEs used up to two financing sources primarily, the most commonly used being financing through financial institutions. 94% uses bank credit, 26% carries out strategies for cash sales, 5% requests capital contributions to the partners. The major financial problems they face include: 53% of problems related to management, working capital availability and lack of liquidity; 21% mainly associated with portfolio recovery problems; 17% reported problems related to poor financial planning; 17% problems of credits with suppliers, and 17% credit-related problems with banks.

Cardona (2010) also found that 100% of the exporting SMEs has resorted to bank credit in the past two years, which was used as working capital in 67% of the cases, 44% used it to purchase fixed assets; 15% refinanced liabilities. 33% has used bank credit via *leasing*, 56% has used futures contracts on the exchange rate, thus denoting the importance of financing to boost exports.

Finally, Saavedra (2010) found that 35% of the enterprises obtained financing from any financial institution, and 80% of them has acquired it through banks, using it primarily for working capital.

Methodology

Samples

A filed study was conducted to collect data using a direct structured questionnaire to 300 entrepreneurs in the Federal District, which were volunteer subjects of this research.

Measuring Instrument

Data collection on the characteristics of the entrepreneur and the company was considered for the construction of the measuring instrument, as well as the variables of information systems and financial management. The following is a table with the variables and indicators of the questionnaire, which were drawn up on the basis of the literature review.

Variable Conceptualization

Financial Information Systems

It “covers the identification, analysis, interpretation, capture, processing and accounting recognition of transactions and internal transformations carried out by an economic entity, as well as other events that economically affect it”, according to paragraph 3 of the NIF A - 2 (Cinif, 2014). For the purposes of this research, this system shall be composed of the accounting information system, the cost control system and the internal control system.

Financial Management

Also known as financial administration, it involves the efficient use of resources to achieve the goals of any organization, and focuses on the way the company can create and maintain value (Emery & Finnerty, 2000). For the purposes of this research, financial management is composed by the budgeting, decision-making process, professional accounting, financial projections, financing, financing destination and source of financing.

TABLE 1. Measuring Instrument

VARIABLE	INDICATORS
General data of the Entrepreneur	Maximum level of education, studies area, age, gender, purpose to start the business, business experience.
General Data of the Enterprises	Rotation, address, number of workers, legal personality, age, type of business.
Financial Information Systems	Accounting information system, cost control system, internal control system.
Financial Management	Revenue budget, financial analysis, cash flows, decision-making process, professional accounting, financial projections, financial institutions financing, financing destination, source of financing.

Source: prepared by the authors.

Validity of the Measuring Instrument

In order to determine the validity of the measuring instrument, Cronbach's Alpha was calculated with 95% confidence, yielding the following results:

TABLE 2. Reliability of the **Measuring Instrument**

CRONBACH'S ALPHA	NUMBER OF ITEMS
0.780	92

Source: Prepared by the authors

As can be seen in Table 2, the measuring instrument applied shows high reliability to reach a value of almost 0.8, which is considered acceptable.

Data Processing

Data collected through fieldwork, were processed with the assistance of the statistical program SPSS, version 20 for Windows. This is how, firstly, an analysis was carried out using descriptive statistics for the use of information systems and financial management, and later became a correlational analysis to establish relationships between the study variables.

Findings

A descriptive analysis and a data correlational analysis were conducted. The results are shown below.

Entrepreneurs Data

38.7% of the entrepreneurs said they have a maximum level of high school studies, being a similar percentage (38%) those with Bachelor's degree, while only 3.7 % has master's degree studies, and 0.7 %, doctoral studies (see Chart 1). The foregoing is consistent with the previous literature, since the findings of Saavedra (2014) mentioned that the predominant level of education in Mexico, D. F. is Bachelor's degree.

With regard to the area of studies of those who claimed to have a Bachelor's degree, the area of social sciences predominates with 65 %, followed by far by Liberal Arts, with 16 %, being the lowest turnout (6.3 %), of those who belong to the area of biological and health sciences.

The entrepreneurs' predominant age range was between 40 and 59 years, with a participation of 39 % of total respondents, followed by those who are between 30 and 39 years of age, with 29 %, while those who are between 20 and 29 years of age reached 22 %, showing with this that most of the entrepreneurs do not exceed the 40 years of age. It is also determined that 66 % of the entrepreneurs surveyed are male, while 34 % are female. On the other hand, 28% stated that they had been the owner of another business before, while for 72% this was their first business, which indicated their lack of experience.

Company Data

61% of the companies surveyed belongs to the services sector, while 32% is in the trading sector and only 7% is in industries. On the other hand, 62% of the entrepreneurs works as a physical person with business activity, while 38% works as moral person, or mercantile society. 45% claimed to be a family-type company, while 55 % was not.

On the other hand, 74 % of the enterprises was micro in size, 23 %, small in size and only 3 %, medium - size enterprises (see Chart 2).

Information Systems

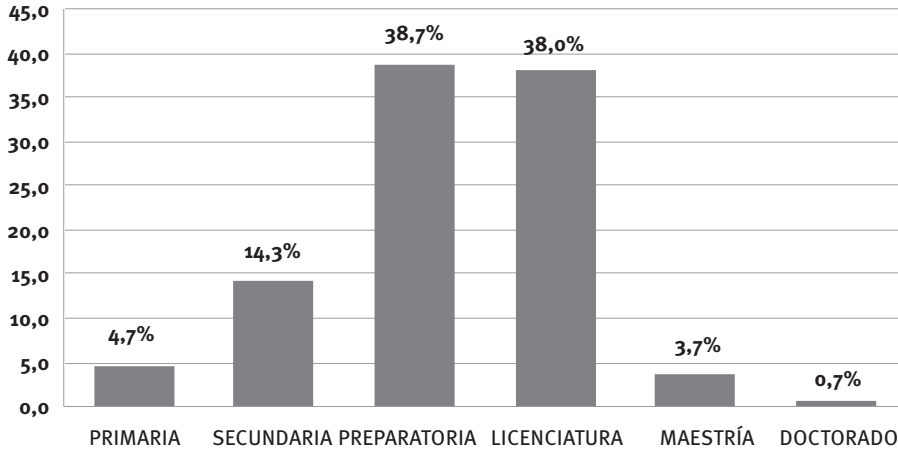
According to the results of the survey, 90.7 % of the entrepreneurs said that they have an accounting information system; however, most of them refer to accounting for tax payment purposes; this is a common practice in these companies. Because of their size, these companies cannot meet the costs of implementing these systems and pay external professionals in order to work with their financial information, so a very similar percentage also responded that they do not have a professional accountant in their companies. This coincides with what was found by Pesce *et al.*, (2011), as (according to the results of his research) most of the companies are physical (or natural) persons, which would limit them to have an advanced accounting system.

To analyze by size, we can raise the following null hypothesis:

H1: *The size is not related to the adoption of an accounting information system in the SMEs.*

As you can see in the Table 3, micro-sized enterprises are the ones who have the highest proportion of negative response (8.30 %) when

CHART 1. Level of education



Source: Prepared by the authors

referring to whether or not to have an accounting information system, while this proportion is zero in medium – size enterprises. This would indicate that larger companies have a better chance of having information systems and financial controls. Hence, the null hypothesis proposed is rejected.

This finding is consistent with the research of Pesce *et al.* (2011), in which he noted that companies who outsource accounting information services are smaller companies.

The calculated Chi - square value is: 3.951.

The Chi - square value of tables with an error of 0.05 and four degrees of freedom, is: 0.711.

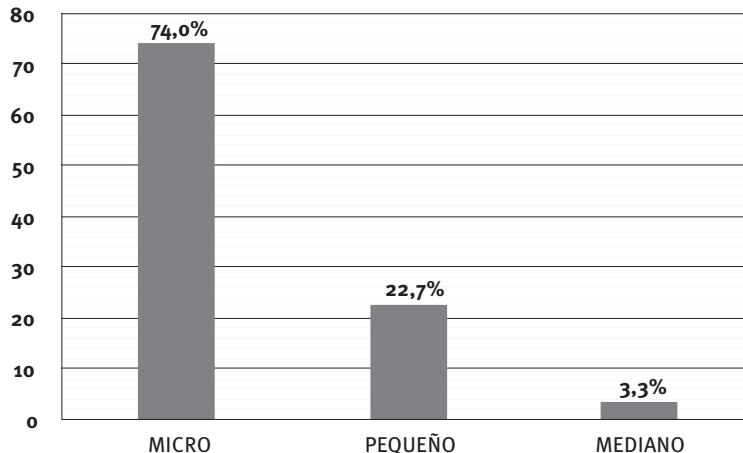
For this reason, to be greater than the calculated value, the null hypothesis is rejected and the existence of a correlation between size and the accounting information system is statistically verified.

TABLE 3. Accounting Information System by size

SIZE / IT HAS AN ACCOUNTING INFORMATION SYSTEM			
SIZE	IT HAS AN ACCOUNTING INFORMATION SYSTEM		
	Yes	No	Total
Micro	197	25	222
%	65.7 %	8.3 %	74 %
Small	65	3	68
%	21.7 %	1.0 %	22.7 %
Medium	10	0	10
%	3.3 %	0.0 %	3.3 %
Total	272	28	300
%	90.7 %	9.3 %	100.0 %

Source: Prepared by the authors

CHART 2. Size of the companies surveyed



Source: Prepared by the authors

In order to understand the correlation between the maximum level of education of the entrepreneur and the adoption of an accounting information system, the following null hypothesis is raised:

H2: *The level of education of the entrepreneur is not related to the adoption of an accounting information system.*

As can be seen in Table 4, the entrepreneurs who had a greater proportion of negative responses were those that have a maximum level of education of high school (4.7 %), while those who had a greater proportion of positive responses were those that have a maximum level of education of the Bachelor's degree (36.3 %). For this reason, it can be stated that the higher level of education, the greater the chance of having an accounting information system in the company, reason for which the null hypothesis raised is rejected.

TABLE 4. Level of Education /Accounting Information System

MAXIMUM LEVEL OF EDUCATION / HE HAS AN ACCOUNTING INFORMATION SYSTEM			
MAXIMUM LEVEL OF EDUCATION	HE HAS AN ACCOUNTING INFORMATION SYSTEM		Total
	Yes	No	
Elementary School	12	2	14
%	4.0 %	0.7 %	4.7 %
Middle School	38	5	43
%	12.7 %	1.7 %	14.3 %
High School	102	14	116
%	34.0 %	4.7 %	38.7 %
Bachelor's degree	109	5	114
%	36.3 %	1.7 %	38.0 %
Master's degree	10	1	11
%	3.3 %	0.3 %	3.7 %
Doctorate	1	1	2
%	0.3 %	0.3 %	0.7 %
Total	272	28	300
%	90.7 %	9.3 %	100.0 %

Source: Prepared by the authors

This finding is consistent with the reports by Pesce *et al.* (2011) with regard to the entrepreneurs who outsource accounting information services being those who do not have a university education.

The calculated Chi - square value is: 8.906.

The Chi - square value of tables with an error of 0.05 and seven degrees of freedom, is: 2.167.

Hence, because the calculated value is higher, the null hypothesis is rejected and the existence of a correlation between the level of education and having an accounting information system is statistically verified.

With regard to the cost control system, 13 % of entrepreneurs responded that they do not have this system. For those that replied that they have the aforementioned system (i.e. 87%), they were asked about the type of system they used, and there was no response. Hence, it follows that they carry it out in an empirical manner without establishing a formal system, and this implies the risk of failing to establish minimum costs controls of the goods or services offered, which also prevents them from calculating their break-even point. Consequently, it is not possible to determine the level of sales required to obtain no losses. Only small and medium-sized enterprises were able to define the type of cost system they used. The foregoing does not agree with the findings of Saavedra and Hernández (2008), who found that 73% of the companies in the state of Hidalgo did have a cost control system.

With regard to the internal control system, 86% of the entrepreneurs responded that they do not have this system. Consequently, these entrepreneurs are leaving assets of the company unprotected, as they have no controls to prevent theft and fraud in managing the internal processes of the company. When analyzing by size, it could be evident that small and medium-size enterprises are the ones that most frequently have this system, and this value is null in the micro - sized companies.

Financial Management

An important aspect for the financial management of the company is the income budget, since forecasting estimated sales will increase allows the entrepreneur to be prepared for the daily operation. However, the results of this survey show that 79% of the entrepreneurs does not perform an income budget, and those who do, primarily do so on a monthly basis. This is contrary to the result found by Saavedra (2010), in a study conducted in Mexico, where 65% of entrepreneurs stated they do carry out budgets. The discrepancy could be

due to the fact that a much larger sample was used – covering five states – in this research.

In relation with financial analysis techniques, it is noteworthy that 58% of the entrepreneurs said that they use them, and when asked which one they use, they answered that they use the calculation of the percentage of profits on sales, which implies that some of them have an idea of how to calculate their performance, but do not use the financial analysis techniques as such.

To determine whether there is any correlation between the concerns for using financial analysis techniques and the level of education of the entrepreneur, the following null hypothesis was raised:

H3: *There is no correlation between the use of the financial analysis techniques and the level of education of the entrepreneur.*

As indicated in Table 5, the highest proportion of entrepreneurs who use the financial analysis correspond to those with a Bachelor's degree level (24%), whereas the highest proportion of entrepreneurs who do not use financial analysis correspond to those with high school level (18.3%); hence, it can be determined that the higher the level of education, the higher the frequency of use of financial analysis, by which the null hypothesis raised is rejected.

TABLE 5. Level of Education / Financial Analysis Techniques

MAXIMUM LEVEL OF EDUCATION / USE OF FINANCIAL ANALYSIS TECHNIQUES			
MAXIMUM LEVEL OF EDUCATION	USE OF FINANCIAL ANALYSIS TECHNIQUES		
	Yes	No	Total
Elementary School	9	5	14
%	3.0 %	1.7 %	4.7 %
Middle School	26	17	43
%	8.7 %	5.7 %	14.3 %
High School	61	55	116
%	20.3 %	18.3 %	38.7 %
Bachelor's Degree	72	42	114
%	24.0 %	14.0 %	38.0 %
Master's degree	7	4	11
%	2.3 %	1.3 %	3.7 %
Doctorate	1	1	2
%	0.3 %	0.3 %	0.7 %
Total	176	124	300
%	58.7 %	41.3 %	100.0 %

Source: Prepared by the authors.

The calculated Chi - square value is: 3.13.

The Chi - square value of tables with an error of 0.05 and seven degrees of freedom, is: 2.167.

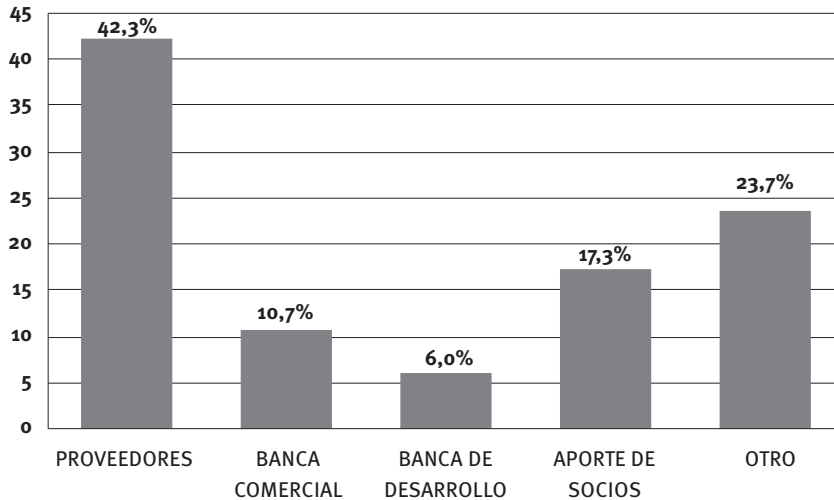
Because the calculated value is higher, the null hypothesis is rejected and the existence of a correlation between the level of education and the use of the financial analysis techniques is statistically verified.

Regarding the preparation of cash flows, the obtained answer was that 75% of the entrepreneurs do prepare them, while 25% does not prepare them, thereby leaving the risk of falling into liquidity problems. Among the entrepreneurs who prepare cash flows, 30% prepared them on a monthly basis, while 18% prepared them in a weekly basis. This result is less encouraging than the result found by Dapena & Dapena (2003), who found that 69% of the entrepreneurs prepared cash flows on a monthly basis.

According to the financial information in respect of the decision-making process, 83% of the entrepreneurs said they check their accounts and, decide on expenditure based on said revision, in regards to any purchases and sales to be made, while 14% does it without this analysis. This result is more optimistic than the result found by Saavedra (2010) in Mexico, where 78% of the entrepreneurs have a decision - making process supported on financial information.

The implementation of financial projections before long - term investment - whether to expand or due to the need to replace their fixed investment - is essential for small companies, as good planning will allow them to not fall into solvency problems by not being able to repay the capital and interest used for the purchase of the long-term investment. The result of this survey indicates that 57% of the entrepreneurs do perform this type of projections, whilst the remaining 43% do not - thereby jeopardizing their stability in the long term. This result is consistent with the findings made by Saavedra (2010) wherein 58% of entrepreneurs expressed that they carry out financial projections to ensure that their long-term investments be profitable.

In regard to the financing of any financial institution, only 15% of respondents expressed having used it, whilst most of the entrepreneurs (85%) have not obtained financing under this methodology. This is due to the obstacles faced by this business sector, as indicated by Mayorga (2011), where the main obstacle is the cost of credit.

CHART 3. Sources of Financing

Source: Prepared by the authors

In addition to the foregoing, Chart 3 shows that 42.3% of the entrepreneurs expressed having been financed via suppliers, 17.3%, with contributions of partners, 10.7%, with the commercial banking sector, and only 6% were successfully financed with the development banks. These findings match the research conducted by Álvarez & Abreau (2008), Saavedra (2010) and Pesce *et al.*, (2011), who found that the main source of external financing are the suppliers, and when it comes to internal financing, then they prefer capital, i.e. the contribution of the partners.

Conclusions

The importance of using information systems and financial management in SMEs lies in how instrumental they are in the decision-making process, and the ability to provide a long-term vision to the entrepreneur.

Precisely in regard to Federal District-based entrepreneurs, predominance in the high school and Bachelor's degree education was found, focused mainly in the area of social sciences, with a predominant age of less than 40 years. This is the reason there are mostly young entrepreneurs, and predominantly males. This implies the need to train entrepreneurs who reached only a Bachelor's degree – especially because only 28% expressed having experience in a previous business. Another important implication would be the predominance of the area of studies in social

sciences, which could be an indication of the lack of job creation for professionals in these areas. For this reason, studies in engineering areas should be encouraged, as they are quintessential to generate innovation and own technologies.

With regard to the enterprises surveyed, the predominant elements are the services sector, those working as physical persons and micro companies. This could go to explain the results in the use of information systems and financial management. Firstly, the services sector works with advance payments from customers at the beginning of the service hired, so the entrepreneur does not care much for making financial projections. With regard to size, it is very difficult for a microenterprise to have its own staff dedicated to the business accounting and financial information, since these entrepreneurs have little staff and perform a multifunctional work that does not allow them to dedicate time to their business planning.

A high proportion of SME entrepreneurs started having an accounting information system; however, they do fathom what that means, given that they are solely concerned with being up to date with their tax obligations and not having problems with the Ministry of Finance. This usually happens in smaller companies, as they do not have the sufficient physical and human infrastructure to implement this type of system. It is also found that entrepreneurs with Bachelor's degree schooling level are those who are mainly concerned with implementing accounting information systems. With regard to cost control and

internal control systems, these are the outcome of incipient use by SME entrepreneurs, which means that they work without controlling their financial results and without safeguarding their assets, which puts them in a high level of financial and operational risk.

With regard to financial management, a high proportion of entrepreneurs do not use income budget. Similarly, the use of financial analysis is incipient, and those who use it are entrepreneurs predominantly with a Bachelor's degree schooling level. Also, albeit they stated that they prepare cash flows, most of them did so on a monthly basis. On the other hand, entrepreneurs do not make decisions based on financial information, but they claim that they check their accounts (i.e. they do so empirically) without the use of an appropriate financial technique. There are very few entrepreneurs surveyed who have obtained some type of financing, and most of them prefer to be financed through suppliers, since it is a spontaneous source of financing and without any financial cost. This should be due to the high cost of financing that prevails in Mexico, linked to lack of guarantees by the entrepreneur.

The correlation analysis allowed to determine the small (micro) enterprises which do not adopt accounting information systems. In addition, it has been determined that the higher the entrepreneur's schooling level, the greater the possibility to adopt accounting information systems. The foregoing is corroborated with the existing correlation between the use of the financial analysis techniques and the entrepreneur's schooling level, having found that the higher the schooling level the greater the use of financial analysis techniques.

A limitation of this study is lack of information in relation to the activities carried out by the elements of the sample; only a classification by sectors (trading, industry and services) was obtained during the data collection stage, without any specification as to the activities of the companies in each of these sectors.

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