

---

## THE DIFFUSION OF AN AUTHORITARIAN INNOVATION IN THE IMPLEMENTATION OF THE E-ACCOUNTING IN MEXICO

**Roberto Rodríguez Venegas**  
Universidad de Guanajuato,  
Campus Celaya Salvatierra, México.  
Departamento de Finanzas y Administración.

**Emigdio Archundia Fernández**  
Universidad de Guanajuato,  
Campus Celaya Salvatierra, México.  
Departamento de Finanzas y Administración.

**Ma. Guadalupe Olvera Maldonado**  
Universidad de Guanajuato,  
Campus Celaya Salvatierra, México.  
Departamento de Finanzas y Administración.

### ABSTRACT

**A** problem that affects several countries in the world is the low tax collection. According to the Organization for the Co-operation and Economic Development, Mexico has a low tax revenue despite the fact that its income tax rates are high. Since 2015, Mexico has implemented an obligation on tax matters, which consists of, submitting accounting information through a website every month. The purpose of the present research is to describe the status of the mandatory adoption of electronic accounting (e-accounting), for which a survey was applied to 109 companies. The findings show a contrast between the categories of those obliged to comply in 2015 and in 2016, a coincidence in one category when comparing the rate adoption using Rogers' theory, as well as a high concentration in the two initial categories of the adoption process

**Keywords:** Innovation, e-accounting, Mexico.

## 1. Introduction

Innovation is increasingly important in the processes of economic growth; it is a way to deal with the economic crisis that exists nowadays in the globalization context, and even more, in the process leading to economic development and social welfare. (Organization for Co-operation and Economic Development, 2009).

Mexico is the first country member of the OECD, which has implemented the mandatory implementation of electronic accounting as a measure of government policy to raise the level of income tax collection, so this new measure presents a unique possibility for research among the nations that make up the organization.

Specifically, it is a problem related to a phenomenon of diffusion of innovation in an authoritarian modality. The requirement for having accounting records or entries electronically which make up the accounting process was established in 2015, constituting what is known as e-accounting, affecting a universe of 5 million taxpayers (SAT, 2016).

Not having found any background similar in terms of modality, previous studies made in Ghana, Romania, Malaysia and Brazil were reviewed, that even though in the form of optional adoption, these provide background studies showing the state concentrated in the adoption process as well as the factors that were considered involved in the process.

Rogers (2003) defines innovation: "An innovation is an idea, practice, or project that is perceived as new by an individual or other units of adoption". Innovation, in a few words, is "an idea perceived by the individual as new," the characteristics of innovation perceived by members of a social system determine its rate of adoption.

Diffusion is the process on which an innovation is communicated through certain channels in time among members of a social system. Diffusion is a special type of communication concerned with message diffusion that are perceived as new ideas.

(Rogers, 2003), sustains that, according to the theory, innovation may be optional, contingent and authoritarian, the last being the one in which the decisions for the innovation adoption is decided by the relative minority of individuals who possess the power, status, or technical experience when innovations are imposed.

For Rogers, "the adoption of an innovation is a process in which the individual or the unit passes from having a first knowledge of the innovation to the adoption or rejection of it." Therefore, the process is presented in five stages: Knowledge, Persuasion, Decision, Implementation, and Confirmation, this implies having information, which permits the individual, reduce his or her level of uncertainty regarding innovation and determining whether to adopt it or not.

Because of this, he is able to identify five groups of adopters at the different stages of innovation: The innovators or generators (2.5%). The first to use innovation inside the social system, they are characterized as adventurous, always anxious to experiment new technologies. The first adaptors (13.5%) qualified as respectable leaders capable of influencing others in the company, because they adopt the technology being aware of its benefits and not by the need of having reliable references. They personify the concept of using new ideas with success and discretion. They Early Majority (34%) are the deliberants, because they deliberate before embracing a new idea totally, because they require references of successful experience before adopting innovation. The Late Majority (34%) are the skeptics, because they assume a position of distrust and wariness in relation to innovations. They are uncomfortable with technology and their peer's pressure is essential to encourage adoption. The laggards (16%) are the last to adopt innovation or simply reject it. Here, therefore, are the individuals who mostly never come to adopt. They are traditional; their only reference is the past and take their resolutions with the criterion of what has been made by the previous generation (Rogers, 2003).

Regarding innovation relating to information technology, Nowadays the issue of e-Accounting or Electronic Accounting has emerged, a phenomenon that has developed in different countries. In Mexico, the electronic accounting refers to the obligation of keeping records and accounting entries through electronic means and upload their accounting information every month via the website of the SAT (Service Tax Administration by its acronyms in Spanish). To accomplish formally the entering of the accounting information every month, only the trial balance and the account catalogue with the consolidator SAT codes that allow its interpretation are sent. In addition, taxpayers should be able to generate electronic information of its accounting policies and auxiliaries to hand in to SAT. Only when, the SAT addresses the taxpayer to enter the documents physically or to others related (attested copy); the taxpayer requests a refund or makes compensation (SAT, 2016)

Specifically in Mexico there are 5 million forced taxpayers and to date only 118,000 have accomplished their process (SAT, 2016), which is evidence of the existence of implications of a transcendent problem because just a small part has been able to achieve the objective of entering their accounting on the website of the SAT (Tax Administration System).

These figures correspond to the State of Guanajuato. According to the information presented in the statistical and geographic yearbook of Guanajuato, 1'808, 669 active registered taxpayers were censused by the year 2014, by type of person, integrated by a total of 1'750,798 Sole proprietorship taxpayers and 57,871 partnerships or companies within the State (National Institute of Statistics and Geography, 2015).

According to the Ministry of Economic Development of the State, compared to the national growth, Guanajuato stood at 2.6 percent, the entity is above the national average. In retained earnings in the first three quarters of 2015, Guanajuato registered a growth rate of 7.5 percent, compared to the same period in 2014, which places the entity in second place nationally (El Sol del Bajío, 2016).

The general objective is to prove the diffusion of the authoritarian innovation according to Rogers' theory, in the adoption of e-accounting enterprises located in the province of Guanajuato, Mexico. The specific objectives are to describe and analyze the problems and challenges, the benefits and actions to implement, the ways to manage compliance and investment in software and consulting, and compare the results of the level of adoption depending on the classification of Rogers's theory. In the second part, the literature is reviewed and on the third part, the methodology is included. The fourth part presents the results of the study and finally in the fifth section the conclusions of the study are given.

This study provides empirical evidence of various context factors, sociological and economical, which provide behavior knowledge. which of them are significant and can be in a position to formulate trends and further the contrast of the results is done with the theory of diffusion innovation formulated by Everett Rogers regarding the classification of innovators, early adopters, early majority, late majority and laggards.

## **2. Literature Revision**

In a study conducted in Italy on business incubators the issue of the application of Rogers' theory about the recollection of data, is discussed. The authors justify the use of this approach noting that the design, dissemination, inclusion in the lifestyle of the people and the success or failure of a particular technology are subject to complex trends that refer to deep social and cultural frameworks . Today more than ever, innovation and ability to overcome problems with non-traditional solutions are the most efficient tools to survive this critical phase at which the global economy is facing.

About Everett Roger's theory, some indicate that it implies that some individuals are more open to innovation and adaptation to new technologies than others. This has some consequences that affect the chances of success of new scientific innovations. There is nothing particularly interesting until you understand that there is a big gap to be filled in order to move the sector of the early adopters to the early majority. The gap is ideological and social, and discriminates the different approaches to innovation adopted by a very small group and a very large market share, the latter being very important in terms of size and able to determine the success (Tola and Contini, 2014).

In another study on a project called the "Large Scale Choreographies for the Future Internet". The dynamic simulation system (SD, for its acronyms in Spanish) is explored based on the integrated acceptance of sustainability assessment model (IASAM, for its acronyms in English), which suggests the integration of evaluation of acceptance with other socio-technical framing various levels linked to the evaluation of sustainability of technology.

Developing their study, the authors mention that there are several theories that reflect the themes of acceptance of technology and sustainability, but none of them gives a full understanding of the factors influencing the acceptance and sustainability. Theories like the Technology Acceptance Model (TAM), Unified Theory of Acceptance and Use of Technology (UTAUT), Expectation-Confirmation Theory (ECT), which mainly focuses on the exploration stage to address the prediction and modeling of user's behavior take their decision to adopt or reject technology.

It is explained on IASAM, which consists of four streams that together constitute what we call technological sustainability. This concept is used to evaluate the socio-technical factors that affect the way technology develops, implements and maintains, and analyzes. If done according to the needs of all the components interested or not, and how it attracts users and creates long-term output and / or positive according to the purpose of technology and the original intentions of its developers (financial, social, etc.). In short, this approach is based on a questionnaire, where each question has to be evaluated using a specific scale.

Therefore, they decided to change the methodology for evaluating user acceptance to replace the UTAUT and then the potential user survey with another approach.

After a Mind Out Research, it was concluded that the evaluation for the user's acceptance could be broader based on the diffusion of innovation of Rogers.

They claim that Rogers defines innovation as an idea, practice or object that is perceived as new by an individual or other unit of adoption. It should be noted here that Rogers often used innovation and technology terms synonymously. Technology, according to him, is a design of instrumental action that reduces uncertainty in cause-effect relationships involved in achieving a desired result. The process of innovation-decision, according to Rogers, is the process by which an individual (or other unit of decision-making) passes from first knowledge of an innovation to the formation of an attitude towards innovation, the decision to adopt or reject the application of the idea and the confirmation of this decision.

Finally, they consider a set of five attributes that establish the main contribution of the study to the theory of diffusion of innovation. Relative advantage, reason for which the innovation is technically superior (in terms of cost, functionality, "image" etc.) that replaces technology. Compatibility, because innovation is compatible with existing values, skills and working practices of the prospective adopters. Complexity because innovation is relatively difficult to understand and use; Trialability, derived that innovation can be experienced on a trial without excessive effort and expense which can be implemented incrementally and still provide a positive net benefit. Observability, as the results and benefits of using innovation can be

observed and communicated to others easily. In this study, the part of IASAM where UTAUT criteria was used, the IASAM2 has been replaced by these five attributes of innovations. However, they had to be measured without the participation of potential users in the survey. Therefore, these criteria are intended for self-assessment.

The differences are not more than 0.05 and it concludes that the potential substitution applies the survey to the users based on UTAUT with self-assessment questions based on theory of diffusion of innovations. It does not violate the internal integrity of the model IASAM and it generates precise and accurate questions as well as usable. It also meets the objectives of the model and it can be used for socio-technical evaluation of ICT (Aizstrautaa Gintersa and Piera, 2014)

Afterwards, a document that presents the reasoning on the role of economic culture in the context of institutional changes was consulted. Thus, the author gives the arguments for the fact overcoming resistance to change innovation for the realization of economic transformations. It argues that the innovation process is not only in technical or technological changes, but also the position of institutional transformation, it is then a complex of phenomena related since the birth of a scientific idea for its commercialization. An objective of management is characterized by uncertainty and diversity, thus being essentially a stochastic process.

It sustains that many countries try to move the economy along the lines of development of innovation. Its focus is on the support of separate factors (in particular, improve education to a higher level. Stimulate business activity with financing resources and infrastructure innovation available. Provide the necessary level between the diversity of the human resources market, openness to new ideas, talent and capital; ensure stability and protection of the rights of macroeconomic property), but all often undertaken with efforts at a great scale do not lead to the desired success.

It stresses that innovation has a positive effect only in the circumstances of a low level of resistance from organizations and the economic system. Resistance to innovation is made possible by one negative vote in the economic system. Social groups and any other systems are characterized by denial of innovation changes. Adaptation of social groups to new ideas and innovation takes a long period. It is important to note that there are negative psychological and social reactions, which slow the diffusion of innovations.

It highlights that individuals, social groups and organizations are not likely to stop technological progress, but these can create significant difficulties in the case of slow or inadequate institutional modifications. The organizational environment often actively resists the adoption of innovations. A process of effective systemic innovation must be developed and maintained by the appropriate conditions for their existence, for it is necessary to examine the factors and methods to overcome the resistance of innovation being then where organizational culture plays an important role in changing innovation. (AR Jassawalla, 2002).

Resistance to innovation can result in obstruction of conducting business events in relation to the initial stages of the innovation process in the economic system that is why there are gaps between discoveries or inventions emergency and its wide practical application. In a broader resistance to changing innovation context, it can be reinterpreted as a defense mechanism against possible chaotic consequences of disruptions in the structure of a traditional society (Mokyr JA, 1998) cited in (Dibrov, 2014).

There are different levels of intensity regarding the resistance of innovation: Lack of resistance (perfect condition for the application of the innovation process); Distrust (ignorance of innovative technology); Nonparticipation (misunderstanding and ignoring the effects of innovation); Hostility (misunderstanding and ignoring innovation goals); Sabotage (complete denial of innovation). Resistance to innovation-improvement is embedded in the principles of any company, as well as the entire educational life, regulation of organizational stability, risk assessment, resistance to innovation management.

However, there are measures to overcome resistance innovation:

1. Preventive measures organizations.
2. Inform employees about the consequences of corporate sabotage.
3. Convergence between the innovation objectives with the objectives of employees.
4. Improve working conditions.
5. Demonstrate the benefits of innovation for employees at all levels of management.
6. Staff training organization in the new technological environment in order to increase confidence and level of participation in the innovation process.

It is important to remember that management of human factors, coupled with the resistance, is as important as focusing on energy and technical aspects, in order to stimulate the innovation process (Bovey WH., 2001) cited in ( Dibrov, 2014).

It is worth mentioning that the innovative resistance of the organization comes from an endogenous nature, in other words, it begins due to internal factors (economic, social, psychological and institutional). However, it should be noted that the functions of the organization in the external environment, where exogenous factors may influence affecting the legal, political, social, cultural, industrial and institutional systems.

A document presented at the second global conference business, economics, management and tourism was also discussed in Prague, Czech Republic in October 2014 whose purpose of study is a detailed analysis of the literature and research done to create a model of innovation management processes in the company. Where different methods of solving the defined problem were used, for example: content analysis-the study of documents, synthesis, comparative analysis, process analysis, statistical analysis, modeling, programming, empirical research methods and so forth.

The authors sustain that the innovation process can be considered based on the analysis of the scientific literature, as an organized and controlled activities inputs in the form of innovative ideas that are transformed into outputs in the form of innovations sequence. The innovation process also has an integrated learning mechanism, which is, an assessment of failures incurred and the deviation in each of the phases of the innovation process, mechanism supported by the feedback of each stage of the process.

As for the solution, based on a model of innovation portfolio management according to Hamel (2002) cited in (Lendel Hittmára and Siantová, 2014), the definition of innovation has two approaches. Firstly, it represents skills that need to be built and secondly, it is a process that needs to be implemented in the company. Consider innovation process as a sequence of activities aimed at the creation and implementation of innovation that includes activities related to the generation of innovative ideas, evaluation, the creation of innovation, and ensure their diffusion among customers.

In addition, there may be a lack of experience of innovation, lack of assurance of information flow in a company, insufficient employee training and motivation, etc. These are reasons for the failure of management innovation processes involving various people such as administrators in case of the lack of innovation activities in the company, company employees who are passive participants in the innovation process and customers who are not interested in providing any added value.

Enterprise managers (Lendel and Varmus, 2014) should review the corporate strategy with the purpose of including product and process innovations, allocation of sufficient resources (human and financial) to innovate and seek, introduce a transparent record of innovative initiatives, establish a climate to promote the development of innovative ideas, creating space for open discussion ideas and innovative group work. Create a mechanism for selecting appropriate innovative ideas to avoid duplication and loss innovative ideas (Lendel Hittmára and Siantová, 2014).



In another study in Ghana that included 200 SMEs companies (employing fewer than 100 workers), users and non-users of the e-accounting system selected from client lists of software applications suppliers. The results were measured by using descriptive statistics classifying them by context variables, consistent in size, business organization type, property (national or foreign), the owner's gender and the type of industry, the owners professional preparation, the leading account's preparation, the number of personal in the accounting department, if a computer is used or not, benefits of computerized accounting information, problems and challenges in the implementation of computerized systems and ways to improve the system.

The study revealed that almost all SMEs sampled provide great importance to financial information by employing at least graduate degree staffs and accountants to handle their accounting information. The study also showed that the majority of companies who use accounting software to generate financial information have the tendency to reduce costs, improve office functions, and provide enough space to store data and information for administrative decision-making in an adequate manner.

In terms of functionality, the study results showed that almost all SMEs use the software for handling accounts receivable and accounts payable, inventory management, payroll, fixed asset management, bank reconciliation and currency management. The study results also reveal that most SMEs present problems in the electricity supply as a consequent frequent breakdown of its accounting system and, in general, almost all SMEs business users are satisfied with the performance of their accounting software.

The study recommends the SMEs in Ghana to follow the accounting principles and good accounting practices for recording its operations. The adoption of e-accounting would ensure adequate accounting as well as good accounting and practices that have several implications for entrepreneurs and managers of SMEs. A good accounting system and control system could also help evaluate the performance of the organization and its managers. SMEs with proper accounting records are often able to attract external financing easily, in contrast to those who do not have it. (Amidu Effah and Abor, 2011).

### **3. Methodology**

#### *3.1 Research Design.*

A descriptive study was designed in which there was only interacted with the selected sample through a questionnaire, this was also a cross-sectional study which only measured the study sample one time.

#### *3.2 Sample characteristics.*

The sample of companies selected showed: the Partnership type of business (from General Regimen with non-profit partnerships); the Sole Proprietorship type of business (according to their activities, employee, professional, landlord, employer); the sector they belong to, (agriculture, livestock rancher, forestry, fisheries, trade, industry and services); if they are required to submit electronic accounting to SAT in 2015 (whose taxable income are greater than or equal to 4 million pesos in the year 2013) or 2016 (all those who submitted to the Federal Taxpayer Registry from 2014 or whose income is less than 4 million pesos generated in the year 2014).

#### *3.3 Sample.*

The sample was selected for convenience. Only companies in the state of Guanajuato were included since in this region, economic and social conditions have converged which enabled growth and development above the country, which has been a set off in the value chain for business and therefore compliance with their tax obligations, being the e-accounting the most innovative and important due to the direct relationship of the

audit and tax collection in order to solve the problem of occupying the last place in tax revenue relative to GDP among the countries which are members of the OECD.

The final sample size was  $n = 109$  companies.

### *3.4 Sampling and procedure.*

The sample was selected according to the following procedure; previously structured questionnaires were applied in events held by open announcements to public accountant colleagues' associations, town halls and entrepreneur chambers, for all the people interested in attending conferences on the implementation of electronic accounting (e-accounting). These conferences were held with a break during the event and before restarting it, the purpose of answering the questionnaire was communicated to all the attendees, letting them know that their participation was voluntary and that those whose company was not forced to electronic accounting must not answer the questionnaire, allowing them 20 minutes to respond. Once answered, the participants gave the questionnaires back the university students who were assisting the event and are performing their professional and university social service from the University of Guanajuato, Campus Celaya-Salvatierra studying accounting. There was a previous preparation of their duties. After this, the questionnaires were sorted and classified by the city in which they were applied: Leon, Irapuato, Celaya, Guanajuato, Dolores Hidalgo and Salamanca. They were checked in terms of completion of the questionnaire and the answers that were not answered were identified. Finally, we proceeded to upload the information and process in SPSS program (Statistical Package for Social Sciences) version 23.

### *3.5 Questionnaire*

The questionnaire was divided into three sections:

#### 1. Descriptive questions.

- City to analyze that the most important cities were represented in the sample.
- Business Type: Sole proprietorship, partnership or corporation.
- Sector: commercial, industrial, agricultural, livestock rancher, fisheries, forestry and services.

#### 2. Adoption of e-accounting

- Problems and challenges for the implementation of e-accounting.
- Benefits of implementing e-accounting.
- Actions to implement the e-accounting.
- Ways to manage compliance with the e-accounting.
- Investment in software and consulting for the implementation of e-accounting.

#### 3. Adoption rate according to Rogers' theory of diffusion of innovation.

- Level of implementation of e-accounting.



#### 4. Results

The total sample was 109, in multiple result table it does not adjusted because of different reasons, people did not answer or some answers were invalidated (see Table I).

Table I. Distribution of the simple by cities.

	Frequency	Percentage
Celaya	50	53.2
Comonfort	1	1.1
Cortazar	3	3.2
Dolores Hidalgo	1	1.1
Guanajuato	6	6.4
Irapuato	13	13.8
Jaral del Progreso, Victoria de Cortazar	1	1.1
León	14	14.9
Salamanca	1	1.1
Silao	3	3.2
Villagrán	1	1.1
Total	94	100

The sample ranged 12 municipalities of the state, with an 81.9% (76 of 94) for the three largest municipalities in the state (León, Irapuato and Celaya) (see Table II).

Table II. Types of enterprises.

	Frequency	Percentage
Partnerships or Corporations	74	78.7
Sole Proprietorships	20	21.3
Total	94	100.0

78.7% (74 of 94) were corporations and 21.3% (20 of 94) individuals (see Table III).

Tabla III Economic Sector

	Frequency	Percentage
Services	39	41.5
Trading	37	39.4
Industrial	14	14.9
Agricultural	4	4.3
Total	94	100.0

With regard to the productive sector services with 41.5% predominated (39 of 94), followed by trade with 39.4% (37 of 94) (see Table IV).

Table IV. Problems and challenges for the Electronic Accounting Implementations

	Frequency			Percentage		
	Not a barrier	A barrier	Total	Not a barrier	A barrier	Total
Unsatisfied of how the electronic accounting works on the cloud	51	18	69	73.9	26.1	100
Unsatisfied of how the electronic accounting works on a local software	54	19	73	74	26	100
Difficulties on having employees with this topic knowledge	51	17	68	75	25	100
Incapability of the software provider to meet an acceptable product (frequent system failures, errors in reports)	54	17	71	76.1	23.9	100
Lack of financial resources for its implementation	56	17	73	76.7	23.3	100
Difficulties from the office personnel to approve it. (resistance to change)	53	16	69	76.8	23.2	100
Difficulties to identify the benefits for the company	54	15	69	78.3	21.7	100
System limitations to import or export data.	55	14	69	79.7	20.3	100
Failure in the internet connection	57	14	71	80.3	19.7	100
Total	54	16	70	76.7	23.3	100

The problems and challenges for the implementation of electronic accounting, dissatisfaction of how the electronic accounting works in the cloud had the highest percentage (26.1%), Internet connection failures (19.7%), which shows that the type of the frequency of the problem is consistent in all companies. Summarizing the results, the total number of companies in the sample consider or believe that 76.7% of the potential problems for the implementation of the EC are not really a barrier for the implementation (see Table V).

Table V Benefits of implementing the Electronic Accounting.

	Frequency				Percentage			
	High Benefit	Average Benefit	No Benefit	Total	High Benefit	Average Benefit	No Benefit	Total
Accretive Information	74	7	3	84	88.1	8.3	3.6	100
Error Reduction	68	12	2	82	82.9	14.6	2.4	100
Information Security	68	8	7	83	81.9	9.6	8.4	100
Productivity increase	63	7	8	78	80.8	9	10.3	100
Reduction of reprocessed information	63	11	4	78	80.8	14.1	5.1	100
Time saving on capturing	65	11	5	81	80.2	13.6	6.2	100
Time saving on revising	63	11	6	80	78.8	13.8	7.5	100
Reduction of costs caused by salaries	53	15	9	77	68.8	19.5	11.7	100
Total	65	10	6	80	80.3	12.8	6.9	100

Eight possibilities of improving while implementing the electronic accounting are considered. These can be grouped into two ranges: one formed by the benefit of the higher percentage, which is providing opportune information (88.1) and the penultimate of them: reducing time revision (78.8) all considered as high benefits; another, in which, even with high benefit (68.8) consider that this is the least benefit that there exist in relation to those who are part of the first range. In average 80.3% is considered high benefit in the 8 aspects proposed. (see table VI).

Table VI. Actions for implementing Electronic Accounting.

	Frequency				Percentage			
	High Priority	Average Priority	No Priority	Total	High Priority	Average Priority	No Priority	Total
Train staff in its Accounting and Tax department for the implementation of Electronic Accounting	49	28	2	79	62	35.4	2.5	100
Assign a team for implementation	44	27	6	77	57.1	35.1	7.8	100
Assign funds to cover the salaries and fees of the team to implement electronic accounting	28	39	8	75	37.3	52	10.7	100
Have a parallel / previous software and the new / updated system	27	34	12	73	37	46.6	16.4	100
Total	37	32	7	76	48	42	9	100

The actions taken by the company managers to address the issue of implementation of electronic accounting grant greater priority (62.0%) to train the accounting and fiscal areas' personnel, followed by the initiative to dedicate a team work for implementation (57.1%). Assign funds to cover salaries and fees of the implementation team (37.3%) and carry out parallel systems (37%) resulted with medium priority (see Table VII).

Table VII. Ways to Accomplish the Electronic Accounting

	Frequency	Percentage
It is used throughout the entire company	41	44.1
The accounting office consultant uses it	27	29.0
It is use in the company and the accounting consultant office uses it.	25	26.9
Total	93	100.0

Of the three methods to manage the accomplishment of the accounting, the highest percentage (44.1) keeping the books (bookkeeping) totally in the company, i.e. no external counseling; a percentage (29.0) has chosen an external accounting office to handle and provide the service totally, and combined modality (26.9) is also present (see Table VIII).

Table VIII Investment in software and consulting for the Implementation of the Electronic Accounting.

	Frequency	Percentage
Less than \$20,000 pesos	43	47.8
Between \$20,000 and \$39,000 pesos	24	26.7
Between \$40,000 and \$79,000 pesos	7	7.8
Between \$80,000 and \$99,000 pesos	2	2.2
More than \$100,000 pesos	14	15.6
Total	90	100.0

A high percentage of companies (47.8) has a minimum range of investment and another group (26.7) has invested an amount in the second lowest range, summing both with a very high percentage (74.5). This shows that companies have invested little in software and consultancy for the implementation of electronic accounting (see Table IX).

Table IX Companies obliged to send their Electronic Accounting and its level of implementation.

			Frequency	Percentage	
Obligated to send the EA to SAT	Send de EA to SAT en 2015	Implementation EA	Send the EA on time	31	51.7
			Sends the EA delayed	10	16.7
			Is currently implementing CE, but has not sent it	12	20
			Has not initiated the process of implementation of the EA	7	11.7
			Total	60	100
Obligated to send the EA to SAT	Send the EA to SAT in 2016	Implementation EA	Send the EA on time	2	8.3
			Sends the EA delayed	5	20.8
			Is currently implementing CE, but has not sent it	9	37.5
			Has not initiated the process of implementation of the EA	8	33.3
			Total	24	100

Note: EA: Electronic Accounting; SAT: Tax Administration Service (acronym in Spanish).

Referring to the year 2015 it is said that the categories send their accounting in time (51.7%) differs from the first adopter category according to the theory of Rogers (13.5%); as to send the accounting delayed (16.7%), also contrasts with what Rogers consider as the first majority (34%); ferreting to those who are implementing electronic accounting, but has not sent it (20%) is also not coincident with the late majority (34%) that provides the basis theory; classified as not started the process of implementing the electronic accounting (11.7%) equivalent to the category of laggards according to Rogers (16%) with respect to which electronic accounting being implemented, but not sent (20%) is not coincident with the late majority (34%) that provides the basis theory; classified as not started the process of implementing the electronic accounting (11.7%) equivalent to the category stragglers according to Rogers (16%) although it is not coincidental, however is the category that by percentage has most resemblance to what is considered as the theory of diffusion of innovation.

For 2016, the category sends the electronic accounting on time (8.3%) considered the correlative to the early adopters' sample (13.5%); Sends electronic accounting but showing a delay (20.8%), in contrast to the correlative theory corresponding to the first majority (34%); companies that are implementing electronic accounting but have not sent (37.5%), is consistent with what the theory of Rogers establishes (34%) and finally those who have not started the process of implementing the electronic accounting (33.3% ) contrasts with the figure (16%) of the corresponding theoretical. For both years, the category of innovative considered by the base theory in a (2.5%) it was considered not applicable for this study based on the assumption that among the participating companies an innovator was not found, which eventually was confirmed in the uprising.

## 5. Conclusions

In the year 2015, the rate of adoption determined, according to the theory of Rogers, it is observed that for adopters first categories, early majority and late majority, there is no coincidence in the adoption rate, however, the delayed category although not coincident in percentage, it is the one that presents the smallest differences in the distribution percentage; The indicator of sending in time is slightly more than half of the companies included in the sample, indicating a high degree of progress in the process because, the term was nearly concluded. The state of the companies that sent electronic accounting tardy, also reduced considerably by almost half in relation to the adoption rate identified as first majority.

Companies in the adoption process but that have not sent the electronic accounting is also less than a third of the rate of adoption called late majority, and finally companies that have not started the process of electronic accounting were lower also in a third part to the indicator of the rate of adoption of the category of laggards. We consider that the behavior in 2015 may be related to the fact that one or more of the factors such as norms, the culture of the adopters, the level of knowledge regarding technology or some other quality of the social system is influencing when uploading the information.

The results obtained allow us to establish that, according to the classification of the four categories that comprehend Rogers' theory of diffusion of innovation, for the year 2016 it is coincident in the late majority and the three remaining categories show a significant contrast in the effective rate of adoption. As for the status of the distribution at the time of the study in the categories the majority late and laggard, that most companies are concentrated there, which is coincident regarding the sequential sense that follows an adoption process. For two periods 2015 and 2016, the category of innovators is not analyzed because in the approach of the study, the proposition that when the study was established, it was considered that there was no innovator or generator in the state of Guanajuato, which it was proved by applying the survey because among the participants to any developer of ERP company there wasn't any identified, who for purposes of the study is considered the highest category according to the basic theory.

As for the expected benefits, it can be established that the participants expect very high benefits in all aspects including those, which make up this section. We consider an important finding that the most relevant aspect to consider is the opportunity of information, this being the most important primary characteristic of financial information. In this regard, it is also significant that the error reduction is the second most important aspect found as this aspect is identified with the accuracy of financial information. It is convenient to establish that both aspects are related to the history and connection to the adoption of the electronic accounting (e-accounting) it is clear that the content compliance is supposed to me current and accurate.

With regard to the barriers or problems to adopt electronic accounting, all aspects forming this section show a consistency in that none of them shows greater relevance in relation to others. To find data in a relatively compact and at a low level as to the fact that it is not considered a barrier range, it should be established that

participants have no expectation that the issues raised will not be an obstacle that prevents achieving the objective. The non-satisfaction of how electronic accounting works in the cloud and on the local server is low and practically almost the same so at the time of this study this is not an aspect that is constituted as a differential between the two options and both are esulent.

Based on the results found that training staff in the most important action to perform, which must be accompanied by team formations to carry out the task of adoption and implementation. Actions to carry out the parallel system and allocate resources give them an average importance so they are actions to be performed but are not those that by themselves have more weight or importance.

The results of the amounts invested in software and consulting focus on the two lower ranges of amounts invested, allowing to conclude that the investment decision is rather low. It is worth noting that this finding is reinforced with two of the results obtained in this study because as stated in the relevant paragraphs of this paragraph of findings, allocate funds for the adoption is not a priority action and is not a barrier deemed important to achieve the main objective to meet the electronic accounting.

Regarding the comparing of this research with other studies, it was found that it is possible to perform a study in Ghana (Amidu Effah and Abor, 2011) as it is also a descriptive study SMEs to know the state that keeps electronic accounting in the country. The studies are consistent in terms of benefits that have electronic accounting in two aspects: first, in that the two studies show that participants agree that all issues raised as benefits are obtained with the e- accounting and the second the most important aspect of benefit in both is the opportunity (management) of financial reporting.

As a recommendation to the business community, which is one of the major contributions of this study is that, although electronic accounting in an innovation taxation authoritarian process, its adoption implicit in benefits in that financial information is obtained on time and accurate, among other qualitative characteristics that result in more and better elements for financial and administrative decisions in business and compliance due and timely fiscal obligations between the preparation and submission of the information required by the authorities.

Employers should promote the adoption of electronic accounting and thus must create a team to address the process and train this team primarily, so that it then repeats the process with others involved in the change. It is not advisable to train all personnel involved simultaneously in order to save costs and speed up the process, since participants have different cultural, academic preparation, experience and basic knowledge on the subject. At the same time, the user should jointly manage the resources necessary to carry out the process that must include not only technical aspects, but of organizational and cultural change. It is desirable that business groups conduct information campaigns among its members to socialize existence of this new process and the measures to be taken.

Concerning the academic community, the content of vocational training programs must adapt immediately, related to the subject matter. Professional associations should establish in their continuing professional education programs, gradual training according to the level of prior knowledge of the topic of professionals. We consider the existence of great risk to this topic, omission or delayed reaction in this regard.

Finally, the limitations of this study should be noted. For its descriptive nature, the study sections and certain aspects were empirically included and although these were reviewed and selected by two experts on the subject, it was not possible to include all extension study and consequently the applied questionnaire. The innovation of the issue in the country and being a process without precedent is a restriction for comparison under similar conditions, to allow comparison, trends and relationships.

For these reasons, future researches should be conducted with a larger sample to be able to generalize the results. Further studies to validate the findings in this research and make improvements by adding, removing and modifying the elaborate items, so that to establish cause and effect or apply existing instruments that include broader dimensions evaluated.



**Bibliography.**

1. Lendel Hittmára y Siantová, V. a. (2014). Management of Innovation Processes in Company. *Procedia Economics and Finance*, 867-866.
2. Liñán, M. (1 de Febrero de 2015). Es Guanajuato campeón en crecimiento económico. Somos industria, pág. 1.
3. Alfaro, R. (2012). Perspectivas del desarrollo económico en Guanajuato. *Perspectivas del Desarrollo Económico* (pág. 1). León, Guanajuato: Universidad Nacional Autónoma de México.
4. Aizstrautaa Gintersa y Piera, D. E.-A. (2014). Applying Theory of Diffusion of Innovations to Evaluate Technology Acceptance and Sustainability. *Procedia Computer Science*, 69-77.
5. Amidu Effah y Abor, M. J. (2011). E-Accounting Practices among Small and Medium Enterprises in Ghana. *Journal of Management Policy and Practice* , 146-155.
6. Dibrov, A. (2014). Innovation resistance: the main factors and ways to overcome them. *Procedia Social and Behavioral Sciences*, 92-96.
7. El Sol del Bajío. (06 de Febrero de 2016). Reporta Guanajuato crecimiento económico superior a la media nacional. *El Sol de México*, pág. 1.
8. Instituto Nacional de Estadística y Geografía . (2015). Anuario Estadístico y Geográfico de Guanajuato . México: Instituto Nacional de Estadística y Geografía.
9. Organización para la Cooperación y el Desarrollo Económicos. (2009). Innovación en las empresas. Una perspectiva microeconómica . París: Organización para la Cooperación y el Desarrollo Económicos.
10. Rogers, E. M. (2003). *Diffusion of innovations*. New York: The Free Press.
11. SAT. (20 de Marzo de 2016). Servicio de Administración Tributaria. Obtenido de Contabilidad electrónica:  
[http://www.sat.gob.mx/fichas\\_tematicas/buzon\\_tributario/Paginas/contabilidad\\_electronica.aspx](http://www.sat.gob.mx/fichas_tematicas/buzon_tributario/Paginas/contabilidad_electronica.aspx)
12. Servicio de Impuestos Internos. (7 de Abril de 2014). Libros Contables. Obtenido de Servicio de impuestos internos: [http://www.sii.cl/preguntas\\_frecuentes/catastro/001\\_012\\_3826.htm](http://www.sii.cl/preguntas_frecuentes/catastro/001_012_3826.htm)
13. Tola y Contini, A. (2014). From the diffusion of innovation to tech parks, business incubators as a model of economic development: the case of “Sardegna Ricerche”. *Procedia Social and Behavioral Sciences*, 494-503.